

SUMMER 2022

CLIMATE QUARTERLY

The Newsletter of the Expert Resource Group on Climate and Environmental Affairs



DERMATOLOGISTS FOR CLIMATE ACTION

Welcome to our summer newsletter! We have many exciting announcements to share. We recently launched an ERG website, www.climatedermatology.com, where we brand ourselves as "Dermatologists for Climate Action." While we are still building the site, you can see previous editions of our newsletter archived there. Please let us know if you have content ideas for the site. In more news, our members led outstanding sessions on climate change and dermatology at AAD 2022 Meeting which were met with overwhelming enthusiasm and support. We are excited to continue our work in climate advocacy this academic year, and we hope you will join us!



Committee meeting at AAD 2022

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CLIMATE CHANGE IS HIGHLIGHTED AT THE 2022 AAD ANNUAL MEETING

by Divya Sharma, MD and Eva R. Parker, MD

The American Academy of Dermatology's (AAD) Annual Meeting is our largest scientific meeting, providing an opportunity for dermatologists from around the globe to connect, learn, collaborate, and share knowledge. As such, it is noteworthy that the 2022 AAD meeting featured scientific content examining the critical issues surrounding how climate change impacts our patients and specialty.

The Expert Resource Group (ERG) for Climate Change and Environmental Issues convened virtually and in-person during the 2022 AAD Annual Meeting. For the first time, the ERG meeting featured abstract presentations from medical students and residents, highlighting the important work that our trainees are undertaking. Dr. Paige Wolstencroft, a dermatology resident at Stanford, discussed her study to identify and decrease biopsy tray waste, and Annika Belzer, a medical student at Yale, presented on our ERG's educational efforts as well as carbon offsets for dermatology conferences. Dr. Thomas Stringer, a new faculty member in the Division of Dermatology at Georgetown University Medical Center, discussed his [published survey results](#) assessing dermatologists' attitudes regarding climate change. In addition, Dr. Mary Williams was recognized for her exemplary service and dedication to the ERG.

At the widely attended 2022 Debates: Controversies in Dermatology, Dr. Misha Rosenbach, co-chair of the ERG, defended the statement that "Dermatologists and their societies should prioritize engaging in the political discussion of climate change and advocate for socio-political solutions." Dr. Rosenbach's expertly composed argument distilled the scientific basis, cutaneous effects, clinical practice considerations, social determinants, and moral implications of climate change, underscoring how the climate crisis affects the speciality of dermatology and our patients. This portion of the Debate series was met with lively discussion, great enthusiasm, and overwhelming support - a clear testament to Dr. Rosenbach's dynamic presentation, dermatologists' keen interest in this topic, and the sheer magnitude of the impacts of climate change on medicine.



Rounding out the events at the AAD meeting was our scientific forum, Skin-Environmental Interface: Dermatologic Challenges of our Changing Climate and Environment, co-directed by Drs. Misha Rosenbach and Eva Parker. This session hosted an amazing [lineup of speakers](#) who broadly covered key climate-health issues at the forefront of dermatology such as heat-related illness, infections, autoinflammatory diseases, air pollution, wildfire effects on atopic dermatitis, forever chemicals, mass migration, environmental justice, and healthcare sustainability. The forum began with an introduction to climate impacts by Dr. Parker, followed by presentations from Dr. Jean Krutmann, Dr. David Fivenson, Dr. Maria Wei, Dr. Caroline Nelson, Dr. Alexandra Charrow, and Dr. John Barbieri. Dr. Rosenbach concluded the session with a passionate plea for action and advocacy. The response to this well-attended forum was resoundingly positive. The efforts of our ERG were consistently praised during the Q&A session, and the forum received an overall session score on written evaluations of **4.94 out of 5**.

Collectively, these events highlighted our group's commitment to climate action, and the strong attendance and excellent evaluations underscore the success of our efforts in raising awareness of the myriad issues at the intersection of climate change and dermatology. Thank you to all who participated and attended. Your engagement is the reason our events were so successful.

CLIMATE CHANGE IS HIGHLIGHTED AT THE 2022 AAD ANNUAL MEETING

See what attendees had to say about the Skin-Environmental Interface Forum: Dermatologic Challenges of our Changing Climate and Environment at the 2022 AAD Annual Meeting.

"Great session. very informative and interesting. This is an incredibly important topic and needs to be brought into the core discussions of the academy."

