Urban Climate News

Quarterly Newsletter of the IAUC

ISSUE NO. 91 JUNE-JULY 2024 • www.urban-climate.org • INTERNATIONAL ASSOCIATION FOR URBAN CLIMATE

From the IAUC Secretary

Dear IAUC community,

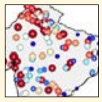
In absence of the president, it is my great pleasure to write this – to the best of my knowledge – first column from the IAUC Secretary. **We are currently right in the middle between two major events of our community – ICUC11 and ICUC12**. The conference last year in Sydney was a much needed and long wished-for reunion of the community after five years, that gave visibility to exciting research, new applications as well as a new generation of scholars and leaders in the field. In contrast, the next conference in Rotterdam will take place after a short gap of just two years – and I think this accelerated timeline reflects the plethora of activities that are going on in the community and beyond.

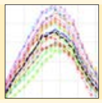
The **12th International Conference on Urban Climate** (ICUC12) will be held from July 7 to 11, 2025 in Rotterdam (The Netherlands). Proposals for Special Sessions and Workshops can still be submitted here, and the call for conference abstracts is expected to open on October 1st.

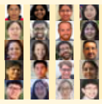
As you might know, we are currently **transferring our membership database and communication infrastructure** to the new urban-climate.org website. So far more than 550 members have registered in the new system. This is fantastic, but we can still do better – if you haven't done so yet, please become a member or confirm your membership here. As a member you have the opportunity to share relevant information with the community via the website (instructions will be available after registration). This community created content is moderated by our new webmaster team, namely Dragan Milosevic, Jelena Dunjić and Selina Mähner – many thanks to all of you. If anybody is interested in joining this team, please contact Dragan. Please use this system for any jobs and announcements exclusively, since we'll be phasing out the old mailing lists (iauc-news and meturb-clim) soon. If you are just interested in updates, you can also register to receive news only.

Another good reason for registering soon is the upcoming **election of two regular board members**. We are particularly happy about candidacy/nominations of underrepresented groups by various categories (i.e. gender, region, and professional status). We are also **broadening our possibilities for community engagement**. From those participating in the online questionnaire around the "Future of IAUC" session at ICUC11, an amazing 90% showed interest in participating and engaging more. The discussion about the best

Inside the June-July issue...





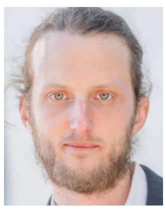


structure for this involvement has taken a bit of time, but we are about to start with a few **new committees** (with a focus on underrepresented regions and ECR). Please watch for updates on both of these fronts.

It's where the wind blows, it's where the heat burns… A recent request from Mathilde Hérault of CNRS, France about **urban climate walks** generated substantial interest in the community and revealed a large number of existing sensation-walks in various cities on different continents. If you want to add your own walk to the database, please contact Mathilde directly.

Issue No. 91 of *Urban Climate News* includes a feature on urbanization and climate change-driven warming of Indian cities by Soumya Satyakanta Sethi and V Vinoj, a report on the Urban-PLUMBER model evaluation project by Mathew Lipson and colleagues, and a review of the urban climate sessions at the 2024 EGU General Assembly by Daniel Fenner. Enjoy reading, and a great thanks to all contributors as well as David Pearlmutter and the IAUC News Team.

— Benjamin Bechtel, Secretary
International Association
for Urban Climate



Mayors rally for urban climate finance, urge development banks to help boost city climate action

City leaders worldwide are urgently calling on multilateral development banks (MDBs) to provide essential support in addressing the pressing climate challenges facing urban areas.

March 2024 — With more than half of the global population residing in cities—a number that could rise by 2.5 billion by 2050, predominantly in Asia and Africa—urban centres have become significant contributors to the climate crisis, responsible for 70% of greenhouse gas emissions. Cities are increasingly grappling with the adverse effects of climate breakdown, such as flooding and extreme temperatures. Despite their ambitious climate plans, our cities face a critical barrier: limited access to finance.

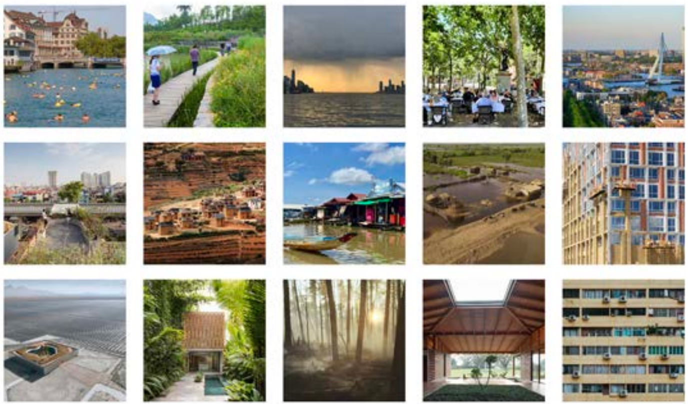
Today, in an open letter addressed to the presidents of ten global and regional MDBs, 40 mayors and governors from cities across the globe underscore the urgent need for action. The mayors are asking MDBs to work with them to narrow the finance gap by increasing urban climate investment, integrating urban climate action into their strategies, and implementing tailored programmes to support city projects.

