February 2026

NEWSLETTER

THE LATEST NEWS AND UPDATES FROM MEER

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Welcome to Ferburary 2026 edition of the MEER Newsletter

As 2026 progresses, MEER’s work continues to build momentum, with key preparations underway for our largest experimental trials to date. Across Africa and India, research, field planning, and infrastructure development are advancing in parallel as we move toward full-scale implementation.

In West Africa, we are entering an important phase of readiness for our urban heat and health monitoring programme. Community engagement, technical coordination, and site preparation are coming together ahead of forthcoming cooling trials, which will link on-the-ground interventions with detailed environmental, physiological, and social data.

At the same time, development of the Dance School site in Freetown is progressing, where MEER is establishing a fabrication and assembly centre for cooling components. This facility will support local manufacturing, testing, and future scaling of our work in the region.

In India, ongoing rooftop and materials experiments continue to be monitored and refined, while feedback is also being received this month from trials in Tanzania. These insights are informing design improvements and strengthening the evidence base for MEER’s passive cooling approaches across diverse climates and urban contexts.

February marks a period of consolidation and forward motion, laying the groundwork for major field activity ahead as MEER continues to deliver practical, research-driven cooling solutions for communities facing rising heat risk.

NEWS FROM AFRICA

Preparing for the Next Phase of Heat Adaptation Research

Across MEER's sites in Africa, the start of 2026 marks a period of transition and preparation. Several earlier field experiments have now reached completion, with data successfully collected and systems tested under real, demanding conditions. These experiments form an important foundation for what comes next.

As heat stress continues to intensify across the region, our focus is shifting toward larger, more integrated projects that address not only surface temperatures, but also human health, comfort, and resilience in extreme conditions.

Closing One Chapter, Building the Next

With earlier experiments complete, our teams are carefully dismantling, reviewing, and preparing equipment for reuse. The data team is currently cleaning, sorting, and cataloguing cables and materials recovered from previous field trials. These components—used in sensors, monitoring systems, and experimental setups—will be repurposed for new deployments planned over the coming months.

This work may appear routine, but it is a critical part of responsible field science. Salvaging and reusing materials reduces waste, lowers costs, and allows us to move faster as new experiments come online. It also ensures continuity between research phases, where lessons learned are carried directly into improved designs.

Scaling Up: Heat, Health, and Adaptation

Looking ahead, MEER is preparing for a significant expansion of its work in Africa. Building on earlier field trials, our upcoming projects will focus on climate adaptation at scale—moving beyond surface measurements alone to better understand how extreme heat affects people's daily lives.

Central to this next phase is a major health monitoring and social research study examining how residents of informal settlements experience, cope with, and adapt to rising temperatures and increasing thermal intolerance. This work recognises that heat is not just an environmental variable, but a direct and growing public health challenge.

These studies will combine environmental monitoring—such as temperature, surface conditions, and microclimate effects—with human-centered data, including physiological indicators, behavioural responses, and social impacts. By integrating these perspectives, we aim to understand not only how heat behaves, but how it is lived, managed, and endured in real-world conditions. This approach will also allow us to evaluate how passive cooling interventions can reduce risk, improve comfort, and support resilience without increasing energy demand.

Why This Work Matters Now

Extreme heat is no longer an abstract future risk. It is a present and accelerating reality across many African cities and communities, with serious implications for health, productivity, and wellbeing. Conducting careful, scalable, and ethical research under these conditions requires time, preparation, and responsible use of resources.

By repurposing materials from earlier experiments and building directly on what we have already learned, MEER is strengthening the foundations for this next phase of work. Each step is designed to ensure that future interventions are evidence-based, locally appropriate, and capable of being scaled where they are most needed.

From Africa this February, the message is clear: the science continues, the work is scaling, and the next phase is underway.

NEWS FROM INDIA

Physics Doesn’t Lie: A Simple Experiment Showing the Power of Passive Cooling

As global temperatures continue to rise, one of the most urgent challenges we face is not only how to generate clean energy, but how to stay cool without consuming more of it. Air conditioning plays a critical role in protecting health, yet it also increases electricity demand, strains power grids, and—when powered by fossil fuels—reinforces the very warming it seeks to counter. This is where passive cooling becomes essential, grounded in simple, well-understood physical principles.