"This symposium was wonderful!!! The AAD is commended on elevating climate change to the symposium level. I suggest 3 hours be devoted at next year's meeting!!"

"This session should be a plenary at the AAD."

"Every speaker was amazing. It is content never before presented at the academy, and every member would benefit from this."

"This is an incredibly important and well done session!!"

"This was a fantastic session! I care greatly about this topic and have read widely on it - still I learned many new things from the different speakers. I'm always surprised by the direct relevance to the practice of dermatology and think this subject matter should be heard by a wider audience."

"Excellent session. Should be longer next year, since this is a vast subject which could not be fully addressed in the available time. While dermatology is obviously not the discipline most germane to environmental degradation, it already does and increasingly will affect dermatology practice and dermatologists and their organizations, like every other part of humanity, have a moral obligation to do what they can about it."



"Amazing session that all healthcare providers should attend. Such an important and timely session. We are fooling ourselves if we fail to realize the connection between the health of our planet and the health of our species. There are direct correlations to our specialty that were made evident in multiple talks during this session. For the sake of our patients and our future please prioritize and encourage more talks/sessions relating to climate change. I hope that the academy considers a goal to become carbon neutral as well."

"More time needs to be allocated to this global issue that spans every medic across every specialty across every part of the world. Thank you for this fabulous session. Sad I missed the plenary."

"Wonderful session, wish this was a session over the weekend available to more people, and more sessions on this topic as well during the AAD meeting."

"Great session! We have therapeutics now (topical aryl hydrocarbon receptor antagonists) to treat Derm diseases worsened by organic pollutants, like psoriasis and AD. This topic of pollution, environmental factors (heat, decreased ozone, etc), and other climate-related topics is NOT fringe and should not be discounted because of dissenting voices. Deserves a more mainstream symposium time and larger room."

"Incredible session! Went curious and left feeling really inspired by the ideas presented."

If you were not able to attend the session this year, we'll be back again in 2023 with a new lineup of great speakers!

CLIMATE CHANGE IN THE LITERATURE & NEWS

by Erica Lin, MS4 and Markus Boos, MD, PhD

Dermatopathology Laboratory Green Initiatives

- Chisholm C, Hayfort K, Stewart M. Dermatopathology Laboratory Green Initiatives. Am J Clin Pathol. 2022 Jun 22;aqac062. doi: 10.1093/ajcp/aqac062. Epub ahead of print.

This study described measures taken by a Dermatopathology laboratory, Epiphany Dermatology, to implement green initiatives. These changes included recycling and reuse of chemical reagents (formalin, alcohol and xylene), paper product and plastic recycling, as well as electricity use reduction and conversion to solar power. The study authors found that these efforts would have significant monetary and environmental benefits, such as complete elimination of 10% formalin and 95% alcohol purchases, reduction of xylene purchases to minimal levels, diversion of 13,788 pounds from the landfill to recycling programs, and a 65.82 ton reduction in carbon footprint over 2021. In this single setting, the authors estimated annual savings of \$35,200 based on specimen handling rates of 105,000 per year, with an additional \$11,000 of savings in energy costs. This study highlighted initiatives that can be adopted to decrease the environmental impact of Dermatopathology laboratories, which can also protect against disruptions in supply chains and lead to significant savings in the long-term.

TABLE 1 Monetary Savings Annualized over Year 1 and for Year 2, Factoring in Average Rate of Historic Growth

| Area of Reduction | Annual Cost Savings (Year 1) | Year 2 (20% Growth) |
|--------------------------|------------------------------|---------------------|
| Formalin | \$7,576 | \$9,091 |
| Xylene | \$7,414 | \$8,897 |
| Reagent alcohol | \$2,500 | \$3,000 |
| Biohazard disposal | \$12,960 | \$15,552 |
| Hazardous waste disposal | \$4,750 | \$5,700 |
| Total | \$35,200 | \$42,240 |

Estimating Carbon Emission and Cost Savings from Virtual Dermatology Residency Interviews

- Narang J, Zheng DX, Xu JR, Vaccarello A, Mulligan KM, Carroll BT, Sharma TR. Estimating Carbon Emission and Cost Savings from Virtual Dermatology Residency Interviews. J Am Acad Dermatol. 2022 Jul 5;S0190-9622(22)02247-2. doi: 10.1016/j.jaad.2022.06.1197. Epub ahead of print.