During COP28, the launch of the Coalition for High Ambition Multi-Level Partnership (CHAMP) recognised cities' pivotal role in global climate efforts, while a report by C40 and partners highlighted the strategic importance of urban climate action within MDB reform agendas. These developments underscore the imperative of collaboration in tackling climate breakdown.

The open letter signatories invite MDB presidents to engage with city leaders at the upcoming World Bank/IMF Spring Meetings in Washington, D.C., stressing that effective climate action requires partnership and commitment across all levels of governance. By amplifying the voices of city leaders and fostering collaboration between MDBs and urban stakeholders, we can take meaningful steps towards creating a safer, healthier and more resilient future. *Source:* https://www.c40.org/news/mayors-urban-climate-finance-development-banks-boost-city-action/

Urban and Architectural Strategies to Navigate the Climate Crisis

April 2024 — Every year, Earth Day, celebrated on April 22, presents us with an opportunity to contemplate the conditions of our planet and our impact upon it. Generating around 37% of global carbon emissions, the construction industry has an important, often detrimental, role to play, thus placing an increasingly urgent responsibility on architects and builders to devise strategies for reducing this number. Still, the built environment represents the habitat for most of humanity, and so it has the potential to protect and shelter people from the risks posed by the changing climate. Read on to discover a collection of articles delving into the strategies available at urban and architectural scales for mitigating the effects of climate change and minimizing the industry's impact upon it:



Urban and architectural strategies for mitigating the effects of climate change. Source: https://www.archdaily.com

How to adapt cities to extreme heat • What Is an Urban Oasis? Combating the Excessive Heat of Cities • How Cities Are Mitigating the Effects of Rising Temperatures • Resilient Water Management • Urban Waterways Reborn: European Cities Leading the Change in River Restoration and Revitalization • Urban Anti-Flooding Strategies in Latin American Cities • How NYC Plans to Deal With Rainstorms: Global Precedents • What is Peatland: A Powerful Carbon Store and Ecosystem • The Potential of Urban Spaces • The Barcelona Model: Public Space as a Synonym for Urban Adaptation • European Cities Tackle Urban Cooling, Congestion, and Connection • Cities Embrace Climate Action Planning to Mitigate the Adverse Effects of Climate Change • Site-Specific Strategies Informed by Vernacular Practices • Yasmeen Lari Sets Out to Build One Million Flood-Resistant Homes in Pakistan by 2024 • Climate Lessons From the Floating Villages of Cambodia • "Habitat: Vernacular Architecture for a Changing Climate" Offers Strategies and Instruments for a Sustainable Transition • Architecture's Response • How to Replace Air Conditioning? Passive Strategies for Addressing Global Warming • 7 Bioclimatic Façade Strategies for Tropical Architecture • Introspection, Elevation, Covering-Up: Radical Architectural Operations for Adverse Climates • Cooling and Energy Efficiency: A New Era in Building Design • Embodied Carbon in Real Estate: The Hidden Contributor to Climate Change • The Energy Efficiency Policy Package: Key Catalyst for Building Decarbonisation and Climate Action • Source: https://www.archdaily.com/1015872/earth-day-2024-urban-and-architectural-strategies-to-navigate-the-climate-crisis

Cities are key to a climate-resilient Europe, stronger adaptation targets can boost progress

Most Europeans live in urban areas and cities play a key role in protecting citizens and improving the resilience of European societies against the increasing impacts of climate change. The European Environment Agency's report, published today, takes stock of urban adaptation in Europe, showcasing what actions cities are taking in response to increasing climate risks, and what is already working.

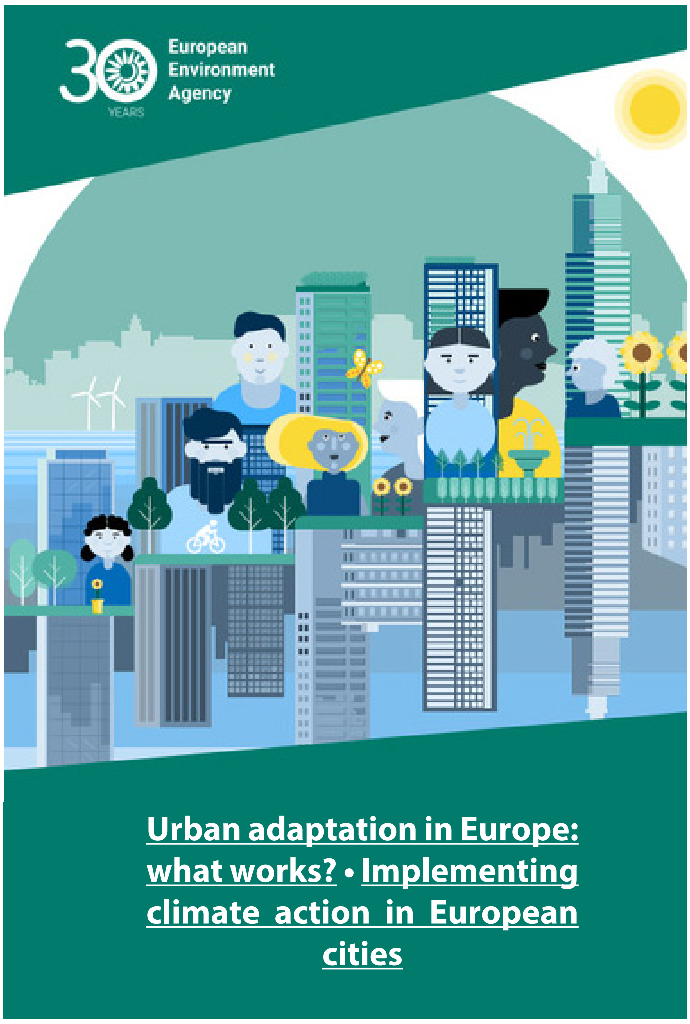
April 2024 — The EEA report '[Urban adaptation in Europe]' highlights the urgent need to adapt European cities to climate change and provides an overview of actions they are taking. The report provides a rich source of information to support climate adaptation policies across Europe, from EU to municipal level.