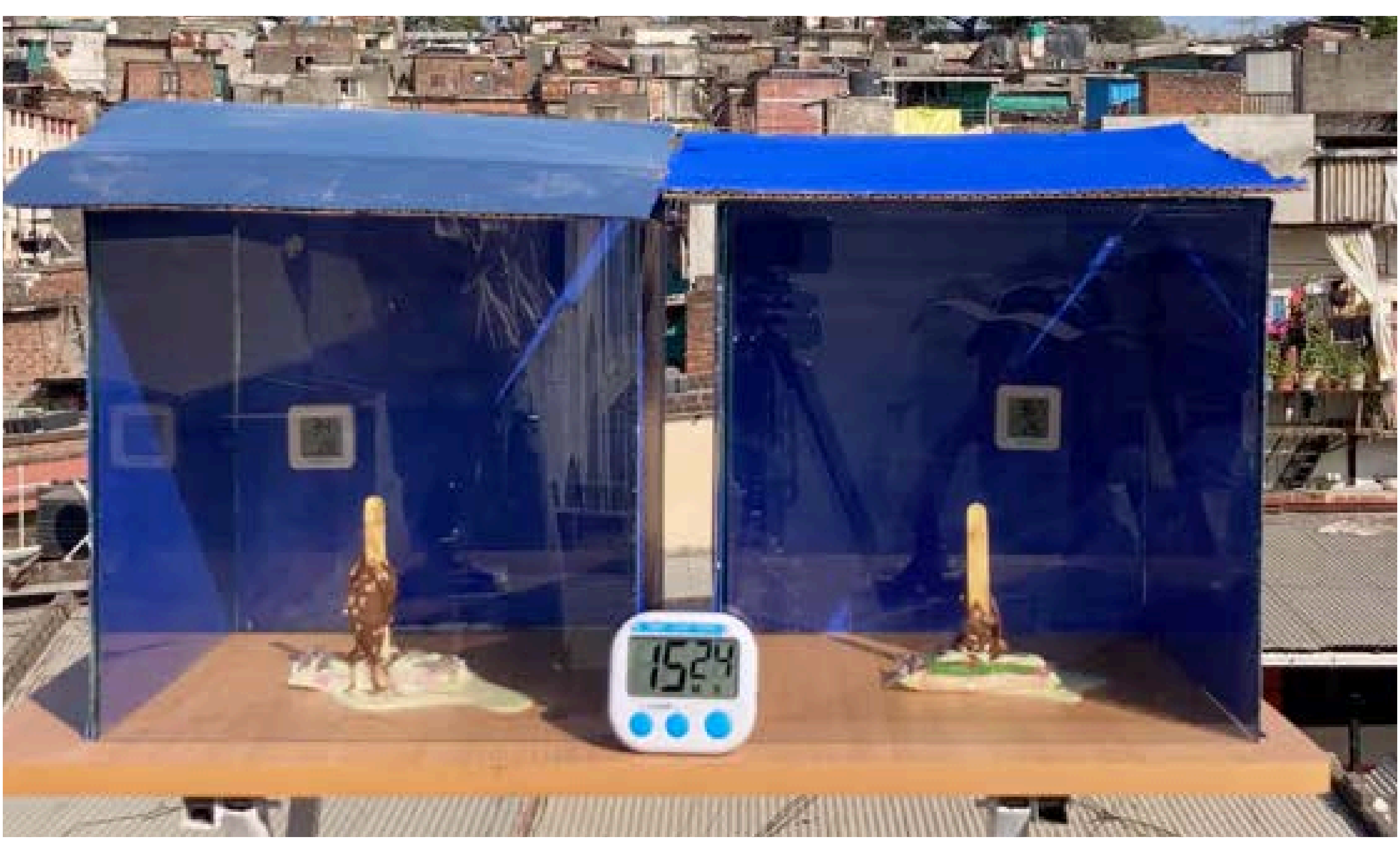
Recently, the MEER team in India carried out a small, hands-on experiment to demonstrate how reflective surfaces can reduce heat buildup under real sunlight conditions. The aim was not to rely on simulations or complex instrumentation, but to observe basic thermodynamics in action, using an intuitive and transparent setup.

A Simple Setup, One Key Variable

The experiment was intentionally simple. Two identical glass boxes were placed side by side outdoors, exposed to the same sunlight at the same time and under identical environmental conditions. The only difference between them was the roof. One box was covered with MEER reflective sheets, while the other had a normal, non-reflective roof. Inside each box, ice cream was placed as both a visual and thermal indicator, making it easy to observe how quickly heat accumulated inside the enclosed space.

