

JUNE 2026

NEWSLETTER

THE LATEST NEWS AND UPDATES FROM MEER

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Welcome to the June 2026 edition of the MEER Newsletter

This month's newsletter highlights MEER's continued progress in turning climate adaptation research into practical, field-tested solutions for communities facing extreme heat. In this edition, we share updates from MEER's climate adaptation research in Freetown, where passive cooling systems and heat-health monitoring are being developed under challenging field conditions. We also look at MEER India's recent engagement with journalists in Pune, offering a closer view of our reflective cooling work and its relevance for heat-exposed communities.

Together, these stories show MEER's broader mission: to advance cooling solutions that are scientifically grounded, practically deployable, and responsive to the growing realities of heat stress around the world.

NEWS FROM AFRICA

Inside MEER's Climate Adaptation Research in Freetown

In Freetown, Sierra Leone, MEER's field teams continue to refine and expand a broad portfolio of climate adaptation and passive cooling technologies designed to address rising urban heat stress and thermal exposure in vulnerable environments.

The organization's work has always focused on the wider challenge of climate adaptation and mitigation through surface cooling, radiative balance management, and practical engineering systems capable of operating in real-world conditions. The reflective canopy systems currently being trialed in Freetown form just one part of this broader passive cooling and environmental adaptation program.



Alongside ongoing engineering refinement of canopy systems and reflective cooling structures, MEER's teams are also conducting advanced environmental and physiological monitoring in order to better understand how heat exposure directly affects human health and indoor livability under extreme urban conditions.

This work combines real-world climate adaptation deployment with ongoing scientific measurement and environmental research. The program is helping the team better understand how local microclimates, urban materials, ventilation conditions, surface exposure, and thermal environments interact to influence heat accumulation and human stress.



As part of this broader effort, the organization is continuing to refine custom environmental sensing systems and field measurement methodologies designed specifically for dense urban environments and heat-vulnerable communities.

The work underway in Freetown increasingly functions not only as a deployment site for passive cooling systems, but also as an operational research and development platform for future climate adaptation technologies and methodologies.

As climate extremes intensify globally, understanding how to rapidly deploy affordable passive cooling and thermal adaptation systems may become one of the defining challenges facing vulnerable urban populations over the coming decades.

MEER's ongoing field research and engineering work in Freetown continues to help shape the organization's broader long-term adaptation strategy across Africa, Asia, and other heat-vulnerable regions around the world.



NEWS FROM INDIA

Journalists Visit MEER India's Pune Site to Explore Practical Heat Adaptation Solutions

MEER India recently welcomed a group of 15 journalists to its Pune office and field installation site for an on-ground introduction to the organization's reflective cooling work and broader climate adaptation efforts. The visit provided media representatives with an opportunity to directly observe the application of MEER's reflective cooling materials and understand the science behind surface-based heat mitigation.

India is increasingly at the forefront of the global heat crisis. Rising temperatures, prolonged heatwaves, and expanding urban heat island effects are placing growing pressure on millions of people, particularly those living in informal settlements and densely built low-income communities. In many areas, families are forced to cope with extreme indoor temperatures under metal, concrete, asbestos, or tarpaulin roofs with little ventilation. These conditions can severely impact health, sleep, productivity, education, and overall quality of life.



Against this backdrop, the journalists explored how MEER India is testing practical, low-cost cooling interventions designed to reduce heat exposure in vulnerable communities. During the session, the MEER India team demonstrated how reflective sheets are applied to roof surfaces and explained the practical steps involved in preparing, positioning, and fixing the material.

The journalists observed the process closely and engaged in detailed discussions with the team about how surface-based cooling interventions may help reduce heat absorption in homes, schools, and community structures exposed to intense sunlight and prolonged high temperatures.



A major focus of the visit was the practicality and scalability of the intervention. Journalists asked detailed questions about the durability of the reflective sheets, how they performed under seasonal weather exposure, and what forms of maintenance may be required over time.

There was also strong interest in the installation process itself. Several journalists asked how quickly the reflective sheets can be deployed, and whether the method could realistically be scaled across informal settlements, schools, clinics, and larger community spaces. The team shared that one of the key strengths of the intervention is its relative simplicity, allowing installations to be carried out rapidly with basic training and careful site preparation.



Photographs were taken of installation roofs, monitoring equipment, and MEER India's office space, while team members were interviewed and recorded by journalists from multiple media outlets.

Beyond the technical discussion, the visit created a valuable opportunity for journalists to engage directly with the lived realities driving the need for heat adaptation work in India. Rather than discussing climate adaptation purely in abstract policy terms, the session highlighted the urgent practical challenge of protecting vulnerable populations from increasingly dangerous urban heat conditions.



By engaging directly with the materials, methods, and scientific monitoring behind the work, the visiting journalists gained a clearer understanding of MEER India's broader approach: combining practical surface-based cooling interventions with field testing, community engagement, evidence-building, and scalable climate adaptation strategies designed for regions facing escalating heat stress.

As Indian cities continue to confront rising temperatures and increasingly severe heat events, the visit also underscored the growing importance of affordable and rapidly deployable cooling solutions for communities most exposed to climate-related heat risks.

What a Tiny White Beetle Can Teach Us About Cooling



The tiny white *Cyphochilus* beetle may hold important lessons for cooling a warming world.

Scientists studying the insect's unique microscopic structure have developed a passive cooling ceramic capable of reflecting 99.6% of sunlight — dramatically reducing heat absorption without using electricity.

Unlike conventional cooling systems, passive cooling materials work by reflecting solar radiation and releasing heat naturally, helping reduce surface temperatures and energy demand.