As European cities increasingly feel the impacts of climate change, such as heatwaves and floods, there is a clear case for investing in urban societal resilience, the EEA report states. Cities have an essential role in the implementation of adaptation actions, which need to take into account local conditions and specific vulnerabilities.

European cities are adapting to climate change through a wide range of effective actions, including urban planning and building codes, economic incentives and insurance, early-warning systems and information campaigns. Emerging areas of opportunity for adaptation include promoting urban agriculture, creating more liveable public spaces and protecting cultural heritage.

They are also increasingly implementing nature-based solutions, which are included in 91% of local adaptation plans analysed in the report. Nature-based solutions are effective for cooling and water retention in cities, and they also provide many other benefits, such as space for recreation and reducing pollution. However, due to the magnitude of expected climate impacts, it may still be necessary to combine nature-based approaches with other types of actions, including physical infrastructure, the EEA report notes.

The EEA report highlights several enabling conditions for successful adaptation. These include sustained political commitment that is often linked to adequate long-term funding, good governance and engagement of local citizens, learning from other cities and knowledge-based decision making.



Source: https://www.eea.europa.eu/en/newsroom/news/cities-are-key-to-a-climate-resilient-europe

The report highlights that adaptation is required across all sectors and at all governance levels, and that actions will need to both address current climate impacts and protect against greater, future risks. The EEA report also stresses that if actions taken at the local level are to be properly upscaled, much more tangible targets are needed to measure progress. Currently, only 2% of indicators used for monitoring in local adaptation plans are linked to a specific adaptation target.

In March, the EEA published the first ever European climate risk assessment, showing that Europe's current policies and adaptation actions are not keeping pace with the rapidly growing climate risks. According to the report, densely-populated, urban areas are at particular risk from heatwaves and extreme precipitation. *Source:* https://www.eea.europa.eu/en/newsroom/news/cities-are-key-to-a-climate-resilient-europe

'New Territory' for Americans: Deadly Heat in the Workplace

Deaths are rising sharply, and the Biden administration is trying to respond. Its plan faces big hurdles.

May 2024 — For more than two years, a group of health experts, economists and lawyers in the U.S. government has worked to address a growing public health crisis: people dying on the job from extreme heat.

In the coming months, this team of roughly 30 people at the Occupational Safety and Health Administration is expected to propose a new rule that would require employers to protect an estimated 50 million people exposed to high temperatures while they work. They include farm laborers and construction workers, but also people who sort packages in warehouses, clean airplane cabins and cook in commercial kitchens. (Update: OSHA released the proposal on July 2)

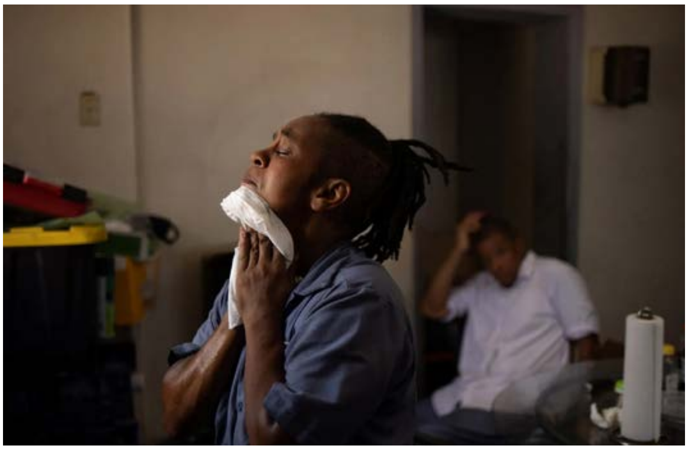
The measure would be the first major federal government regulation to protect Americans from heat on the job. And it is expected to meet stiff resistance from some business and industry groups, which oppose regulations that would, in some cases, require more breaks and access to water, shade and air-conditioning. But even if the rule takes effect, experts say, the government's emergency response system is poorly suited to meet the urgency of the moment.

Last year was the hottest in recorded history, and researchers are expecting another record-breaking summer, with temperatures already rising sharply across the Sun Belt. The heat index in Miami reached 112 degrees Fahrenheit last weekend, shattering daily records by 11 degrees. The surge in deaths from heat is now the greatest threat to human health posed by climate change, said Dr. John M. Balbus, the deputy assistant secretary for climate change and health equity in the Health and Human Services Department.

"The threat to people from extreme heat is reaching a point where we have to rethink how, at all levels of government, we are preparing and putting in place a response that matches the severity of the problem," Dr. Balbus said in an interview. "This is new territory."