This study conducted at Case Western Reserve University evaluated the financial impact of virtual dermatology residency interviews on applicants and how virtual recruitment affected levels of related carbon emissions. It utilized information on 2,580 allopathic medical students that matched into dermatology over a 15-year period to estimate carbon emission estimates using the GeoPy Python library, OpenCage Geocoding Application Programming Interface (API), Google Distance Matrix API, and Environmental Protection Agency carbon emission per mile estimates. When results were applied to all dermatology applicants, the study authors found total savings of an estimated 530,000 kg CO2 (~average annual energy use of 67 households). When setting in-person interview costs to \$500/interview, applicants were estimated to save \$4,696. These findings suggest significant financial savings for applicants and decreased environmental burden with virtual dermatology recruitment. For further reading on this topic, refer to Donahue et al. highlighted in the Fall 2021 Climate Quarterly.

Virtual dermatology interviews can save ~530,000 kg CO2 annually (enough to power 67 households for a year)



POLICY UPDATE: TRACKING PRESIDENT BIDEN'S ENVIRONMENTAL POLICY

by Annika Belzer, MS4 and Caroline A. Nelson, MD

Dear reader, this will be the final installment of this column as I pass the torch to other writers. In concluding, I want to acknowledge the work of Annika Belzer, a senior medical student at Yale. She has not only joined me in writing this column but also advanced multiple climate advocacy projects across the specialty. Her dedication has inspired the work of our expert resource group and will make a lasting impact. Most sincerely, Caroline

During his campaign, President Joe Biden outlined a plan to “secure environmental justice and equitable economic opportunity.” Dermatologists, even those with an interest in climate change and policy, are busy. In this column, our goal is to summarize the most impactful environmental policy actions taken by the United States (US) federal government during the last quarter. While content curation is unavoidable, we will refrain from editorializing.

In the last installment of this column, we examined actions of the executive branch that were either praised or criticized by climate activists. Casting a shadow on President Biden’s stated goals, the 2022 Environmental Performance Index ranked the US 43rd internationally on measures of sustainability, 19 places behind the 2020 ranking. As the climate change battle is now being fought within all branches of government, we will focus on legislative, executive, and judicial actions in this installment.

2022 ENVIRONMENTAL PERFORMANCE INDEX FINDS WORLD NOT ON TRACK TO MEET CLIMATE COMMITMENTS

Denmark earns #1 ranking; India falls to bottom of the scorecard;
United States ranks low among wealthy democracies

source: Environmental Performance Index 2022 Press Release

1. Revival of Reconciliation: The US Senate has failed to pass President Biden’s Build Back Better Plan following his election in 2020 due to resistance from Senator Joe Manchin, whose vote is necessary to pass the bill through the Senate. In a surprise announcement on July 27th, Senate Majority Leader Chuck Schumer and Senator Manchin stated they had come to an agreement on the Inflation Reduction Act of 2022. This bill includes \$433 billion in new spending and emphasizes climate change measures including but not limited to clean energy development, tax credits for electric vehicles, home energy rebates, and increased financial penalties for greenhouse gas emissions. Passage of this bill was not without concessions, as Senator Schumer supported pipelines and drilling in return for Senator Manchin’s vote. Nevertheless, while the price tag falls short of the \$2 trillion Build Back Better Plan, the Inflation Reduction Act of 2022 is the most forward motion the federal legislature has seen in the way of climate change since President Biden was elected to office.

2. Executive Efforts: After persistent failed attempts to pass the Build Back Better Plan through the Senate, the executive branch has looked toward other avenues to combat the climate crisis. In May, the US Department of Human and Health Services’ Office of Climate Change and Health Equity launched Climate and Health Outlook. This public information series will provide data on weather patterns and relevant health resources with the goal of reducing negative health impacts of climate change-related extreme weather events. At the Summit of the Americas in June, the US announced the Partnership to Address the Climate Crisis (PACC). The goal of this partnership is to strengthen energy security and promote climate adaptation and resilience within the Caribbean. At this meeting, the 100,000 Strong in the Americas Alliance for Climate Action, or 100K CLIMA, Initiative was also announced. This collaboration between higher education institutions in the US, Latin America, and the Caribbean aims to increase climate action education through exchange programs.