What Happened?

By keeping all other factors constant, the experiment isolated a single variable: surface reflectivity. The outcome was clear and consistent. The box covered with MEER’s reflective material showed an internal temperature reduction of approximately 1.6–2°C compared to the non-reflective box. Correspondingly, the ice cream inside the reflective box melted more slowly, visibly demonstrating reduced heat gain.



Why a Few Degrees Matter

At first glance, a difference of a couple of degrees may appear modest. In thermal science and real-world conditions, however, such differences are highly meaningful. A reduction of just 1–2°C can lower heat stress on the human body, improve indoor comfort, reduce reliance on mechanical cooling, cut electricity demand during peak heat periods, and ease pressure on fragile or unreliable power systems. When these small temperature reductions are applied across many roofs, walls, or surfaces, they compound into significant benefits at neighborhood, city, or even regional scales.

Crucially, this form of cooling does not require energy input, does not produce emissions, and does not alter atmospheric chemistry. It works by reflecting a portion of incoming sunlight before it is absorbed and converted into heat. This is not speculative theory; it is fundamental physics.

Why Passive Cooling Is Essential in a Warming World

As heatwaves become more frequent and intense, relying solely on active cooling systems risks creating a dangerous feedback loop in which rising temperatures drive higher energy use, which in turn contributes to further warming. Passive cooling interrupts this cycle by reducing heat at the surface level, before it enters buildings or urban spaces. This approach is especially important in hot regions where electricity access may be limited or unreliable and where vulnerability to heat is highest.

From Small Experiments to Scalable Solutions

The experiment conducted by the Indian MEER team was never intended to be an endpoint. It was a building block—a clear, visual demonstration that makes invisible energy flows visible and understandable. A glass box, sunlight, and melting ice cream showed precisely how reflective surfaces alter the energy balance.

At MEER, each such experiment helps refine materials, strengthen evidence, and communicate why surface-based cooling is a vital and often overlooked component of climate adaptation. When it comes to heat, physics does not lie, and sometimes the simplest experiments reveal the most important truths.

Can reflective covers really slow glacier melt?

As alpine temperatures rise and summer heatwaves intensify, scientists and mountain operators are increasingly experimenting with white geotextiles and tarpaulins to protect glaciers from sunlight. The idea is simple: boost surface reflectivity (albedo) so less solar energy is absorbed—and less ice melts.

Does it work?

At small, targeted sites, the answer is yes. Field studies across the Swiss Alps show that ice and snow beneath reflective covers melt far more slowly than adjacent uncovered areas. In a few highly localised cases, thin or retreating ice bodies have even stabilised when fully covered through the summer. These results explain why the technique has found a niche in ski areas and tourist sites where preserving access routes or specific features matters.

But there's a catch.

Newer research highlights that the cooling benefit declines over time. Geotextiles age in harsh mountain environments: wind abrasion, snow and ice erosion, chemical exposure, and the growth of microorganisms and dark moulds gradually reduce albedo, weakening the cooling effect. As a result, scientists note that covers are most effective when deployed only during the melt season and removed afterward.

There are also emerging environmental questions. Faster-than-expected material degradation raises concerns about microplastic release and broader ecological impacts in sensitive alpine catchments—an area now drawing closer scrutiny.

Scale matters.

Researchers stress that while reflective covers can be effective locally, they are not a solution for saving entire glaciers. Covering large areas would bring logistical, environmental, and landscape impacts, and would at best slow, not stop, long-term ice loss driven by a warming climate.

The takeaway:

Reflective glacier covers are a powerful demonstration of how surface-based interventions can buy time in specific places. They also underscore the limits of such measures—and the need to pair local protection with broader climate action if glaciers are to endure.

A MESSAGE FROM DR. YE TAO

Building Capacity, Advancing Research, and Preparing for a Major Year Ahead

As we move deeper into 2026, MEER's work in Sierra Leone continues to gather pace. The foundations laid over the past year are now supporting a much more ambitious programme of research, deployment, and community engagement, and the months ahead will be among the busiest and most important in our organisation's history.