An estimated 2,300 people in the United States died from heat-related illness in 2023, triple the annual average between 2004 and 2018. Researchers say all those figures are probably undercounts, in part because of how causes of death are reported on death certificates. Emergency room visits for heat illness shot up around the country last summer compared with the previous five years, according to a study by the Centers for Disease Control and Prevention.

Heat kills more people each year than hurricanes, floods and tornadoes combined, according to the National Weather Service. President Biden has tried to respond to the threat, notably with a call for worker protections in 2021. His administration tapped Dr. Balbus to be the first senior official to address the health impacts of climate change. "Even those who deny that we're in the midst of a climate crisis can't deny the impact that extreme heat is having on Americans," Mr. Biden said in July, adding that "it hits our most vulnerable the hardest: seniors, people experiencing homelessness who have nowhere to turn, disadvantaged communities that are least able to recover from climate disasters."



Heat kills more Americans each year than hurricanes, floods and tornadoes combined, according to the National Weather Service. Source: https://www.nytimes.com/2024/05/25/climate/extreme-heat-biden-workplace.html

But Mr. Biden's efforts to respond to the extreme heat linked to climate change will almost certainly be erased if former President Donald J. Trump returns to the White House, Republican strategists said in interviews. Initiatives like the Office of Climate Change and Health Equity could be wiped away. And the proposed OSHA heat rule would very likely be shelved and ignored.

"So far this rulemaking seems bound up in policy concerns about climate change and structural racism," said Jonathan Berry, who served as a senior Labor Department official under Mr. Trump. "I don't see a second Trump administration supporting rules on those bases."

You could 'cook an egg up here'

The health effects of extreme heat can be devastating even to the healthy and the young. High temperatures can damage organs, depriving the heart and kidneys of oxygen and blood, and overwhelm the body's ability to cool down. Dr. Jerry Snow Jr., a medical toxicologist and emergency medicine physician at Banner-University Medical Center in Phoenix, saw patients last summer with confusion, unresponsiveness and body temperatures above 105 degrees Fahrenheit. Blood tests would reveal kidney or brain damage and muscle that had broken down. People who collapsed on hot concrete or asphalt arrived with burns, he said.

Juan Villalpando, 43, a roofer in Gary, Ind., battled 94-degree temperatures this week. "You can physically cook an egg up here," said Mr. Villalpando, who has experienced episodes of heat illness, with fatigue, cold sweats, chills and disorientation. "When that happens to guys, they can fall off and die." (As the heat has broken records in Indiana, Mr. Villalpando's employer has provided more water breaks and shade.)

Telitha Solis, 57, an airplane cabin cleaner at George Bush Intercontinental Airport in Houston, recalls sweating, shaking and feeling nauseated while working without air-conditioning. "Any kind of air cooling would make a big difference," she said.

The White House has pushed officials at the Labor Department, which oversees OSHA, to publish a draft heat rule this summer. But even if that happens, it is unlikely to be finalized this year and faces broad opposition from industry groups that say new regulations would be unreasonably complicated and expensive.

Marc Freedman, a vice president at the U.S. Chamber of Commerce, the country's largest business lobbying group, wrote that such a rule would present huge challenges for employers and that "it is extraordinarily difficult for them to determine when heat presents a hazard because each employee experiences heat differently." Mr. Freedman said the unpredictable nature of heat creates "a substantial barrier to efforts to determine when employees require protection."

The rule, which would set clearer standards for employers, would most likely include two heat index thresholds, one at 80 degrees Fahrenheit and the other at 90 degrees, for worker protections in both outdoor and indoor settings, according to an outline that OSHA officials presented in late April. The heat index is a measure of how hot it really feels outside, factoring in humidity and other factors along with the temperature. At the first, lower threshold, employers would be required to offer drinking water and break areas and to allow workers to start with lighter workloads. The higher threshold would require breaks and monitoring for signs of heat illness.

Since April 2022, OSHA, which has nearly 2,000 inspectors, has conducted about 5,000 inspections related to heat exposure. That resulted in 54 citations to employers for heat-related violations of the agency's general duty clause, which requires companies to maintain workplaces free of hazards, said Mandy McClure, an agency spokeswoman. Out of those 54 citations, a dozen were issued after heat-related hospitalizations and 25 after heat-related deaths, she said.

Representative Greg Casar, a Texas Democrat who went on a thirst strike in July to pressure OSHA to expedite the heat rule, said that "it would take OSHA nearly 150 years to inspect every workplace in the country, because they're constantly underfunded."

About half a dozen states have implemented their own protections for outdoor workers. But some of those protections have faced backlash from conservatives. Gov. Ron DeSantis of Florida and Gov. Greg Abbott of Texas, both Republicans, signed legislation to prevent local governments from requiring heat protections for outdoor workers.

According to data compiled by the Health and Human Services Department, 445 people died of heat exposure in Texas last year, and 77 died in Florida.

The Texas measure was designed to prevent a patchwork of local laws that conflict with or exceed state laws in a number of areas, including workplace safety. Mr. Abbott has said the goal was to "remove the barriers of government to encourage competition, and empower consumers to choose," and that the measure "increases economic liberty while still ensuring customer safety."

The Florida law was enacted after Miami-Dade County sought to enact a worker protection rule over the objections of the business community. "I think they were pursuing something that was going to cause a lot of problems down there," Mr. DeSantis said.