POLICY UPDATE: TRACKING PRESIDENT BIDEN'S ENVIRONMENTAL POLICY

by Annika Belzer, MS4 and Caroline A. Nelson, MD

3. Climate in the Courthouse: On June 30th, the US Supreme Court announced its decision in the West Virginia vs. Environmental Protection Agency (EPA) case. The 6-3 majority opinion stated that the EPA does not have the right to enact the Clean Air Act, which had been introduced by President Obama but never went into effect. Regarding the broader impact of this decision, the opinion stated that the EPA does not have the power to place limits on carbon dioxide emissions. However, this Supreme Court has not always ruled against climate change. In May of this year, the court ruled that the White House's social cost of carbon metric could be used in agency decision-making in an emergency motion brought by Louisiana.

It is important to note that political sparring over climate change is also occurring at the state and local level. As Build Back Better stalled, democratic state legislatures began introducing bills of their own. The California Senate passed Bill 1173 in May of 2022, which would require that California's public pension funds, including the two largest pension funds in the country, divest from coal, gas, and oil companies by 2030. Although Assembly Member Jim Cooper vetoed this bill from being heard by the Assembly on Public Employment and Retirement, proponents have stated they will continue to pursue passage. Similarly, the New York Senate introduced Bill 9417, the Climate Change Superfund Act. This would place fees on fossil fuel companies with the highest emissions; the resulting 30 billion dollars would be used to fund climate adaptation infrastructure. On the republican side, legislation was signed into Texas law in 2021 requiring all state retirement or investment funds to divest from companies or entities that have ended their relationships with oil, coal, or gas companies. More recently, Oklahoma legislature introduced the Energy Discrimination Elimination Act; this law would prevent the state from doing business with any company that has ended relationships with the fossil fuel industry. Louisiana similarly put forth House Bill 25, which would prevent state retirement funds from doing business with companies that have cut ties with the fossil fuel industry.

As our planet's future hangs in the balance, it is only natural to desire all branches and levels of government to unify in tackling the climate crisis. However, we will leave you to ponder James Madison's famous quote from the *Federalist Papers*:

"Liberty is to faction, what air is to fire, an aliment, without which it instantly expires. But it could not be a less folly to abolish liberty, which is essential to political life, because it nourish faction, than it would be to wish the annihilation of air, which is essential to animal life, because it imparts to fire its destructive agency."

Thank you for reading.

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8. <https://www.washingtonpost.com/politics/2022/05/31/bills-blue-states-target-fossil-fuel-industry-climate-damage/>
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10. <https://www.washingtonpost.com/politics/2022/06/01/bills-red-states-punish-climate-conscious-businesses/>



CLIMATE SENSITIVE DISEASE: CUTANEOUS THERMOREGULATION

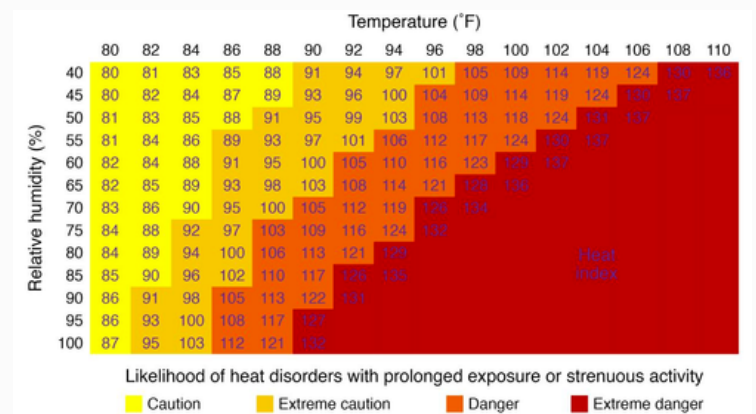
by Sofia Perez, MS2, Betty Nguyen, MS4, and Eva R. Parker, MD

As the temperature of our atmosphere continues to rise as a direct consequence of anthropogenic release of greenhouse gases and resultant climate change, heat waves are becoming more frequent, longer, and more intense worldwide. Additionally, the number of high humidity days is also increasing. Global warming is pushing temperatures toward the extreme, resulting in triple the number of heat waves since 1960 in many U.S. cities [1].

With extreme heat comes an increased risk of heat related illnesses (HRIs) and mortality. Each summer in the United States, about 65,000 patients with acute HRIs are seen in the emergency room [1]. While cutaneous vasodilation and sweat evaporation are essential for thermoregulation, HRIs may result, in part, when the skin is unable to adequately dissipate excess heat when exposed to extreme temperatures [2,3]. Clinically, HRIs range from mild to severe in presentation. Mild illness presents with hyperhidrosis, muscle cramps and dizziness due to heat stress, while the most life-threatening category of HRIs is heat stroke, which occurs when core temperature rises above 40°C. The result is rapid progression to central nervous system dysfunction, cardiovascular collapse, and multisystem organ failure, carrying a mortality rate of 80% [4,5].