As extreme heat intensifies globally, interest in passive cooling technologies is rapidly growing. From reflective rooftops to advanced radiative cooling materials, these systems could play an increasingly important role in climate adaptation and urban resilience.

The story is also a reminder that nature has already spent millions of years solving complex thermal challenges — and that some of the most promising climate solutions may come from learning how natural systems manage heat.

A MESSAGE FROM DR. YE TAO

From Observation to Evidence: Advancing Cooling Systems and Heat-Health Research

As the heat season continues to intensify in Freetown, the conditions we are working in have become increasingly demanding. What is most striking is not only the level of heat during the day, but the way it accumulates and persists within buildings. Structures absorb solar energy continuously, and in many cases release it slowly, creating indoor environments that remain hot well into the evening hours.

For the communities we are working alongside, this creates a form of prolonged exposure that affects daily life in very direct ways. Sleep is disrupted, concentration becomes more difficult, and both physical and mental fatigue build over time. These are not isolated moments of discomfort — they are sustained conditions that shape how people live and work.



Canopy systems continue to be refined as adaptable structures for outdoor and semi-covered spaces such as school grounds and community areas. At the same time, increasing attention is being directed toward highly reflective rooftop covering systems, which provide a more direct method of reducing heat gain within buildings by limiting solar absorption at the surface.

Within one of the school environments currently under study, early observations following passive cooling interventions have shown indoor temperature reductions on the order of 3–4°C under certain conditions. While this may appear modest in numerical terms, in the context of prolonged heat exposure these differences are highly significant. Even a few degrees can change the usability of a space, particularly where people are exposed for many hours each day. In practical terms, this translates into improved conditions for both teachers and students.



At the same time, an important part of the current work is the expansion of our heat and health research. The objective is not only to measure environmental changes, but to better understand how sustained heat exposure affects the human body under real-world conditions. By combining engineering deployment with direct observation and data collection, we are working to build a more complete picture of how thermal stress is experienced in practice.

Alongside this, the presence of the documentary film team has continued to add value by capturing both the technical work and the broader context in which it is taking place. Their documentation helps communicate the reality of these environments and the importance of practical, locally grounded adaptation solutions. We remain focused on advancing both aspects of this work — developing systems that can reduce heat exposure, and building the evidence base needed to understand their impact.

I would like to thank all of our collaborators, field teams, and supporters for their continued commitment. The progress being made is the result of sustained collective effort under challenging conditions.

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At the Crossroads of
Civilization:

Science, Society, Wars
and Personal Choice



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CLIMATE NEWS

Engineering in Real Heat: Who Decides How We Cool the Planet?

In recent weeks, a private company called Stardust Solutions has released new details about its work on technologies designed to reflect a small portion of sunlight away from the Earth. The approach, often referred to as solar geoengineering, involves dispersing fine particles into the upper atmosphere to slightly reduce the amount of solar radiation reaching the planet.

The concept has been discussed for many years, but what is changing is its movement towards practical engineering. The disclosure of materials and proposed deployment methods signals a shift away from theory and towards something more tangible. The particles themselves are based on relatively common substances, intended to form a thin reflective layer at high altitude. Even a small reduction in incoming sunlight, if applied globally, could influence temperature.

The significance of this work, however, lies less in the materials and more in the implications. Any intervention of this kind would operate across borders and affect shared atmospheric systems. It could influence rainfall patterns, seasonal cycles, and regional climates in ways that remain uncertain. The central question is not simply whether it could work, but who would decide whether it should be used.

The involvement of a private company introduces a new dimension. If the capability exists to alter the balance of incoming solar energy, even slightly, what role should that actor have in decisions with global consequences. Even under government oversight, the existence of such technology shifts the landscape of responsibility and control.



There is currently no clear framework for governing interventions at this scale. Climate action is already difficult to coordinate internationally, and decisions of this magnitude would require a level of consensus that is hard to imagine in practice. The risks and benefits would not be evenly distributed, raising questions about whose interests are prioritized and who bears the consequences.

This brings the issue into the realm of governance rather than engineering. Decisions affecting billions of people would likely sit with a small number of governments or institutions, limiting broader participation. The scale of the system itself makes democratic involvement difficult, raising concerns about legitimacy and accountability. At the same time, the growing interest in these approaches reflects the urgency of the climate challenge. As conditions worsen, pressure is increasing to explore all possible options. But the ability to develop a technology does not determine whether it should be deployed.

What is emerging is not simply a new technical pathway, but a set of questions about control over the Earth's energy system. Questions about authority, responsibility, and the extent to which such decisions can or should be made collectively. As this field advances, those questions are likely to become more pressing, and more difficult to resolve.

MEERTalk

Clare Farrell

Co-founder of Extinction Rebellion

Creative Strategies for the Climate Crisis

Science, Society, Wars and
Personal Choice



SUNDAY
JUNE 7, 2026



1:00 PM EDT
6:00 PM BST

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Thank You for Being Part of Our Journey

We want to extend our sincere thanks to everyone who continues to support, follow, and engage with MEER's work.

This month has highlighted the many layers of our mission — from field installations and community conversations to scientific research, documentary storytelling, and early heat-health data collection. Each step helps us better understand how extreme heat is affecting people in real conditions, and how practical cooling solutions can be designed, tested, and scaled responsibly.

Your support allows MEER to keep moving from ideas into action, and from action into measurable impact. As we continue this work across communities, schools, rooftops, and public spaces, we remain deeply grateful for the trust, encouragement, and collaboration that make this journey possible.

Thank you for being part of MEER's mission to cool the planet and protect the communities most exposed to rising heat.



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