An invisible but deadly crisis

In October 2022, after a record-breaking, triple-digit heat dome formed over California, Gov. Gavin Newsom, a Democrat, asked the Federal Emergency Management Agency to declare a major disaster, which would have unlocked federal assistance. The agency denied the request, responding that "precedent is to evaluate discrete events and impacts, not seasonal or general atmospheric conditions." The 1988 Stafford Act, which authorizes the federal government to declare a disaster or emergency, does not include extreme heat in its list of 16 causes. No president has declared an emergency in response to heat. Local officials and health providers say FEMA's requirements for activating an emergency response typically involve things like property damage from a disaster. A heat crisis that stresses human health can be harder to measure.

A heat crisis "is not a big visual episode," said Jane Gilbert, the chief heat officer of Miami-Dade County.

The most perilous heat-related health crisis could come if heat takes down an electric grid. Extreme heat can send demand for electricity soaring, straining transmission, and can damage equipment, hobbling production. The result is a steamy community, in the dark, without air-conditioning, refrigeration or relief. "That would be an overwhelming situation where I think you would probably have to see a federal response," Dr. Balbus said.

Blackout events that leave more than 50,000 people without power for at least an hour have increased more than 60 percent in the United States between 2015 and 2021 as climate change has intensified heat waves, according to research published in the journal *Environmental Science & Technology*. In Atlanta, Detroit and Phoenix, a multiday blackout event during a heat wave would more than double the estimated rate of heat-related deaths, a 2023 study found. "In Atlanta, we have an undersized network of cooling centers, mostly high school gymnasiums," said Brian Stone Jr., a professor at the Georgia Institute of Technology and an author of the study. "And not a single cooling center has backup generators."

Kate Brown, a former Oregon governor, recalled that Portland had used air-conditioned city buses as cooling sites during heat waves. "Emergency management was designed to deal with huge disasters that cause great destruction to public infrastructure," she said. "This is people dying in their homes because of the heat." — CORAL DAVENPORT & NOAH WEILAND *Source:* https://www.nytimes.com/2024/05/25/climate/extreme-heat-biden-workplace.html

The Heat Wave Scenario That Keeps Climate Scientists Up at Night

June 2024 — On a recent Thursday evening, a freakish windstorm called a derecho (Spanish for "straight ahead") hit Houston, a city of more than two million people that also happens to be the epicenter of the fossil fuel industry in America.

In a matter of minutes, winds of up to 100 miles per hour blew out office building windows, uprooted trees and toppled electric poles and transmission towers. Nearly a million households lost power. Which meant that not only was there no light; there was no air-conditioning. The damage from the storm was so extensive that, five days later, more than 100,000 homes and businesses were still marooned in the heat and darkness.

Luckily, the day the derecho blew in, the temperature in Houston, a city infamous for its swampy summers, was in the low to mid-80s. Hot, to be sure, but for most healthy people, not life-threatening. Of the at least eight deaths reported as a result of the storm, none were from heat exposure.

But if this storm had arrived several days later, perhaps over the Memorial Day weekend, when the temperature in Houston hit 96 degrees, with a heat index as high as 115, it might have been a very different story. "The Hurricane Katrina of extreme heat" is how Mikhail Chester, director of the Metis Center for Infrastructure and Sustainable Engineering at Arizona State University, once put it to me, echoing the memory of the catastrophic 2005 hurricane that struck Louisiana, devastated New Orleans and killed more than 1,300 people.

Most people who died in Louisiana during Katrina died from drownings, injuries or heart conditions. But Dr. Chester was using Katrina as a metaphor for what can happen to a city unprepared for an extreme climate catastrophe. In New Orleans, the levee system was overwhelmed by torrential rains; eventually, 80 percent of the city was underwater.

What if, instead, the electricity goes out for several days during a blistering summer heat wave in a city that depends on air-conditioning?

In Dr. Chester's scenario, a compounding crisis of extreme heat and a power failure in a major city like Houston could lead to cascading failures, exposing vulnerabilities in the region's infrastructure that are difficult to foresee and could result in thousands, or even tens of thousands, of deaths from heat exposure in a matter of days. The risk to people in cities would be higher because all the concrete and asphalt amplifies the heat, pushing temperatures in the midafternoon as much as 15 degrees to 20 degrees higher than in surrounding vegetated areas.

The derecho that hit Houston was a warning of just how quickly risks are multiplying in our rapidly warming world. As if to prove this point, some 10 days after the Houston blackout, another windstorm knocked out power to hundreds of thousands of homes and businesses in and around Dallas.

What if the electricity goes out for several days during a blistering summer heat wave in a city that depends on air-conditioning? Source: https://www.nytimes.com/2024/06/03/opinion/heat-technology-climate.html

One of the most dangerous illusions of the climate crisis is that the technology of modern life makes us invincible. Humans are smart. We have tools. Yeah, it will cost money. But we can adapt to whatever comes our way. As for the coral reefs that bleach in the hot oceans and the howler monkeys that fell dead out of trees during a recent heat wave in Mexico, well, that's sad, but life goes on.

This is, of course, an extremely privileged point of view. For one thing, more than 750 million people on the planet don't have access to electricity, much less air-conditioning. (In India, New Delhi experienced temperatures as high as 120 degrees last week, leading to an increase in heatstroke, fears of blackouts and the possibility of water rationing.) But it is also a naïve point of view, if only because our bubble of invincibility is far more fragile than we know. So what can we expect in a heat Katrina?