In Freetown, our newest cohort of trainees is now fully embedded within the team. Their energy, skills, and commitment are strengthening our capacity on the ground at a time when our work is expanding both in scale and scope. Alongside training and field operations, we are also investing in the practical infrastructure needed to support sustained experimentation—spaces and systems for fabricating components, maintaining equipment, and preparing materials locally. This work is essential as MEER transitions from early pilots into larger, more rigorous adaptation and health-focused studies.

Several earlier field experiments have now reached completion, with data successfully collected under challenging real-world conditions. As part of this transition, the team is carefully cleaning, sorting, and repurposing materials from past deployments. Sensors, cabling, and structural components are being salvaged and prepared for reuse in upcoming experiments. This approach reflects both practical necessity and scientific responsibility: reusing materials reduces waste, conserves resources, and allows lessons learned to flow directly into improved experimental designs.

Looking ahead, the next few months will see the launch of multiple new research projects. These include expanded climate adaptation trials as well as a major health and social monitoring study examining how people living in informal settlements experience and cope with rising heat and increasing thermal intolerance. By combining environmental measurements with human-centred data, this work will help us better understand how extreme heat affects daily life, wellbeing, and resilience—and how passive cooling interventions can meaningfully reduce risk without increasing energy demand.

I also recently visited a proposed new site in Bonthe, Sierra Leone, where we are planning an important trial using Passive Daytime Radiative Cooling (PDRC) paint. PDRC paint is, by design, highly reflective while also exhibiting high infrared emissivity—allowing it to reflect a large fraction of incoming sunlight and efficiently re-radiate heat away from the building surface. In this project, we are working specifically with PDRC paint as a single, integrated cooling material, rather than treating reflectivity and radiative cooling as separate technologies.

The upcoming trial will evaluate how this PDRC paint performs under sustained, real-world conditions on a large, heavily used public building. But performance alone is not the only objective. A central aim of this work is to understand how effective PDRC materials can be produced, applied, and maintained at costs that are genuinely affordable at global scale, particularly for low-income and heat-vulnerable communities.

By combining rigorous thermal monitoring with practical deployment experience, this experiment will help us assess not only how well PDRC paint reduces heat, but how viable it is as a scalable, low-cost climate adaptation solution. The goal is to move beyond high-performance materials that remain confined to laboratories or niche markets, and toward cooling technologies that can realistically be deployed across thousands of buildings where electricity, air-conditioning, and maintenance capacity are limited.

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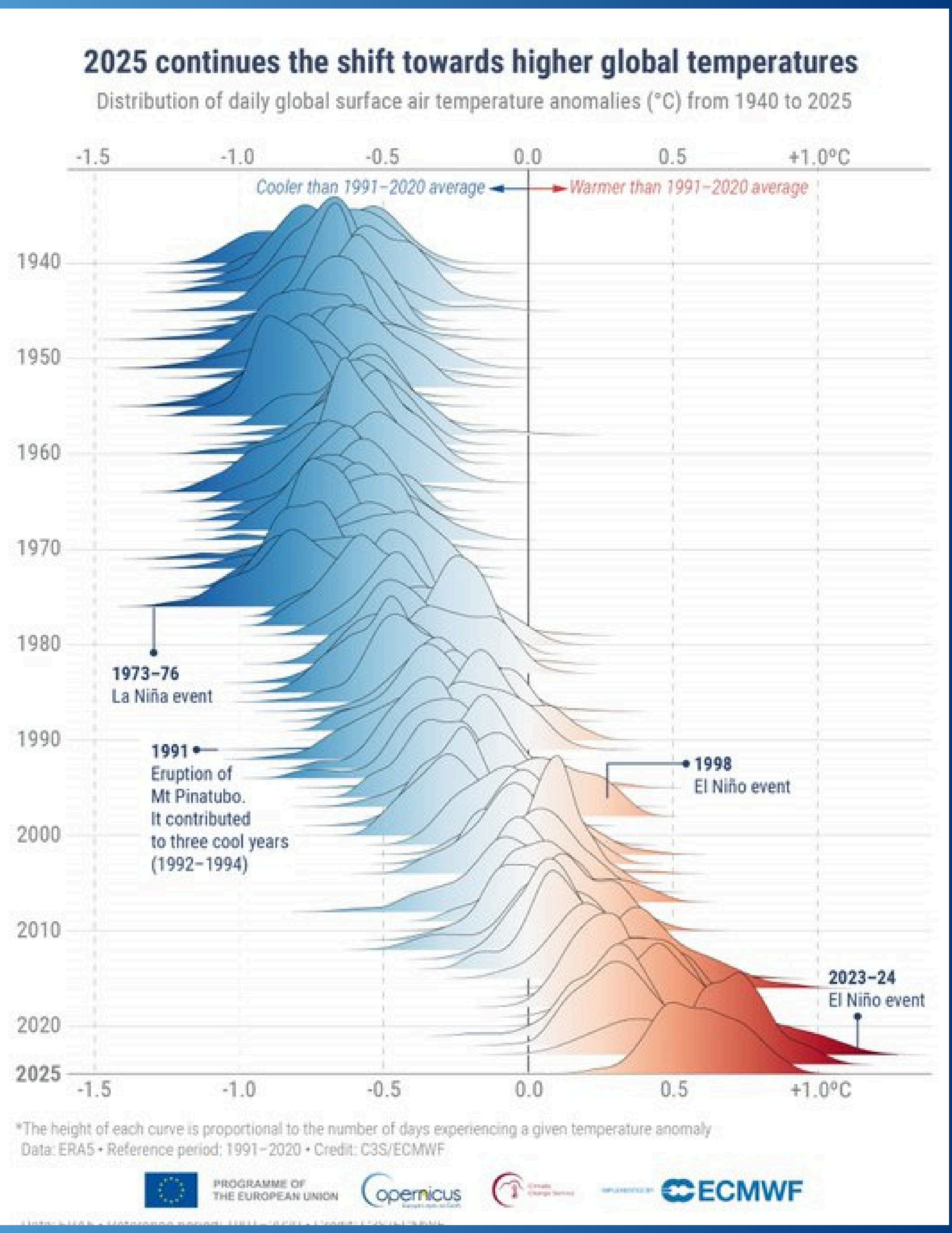
CLIMATE NEWS