Because our skin is the major organ tasked with heat dissipation to the external environment, it plays a critical role in thermoregulation during times of extreme heat. Increased core temperature triggers cutaneous vasodilation, a vascular response to central sympathetic signals from the hypothalamus, and warm blood from the body's core is shunted peripherally, allowing for convective cooling as heat is exchanged between the skin and external environment [5]. This method of thermoregulation, however, is effective only when external temperatures are lower than that of the body's core. In instances of extreme external temperature, evaporative cooling from sweat production becomes the sole means of heat dissipation.

Sweat secretion is a powerful mechanism that utilizes the skin's 1.6 to 4.0 million eccrine sweat glands to dissipate up to 1700W of heat [6]. In response to cholinergic sympathetic stimulation, eccrine glands secrete a hypotonic, watery solution that rapidly evaporates, resulting in cooling of the skin's surface [7]. However, evaporative cooling from sweat becomes ineffective at wet bulb temperatures >95 °F, meaning the combination of heat and humidity are much more dangerous for human health [5,7]. While eccrine sweat secretion and cutaneous vasodilation are critical thermoregulatory mechanisms that protect the human body from HRIs, these have important temperature thresholds after which these protective measures fail to cool the body [5,7]. This latter fact is essential to underscore given the increasing extreme heat events observed globally. The life-threatening dangers of heat cannot be overstated, as evidenced by the prolonged triple digit heatwaves that have plagued North America and Europe for the last 2 summers. Case in point, during a single week in the summer of 2021, ~600 additional deaths occurred in Oregon and Washington due to extreme heat [8]. Recent scorching heatwaves in Western Europe set all-time temperature records with 1700 heat-related deaths reported in the UK [9] and an additional 2000 deaths recorded in Spain and Portugal during a 1-week span [10].



The heat index is a measure of how hot it really feels when relative humidity is factored in to the actual air temperature. The red zone without numbers indicates extreme danger. Temperature °F = (°C × 1.8) + 32. Source: Ahima (2020).



CONTINUED... CLIMATE SENSITIVE DISEASE: CUTANEOUS THERMOREGULATION

by Sofia Perez, MS², Betty Nguyen, MS⁴, and Eva R. Parker, MD

Even with optimal efforts to reduce global warming, temperatures are predicted to continue rising [11]. Therefore, understanding the factors that diminish thermoregulatory capacity are key. Notably, physiologic factors such as reduced thermal sensitivity and lack of agency associated with extremes of age, presence of comorbidities (eg. obesity, diabetes, cardiovascular disease), and pharmacological effects of commonly prescribed medications alter the body's ability to regulate heat. Specifically, inhibition of sweat production from anticholinergic medications, impaired peripheral vascular response and reduced cardiac output from antihypertensives, dehydration from diuretics, and altered cognition and heat perception from antidepressants and opioids negatively affect thermoregulation, thus increasing the risk of HRIs [5,7]. Additionally, those with spinal cord injuries, intellectual and developmental disabilities, and mental health illnesses are particularly vulnerable, while geography and outdoor occupation are additive risk factors [5]. Historic housing policies, such as redlining, marginalized people of color and those of lower socioeconomic status within U.S. cities. The enduring result is that these populations now reside in urban heat islands and are disproportionately impacted by rising temperatures, while experiencing reduced access to both medical care and resources for climate adaptation and resiliency. These multifactorial impacts and pressure exerted by climate change amplify existing health and socioeconomic disparities [5].

With more deaths caused by heat than any other weather-related event, global warming poses a grave threat to individuals around the world. As such, discussions on the risks of HRI are easily incorporated into our sun protection counseling since UPF clothing, hats, seeking shade, and avoidance of the midday sun are protective against both heat and UV. As clinicians, we should encourage patients to stay well hydrated, be aware of their susceptibility to heat as a result of medications or physiology, and monitor heat indices prior to outdoor activities. Additionally, we must advocate for healthcare decarbonization and policies that protect public health and reduce greenhouse gas emissions.