Last year, researchers at Georgia Institute of Technology, Arizona State University and the University of Michigan published a study looking at the consequences of a major blackout during an extreme heat wave in three cities: Phoenix, Detroit and Atlanta. In the study, the cause of the blackout was unspecified.

"It doesn't really matter if the blackout is the result of a cyberattack or a hurricane," Brian Stone, the director of the Urban Climate Lab at Georgia Tech and the lead author on the study, told me. "For the purposes of our research, the effect is the same." Whatever the cause, the study noted that the number of major blackouts in the United States more than doubled from 2015-16 to 2020-21.

Dr. Stone and his colleagues focused on those three American cities because they have different demographics, climates and dependence on air-conditioning. In

Detroit, 53 percent of buildings have central air-conditioning; in Atlanta, 94 percent; in Phoenix, 99 percent. The researchers modeled the health consequences for residents in a two-day, citywide blackout during a heat wave, with electricity gradually restored over the next three days.

The results were shocking: In Phoenix, about 800,000 people — roughly half the population — would need emergency medical treatment for heatstroke and other illnesses. The flood of people seeking care would overwhelm the city's hospitals. More than 13,000 people would die.

Under the same scenario in Atlanta, researchers found there would be 12,540 visits to emergency rooms. Six people would die. In Detroit, which has a higher percentage of older residents and a higher poverty rate than those other cities, 221 people would die.

Perhaps we should not be surprised by these numbers. Researchers estimate that in Europe there were 61,672 heat-related deaths in the summer of 2022, the hottest season on record on the continent at the time. In June 2021, a heat wave led to nearly 900 excess deaths in the Pacific Northwest. And in 2010, an estimated 56,000 Russians died during a record summer heat wave.

The hotter it gets, the more difficult it is for our bodies to cope, raising the risk of heatstroke and other heat illnesses. And it is getting hotter across the planet. Last year was the warmest year on record, and the 10 hottest years have all occurred in the last decade.

In the study simulating a heat wave in those three cities, researchers found that the much larger death toll in Phoenix was explained by two factors. First, the temperatures modeled during a heat wave in Phoenix (90 to 113 degrees Fahrenheit) were much higher than the temperatures in Atlanta (77 to 97 degrees) or Detroit (72 to 95 degrees), which have historically had milder heat waves. And second, the greater availability of air-conditioning in Phoenix means the risks from a power failure during a heat wave are much higher.

A lot can be done to reduce these risks. Building cities with less concrete and asphalt and more parks and trees and access to rivers and lakes would help. So would a more sophisticated nationally standardized heat wave warning system. Major cities also need to identify the most vulnerable residents and develop targeted emergency response plans and long-term heat management plans.

Making the grid itself more resilient is equally important. Better digital firewalls at grid operation centers thwart hacker intrusions. Burying transmission lines protects them from storms. Batteries to store electricity for emergencies are increasingly inexpensive.

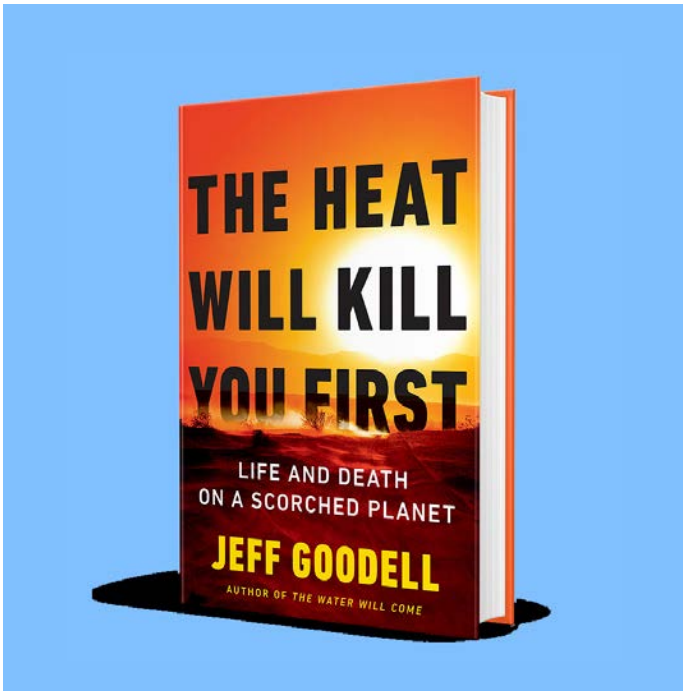
But the hotter it gets, the more vulnerable the grid becomes, even as demand for electricity spikes because customers are running their air-conditioning full throttle. Transmission lines sag, transformers explode, power plants fail. One 2016 study found the potential for cascading grid failures across Arizona to increase thirtyfold in response to a 1.8 degree rise in summer temperatures.

"Most of the problems with the grid on hot days come from breakdowns at power plants or on the grid caused by the heat itself, or from the difficulty of meeting high demand for cooling," Doug Lewin, a grid expert and author of the Texas Energy and Power newsletter, told me. The best way to fix that, Mr. Lewin argued, is to encourage people to reduce power demand in their homes with high efficiency heat pumps, better insulation and smart thermostats, and to generate their own power with solar panels and battery storage.