Reading The Climate Data Correctly

The latest global temperature records leave little room for ambiguity. With the last three years now the warmest ever measured, and each of the past eleven years ranking among the warmest on record, the signal emerging from the data is no longer subtle. The climate system has shifted into a persistently hotter state.

What is striking in recent analyses is not just the breaking of records, but the movement of the entire temperature distribution. Daily global temperatures that would once have been considered extreme are now commonplace. Cooler conditions, which dominated much of the 20th century, have become increasingly rare. This is not variability around a stable baseline — it is a new baseline altogether.

Natural climate cycles such as El Niño and La Niña are still present, but their role has changed. Today, these oscillations act to amplify an already elevated climate, rather than driving extremes on their own. Even in the absence of strong El Niño conditions, global temperatures now remain historically high.

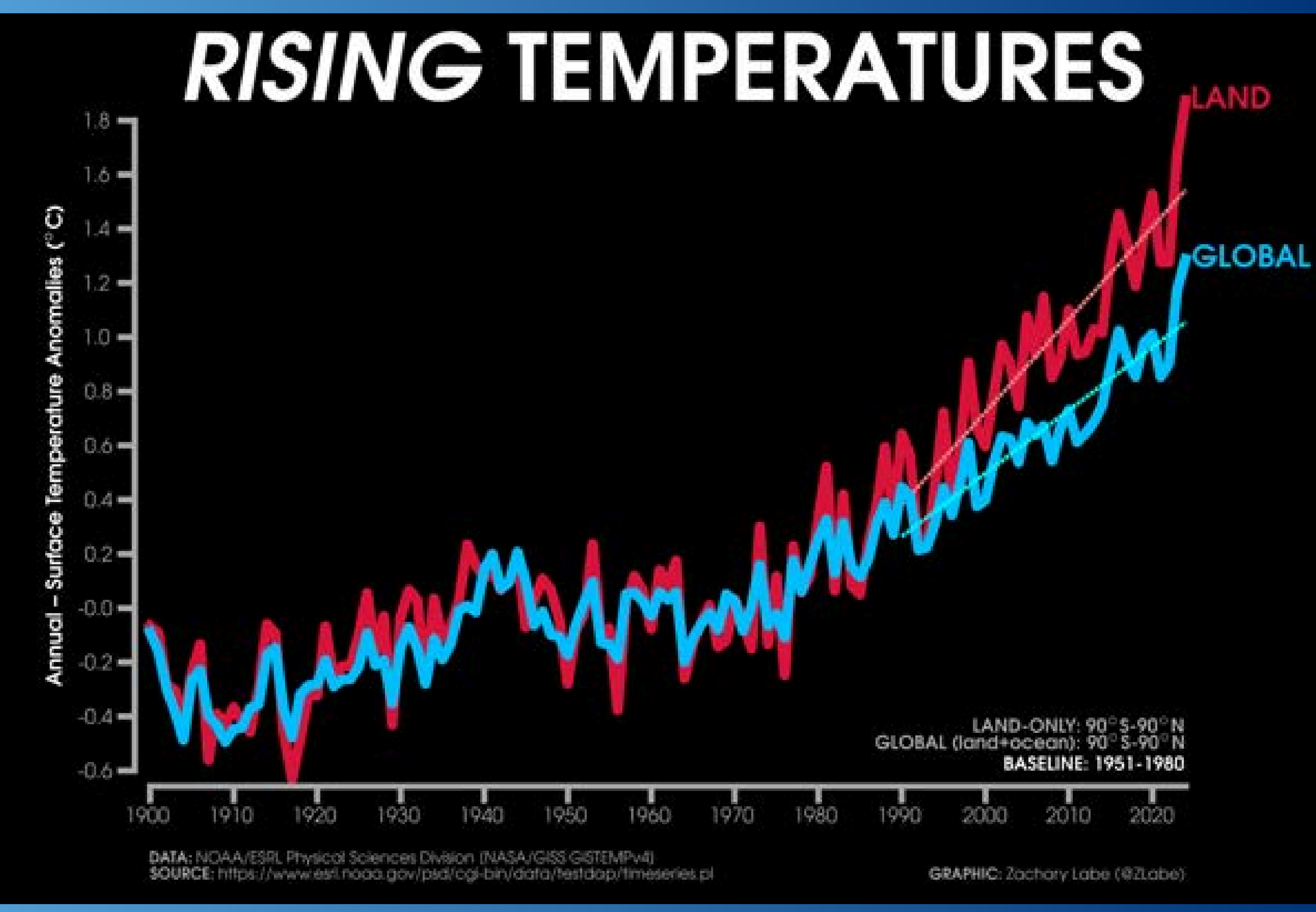


For anyone reading the metrics carefully, an uncomfortable conclusion is becoming harder to avoid: emissions reductions and carbon drawdown, while essential, may no longer be sufficient on their own to prevent near-term climate impacts. The climate system has accumulated enough heat that additional measures are likely needed to buy time — for mitigation to take effect, for removal technologies to scale, and for societies to adapt.

This is where cooling interventions are entering the scientific conversation. From reflective surfaces and passive radiative cooling to broader surface-based thermal management strategies, research groups and engineers are exploring ways to reduce heat at local, regional, and potentially larger scales, without altering atmospheric chemistry.