| WHAT TO LOOK FOR | WHAT TO DO |
|--|--|
| HEAT STROKE | |
| <ul style="list-style-type: none"> High body temperature (103°F or higher) Hot, red, dry, or damp skin Fast, strong pulse Headache Dizziness Nausea Confusion Losing consciousness (passing out) | <ul style="list-style-type: none"> Call 911 right away—heat stroke is a medical emergency Move the person to a cooler place Help lower the person's temperature with cool cloths or a cool bath Do not give the person anything to drink |
| HEAT EXHAUSTION | |
| <ul style="list-style-type: none"> Heavy sweating Cold, pale, and clammy skin Fast, weak pulse Nausea or vomiting Muscle cramps Tiredness or weakness Dizziness Headache Fainting (passing out) | <ul style="list-style-type: none"> Move to a cool place Loosen your clothes Put cool, wet cloths on your body or take a cool bath Sip water <p>Get medical help right away if:</p> <ul style="list-style-type: none"> You are throwing up Your symptoms get worse Your symptoms last longer than 1 hour |
| HEAT CRAMPS | |
| <ul style="list-style-type: none"> Heavy sweating during intense exercise Muscle pain or spasms | <ul style="list-style-type: none"> Stop physical activity and move to a cool place Drink water or a sports drink Wait for cramps to go away before you do any more physical activity <p>Get medical help right away if:</p> <ul style="list-style-type: none"> Cramps last longer than 1 hour You're on a low-sodium diet You have heart problems |
| SUNBURN | |
| <ul style="list-style-type: none"> Painful, red, and warm skin Blisters on the skin | <ul style="list-style-type: none"> Stay out of the sun until your sunburn heals Put cool cloths on sunburned areas or take a cool bath Put moisturizing lotion on sunburned areas Do not break blisters |
| HEAT RASH | |
| <ul style="list-style-type: none"> Red clusters of small blisters that look like pimples on the skin (usually on the neck, chest, groin, or in elbow creases) | <ul style="list-style-type: none"> Stay in a cool, dry place Keep the rash dry Use powder (like baby powder) to soothe the rash |

Source: <https://www.cdc.gov/disasters/extremeheat/warning.html>

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GREENING THE OFFICE: MEDICAL WASTE REDUCTION

by David Fivenson, MD and John Barbieri, MD, MBA

In the [AAMCNews](#), Ken Budd summarizes a 2019 report, [Health Care's Climate Footprint](#), from Arup and Health Care Without Harm. According to the article, 'the global health care industry is responsible for two gigatons of carbon dioxide each year, or 4.4% of worldwide net emissions — an equivalent of 514 coal-fired power plants. If the global health care sector were a country, it would be the world's fifth-largest emitter of greenhouse gases' [1]. The United States is the world's highest emitter of health care greenhouse gases, accounting for 27% of the global health care carbon footprint (China, at number two, accounts for 17%). Healthcare makes up 10% of total US carbon dioxide emissions.

One area to which we all contribute is medical waste, yet we may not realize how much this adds to the carbon footprint of healthcare. Medical waste disposal involves storage in specific containers. These special containers must be collected, which includes transportation to a treatment facility, incineration, and subsequent transportation of the treated waste to a landfill.

The vast majority of plastic sharps containers are single use, requiring incineration. This releases greenhouse gases and numerous pollutants including particulate matter, NOx, heavy metals, and dioxins. Converting to reusable containers can save in excess of 80% of the CO₂ released. A 2021 study of 40 hospitals in the UK demonstrated that conversion to reusable sharps containers realized savings of 3267.4 tons of CO₂ (~84%) by reducing container exchanges by 61% and eliminating both the incineration of 900.8 tons of plastic as well as the disposal/recycling of 132.5 tons of cardboard [2]. Similar CO₂ savings were found when Northwestern Memorial Hospital System converted to reusable sharps containers. Across the US, destruction of sharps alone is estimated to result in the release of more than 100,000 metric tons of CO₂ annually.

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Alternatives to disposable sharps containers include mail return systems for sharps and on-site processing devices which reduce sharps to a form that can be directly placed in local waste collection systems. Recent advancements converting medical waste, such as sharps, plastics, bandages, swabs and glass, into concrete for the construction industry offer promise as an innovative means to recycle and repurpose these items. Finally, we should be thoughtful about the items discarded in medical waste and sharps containers as disposing of regular waste (wrappers in packaging, paper towels, drink containers, etc.) in these bins contributes to excess greenhouse gas emissions.