The looming threat of a heat Katrina is a reminder of how technological progress creates new risks even as it solves old ones. On a brutally hot day during a recent trip to Jaipur, India, I visited an 18th-century building that had an indoor fountain, thick walls and a ventilation system to channel the wind through each room. There was no air-conditioning, but the building was as cool and comfortable as a new office tower in Houston.

Air-conditioning may indeed be a modern necessity that many of us who live in hot parts of the world can't survive without. But it is also a technology of forgetting. Once upon a time, people understood the dangers of extreme heat and designed ways to live with it. And now, as temperatures rise as a result of our hellbent consumption of fossil fuels, tens of thousands of lives may depend on remembering how that was done. Or finding better ways to do it.

—By JEFF GOODELL (Mr. Goodell is the author of "The Heat Will Kill You First: Life and Death on a Scorched Planet.") *Source:* https://www.nytimes.com/2024/06/03/opinion/heat-technology-climate.html



Understanding Urbanization and Climate Change Driven Warming of Indian Cities

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This report is a summary of a paper published in *Nature Cities* (https://doi.org/10.1038/s44284-024-00074-0)

Background

Anthropogenic climate change has already caused global mean temperatures to surpass the 1°C limit over pre-industrial levels (IPCC, 2023), leading to more frequent and prolonged heat waves. The record-breaking heat waves of this summer that ravaged the northern hemisphere, cost many lives and caused health issues to the public in countries like the USA, Europe, and Asia, confirms this.

Urban Warming: A Major Concern

Extreme heat poses an even greater threat in urban areas. Cities' dense built-up structures and paved surfaces trap and amplify the heat over the city, resulting in a heat dome which is well known as the urban heat island effect. In a warming world driven by climate change, this urbanization-led warming is a compounding impact added to the background. Against this harrowing backdrop, people are flocking the cities (Hari et al, 2021), accelerating uncontrolled urban development, and the vulnerable population count shooting up and left to endure this blistering heat. As per UN reports, more than half of the global population resides in cities and this population share will reach the 70% mark by 2050. Thus, cities, occupying merely 2% of the global land share, make a major section of the global population exposed to the combined effects of both climate change and urbanization.

Extracting Urbanization and Climate Change Contribution

Considering rapid urbanization and growing population, there is a necessity to act towards urban sustainability. Urban heat management is one such key area that our mitigation and adaptation strategies have to follow urgently. Effective heat management must address two major root causes of urban warming: the first is the regional climate change caused by anthropogenic activities occurring on a much larger scale than the city, and the second is urbanization-induced warming caused by local scale changes within the city. Thus, knowledge on their relative contribution is much needed for actionable and effective planning, policy implementation and resource allocation targeting urban heat reduction. However, this segregation is a complex affair.

Few previous studies have quantified the urbanization-driven warming contribution to regional or global warming (Kalnay & Cai, 2003; Park et al., 2017; Sun et al., 2016). Zhou et al. (2022) reported minimal contribution of urbanization to global warming. However, the same is significant when considered in the regional or local warming context. These studies mostly focused on warming over a larger domain rather than warming within cities. Only a few modeling studies like Bounoua et al. (2021) and Nandini et al. (2022) have attempted to extract the urbanization-driven warming component from the total warming. Thus, there is a lack of studies in the context of urban warming and its segregation into urbanization and climate change components using observations.

Indian Cities: A Case Study

India, one of the fastest growing major economies and rapidly urbanizing countries, is central to discussions pertaining to climate and urbanization risks. Urbanization has gained momentum over the last few decades over India with accelerated land expansion, infrastructure development and urban population growth. Thus, understanding Indian cities and their warming trend is very critical to drive their growth trajectory in a sustainable manner. We have selected 141 cities across India for the study period 2003 to 2020. Considering limited quality controlled long-term air temperature observation data, we have relied on satellite based land surface temperature (LST) data (from MODIS Aqua) and have further considered only the night-time LST (NLST) due to its better agreement with surface air temperature.

Method undertaken

We have chosen a simple method to carry out the analysis. The underlying assumption is that the reported warming in the rural areas is mostly driven by regional