At MEER, our work sits squarely within this emerging space: developing ground-based, reversible, and physically transparent cooling techniques designed to complement — not replace — emissions cuts and carbon removal. The goal is not to “solve” climate change with a single intervention, but to slow the rate of warming, reduce peak heat stress, and create breathing room during a critical transition period.

The data increasingly suggests that the climate challenge is no longer just about stopping future warming. It is about managing the heat already here, while the world works — urgently — on reducing and reversing greenhouse gas emissions.



MEERTalk

Dr. Luke Kemp

Researcher Affiliate with the Centre for the Study of Existential Risk

Goliath's Curse:
Why Societies Collapse

FRIDAY
FEB 6, 2026

11:00 AM EST
4:00 PM GMT

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RUPERT READ & LIAM KAVANAGH
Building a Climate-Ready Majority
ON THE
MEER
PODCAST
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Thank You for Being Part of Our Journey

As we move through the early months of 2026, we want to thank everyone who continues to follow, support, and engage with MEER's work. Your interest and trust make it possible for us to move from research and design into real-world testing and delivery.

This month marks an important period of groundwork and coordination, as teams prepare for major field trials, expand monitoring and evaluation efforts, and strengthen the local capacity needed to sustain our work. These steps may be less visible than installation or deployment, but they are essential to ensuring that our cooling interventions are robust, responsible, and effective.

MEER's approach remains rooted in collaboration, careful science, and community partnership. As heat risks continue to intensify, building evidence that links practical cooling solutions to measurable health and social benefits is more important than ever.

We are grateful to be moving forward together and look forward to sharing further progress in the months ahead. Thank you for being part of this work — and part of this journey.