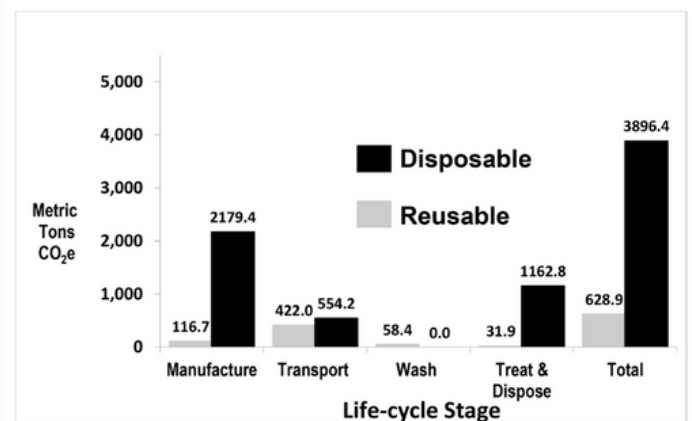


Figure 2 Annual carbon footprint, by life-cycle stage, of single-use and reusable sharps containers at 40 NHS trusts. CO₂e, carbon dioxide equivalent; NHS, National Health Service.

FUNDING AND EDUCATIONAL OPPORTUNITIES

by Eva R. Parker, MD

We are excited to report two grant opportunities for climate-specific health research. The **Burroughs Wellcome Fund** aims to stimulate the growth of new connections between scholars working in largely disconnected fields who might together change the course of climate change's impact on human health. Proposals will be accepted on a rolling basis through *August 30, 2023*.


Secondly, the **NIH** recently announced the **Climate Change and Health Initiative**, an urgent, cross-cutting effort to reduce health threats from climate change across the lifespan and build health resilience in individuals, communities, and nations around the world. Various funding opportunities are available.

The NIH also announced a **Seminar Series** to educate and inform colleagues and the public about the human health implications of climate change. The next seminar will be on **August 16, 2022, 11 am-12:30pm EDT**, featuring a **NIAID Mosquito Day Webinar: How will climate change impact mosquito biology and mosquito-borne diseases?** [Register here](#)

CLIMATE CHANGE AND HUMAN HEALTH SEED GRANTS

Small grants to promote growth of new connections between scholars, practitioners, educators, and/or communicators working to understand, spread the word about, and mitigate the impacts of climate change on human health.

Proposals accepted with a rolling deadline between September 1, 2021 and August 30, 2023



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NIH CLIMATE CHANGE AND HEALTH INITIATIVE

Climate Change and Health Initiative




NIAID Mosquito Day Webinar:

How will climate change impact mosquito biology and mosquito-borne diseases?

August 16, 2022, 11am-12:30pm ET


Register Here: https://nih.zoomgov.com/webinar/register/WN_TBR9Rb2TRyq3zxva-NHgCQ

Speakers Include:



Dr. Matthew Thomas
Professor, Invasion Science Research Institute, and Department of Entomology and Nematology, University of Florida.

Abstract: The dynamics and distribution of malaria are strongly affected by the environment. For this reason, there is substantial interest in the extent to which climate change could impact future transmission. However, the patterns are potentially complex and uncertain. This is partly because malaria prevalence is determined by a suite of interacting factors and does not depend on environmental conditions alone. In addition, our current understanding of how environmental factors such as temperature affect the various mosquito and parasite life history traits that combine to determine transmission potential is surprisingly incomplete. Here I will provide an overview of current knowledge and highlight some priorities for future research to improve understanding of mosquito-parasite-temperature interactions and better predict responses to environmental change.



GET INVOLVED & STAY INFORMED

We have multiple opportunities to roll up your sleeves and engage in meaningful work with our ERG's Committees including Communication & Education, Outreach & Policy, and Innovations & Initiatives. Please contact Eva Parker (eva.r.parker@vumc.org) if you would like to volunteer.

Become an Advocate Member of the Medical Society Consortium on Climate & Health. Click [here](#) to sign up and learn about numerous opportunities for climate advocacy and action.

Please email Sarah Coates (sarah.coates@ucsf.edu) or Markus Boos (markus.boos@seattlechildrens.org) to join our mailing list.



Dr. Parker and Dr. Rosenbach led the Skin-Environmental Interface Course at AAD 2022



David Fivenson, Eva Parker, Misha Rosenbach, John Barbieri, Alexandra Charrow, Maria Wei, Caroline Nelson at AAD 2022

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