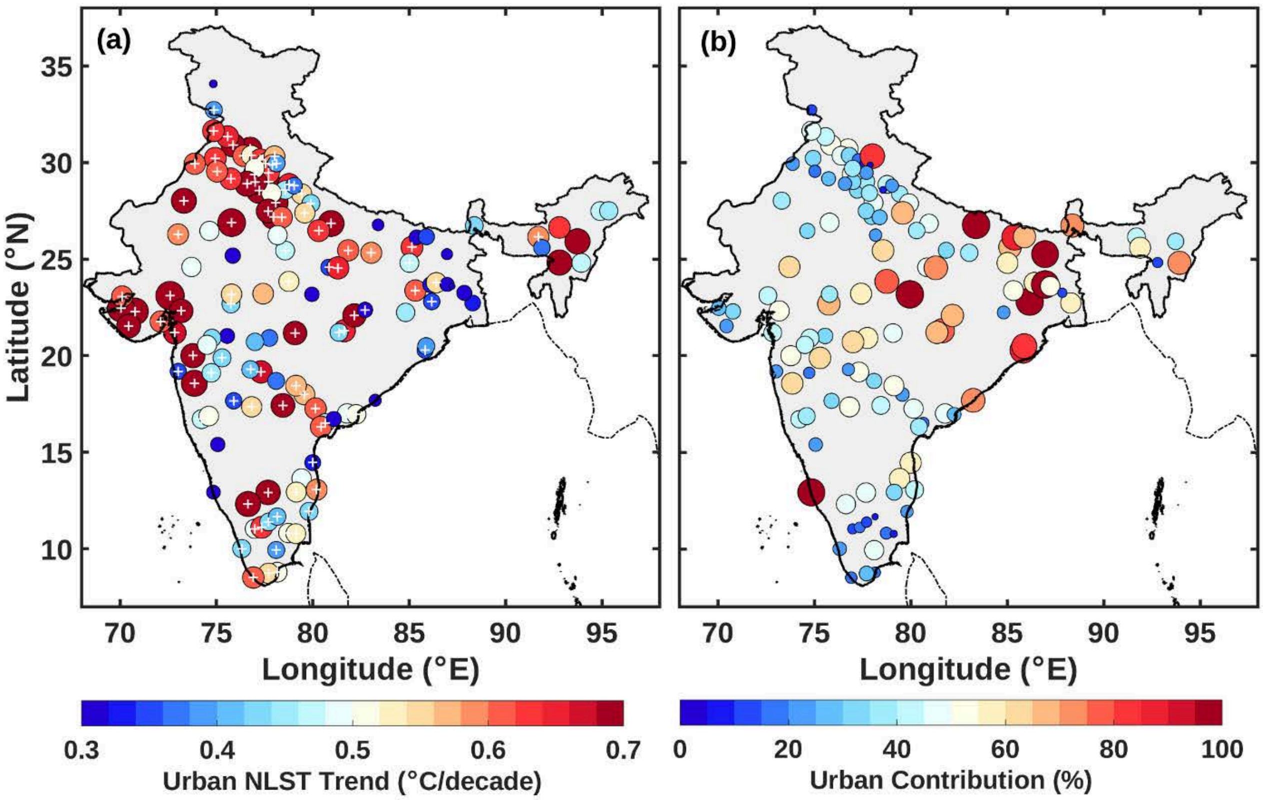


Fig. 1. (a) NLST trend for the period 2003 to 2020, and (b) urbanization contribution to total urban warming. The '+' symbols in (a) indicate trend value significant at the 95% confidence level. See extended data in Fig. 2.

climatic changes, whereas the same is a result of coupling between climate change and urbanization over urban areas. The rural counterparts for each city were meticulously selected, taking a 20 km buffer from the city boundary and avoiding inclusion of any urban or water bodies. In addition, rural pixels exceeding the mean urban elevation were neglected to avoid the elevation effect on the NLST. Then, the warming trends over each urban-rural pair were compared to quantify the urbanization-driven warming (called onwards as *Urban Effect*) as follows:

$$\text{Urban Effect } (\delta T_{U\text{-}NU}) = \delta T_U - \delta T_{NU}$$

$$UC = \frac{\delta T_{U\text{-}NU}}{|\delta T_U|} \times 100$$

where δT_U *and* δT_{NU} represent the trend in urban and surrounding rural LST and *UC* stands for urban contribution, showing the urban effect in relative terms out of total observed urban warming (δT_U).

Our findings

Figure 1a shows the trend in urban warming for all the 141 cities considered in this study. Primarily, western and northern Indian cities were seen to be warming at a faster rate. Overall, a mean warming of 0.53 ± 0.19 °C per decade is observed for Indian cities. When compared with surrounding non-urban region, an additional 0.2 °C per decade warming is seen over the cities. This indicates that cities are experiencing additional 60% warming due to urbanization. Figure 1b shows the same estimates of urban contribution for all the cities individually. Interestingly, the cities having large urban contributions to warming are not the cities experiencing the largest warming trends, as seen in Figure 1a. Rather, these high urban contribution cities are located in the eastern part of India. They are primarily developing tier-II cities, not the big metro cities as expected conventionally. This variation suggests that the impacts of warming will differ markedly across different urban centers and requires careful monitoring and exploration.

Implications

Cities are increasingly viewed as hubs for ambitious climate action aimed at advancing climate resilience and sustainable development for all. Thus, understanding the multiple aspects of urbanization and their impact is critical for better planning and policy implementation. This is a preliminary study that employs a simple method to identify and quantify the main driver of urban warming across Indian cities. Based on the primary driver of warming—whether urbanization or regional climate change—our analysis emphasizes the significance of taking a diverse approach to urban heat management for different cities. Identifying the principal cause can help urban planners and policymakers properly allocate resources to counteract increasing temperatures. Cities where urbanization plays a significant role in warming may find local interventions (for instance use of sustainable materials, integration of blue green infrastructures, emission reduction, urban design strategies like the '15-minute city') beneficial either within or outside city boundaries. Conversely, others may necessitate broader efforts at the national or international level, such as reducing global emissions.

Furthermore, effective implementation of action plans are very much dependent on resource availability and ease of implementation considering possible constraints. For the Indian scenario, high urban contribution was seen for developing cities. Developing cities, unlike developed cities, have more untapped natural resources available, which can be utilized in a regulated and planned manner (like the direction/orientation of city expansion, or location of blue green infrstructure). Thus, for these developing cities, if necessary steps are taken, we have a better opportunity to guide them towards a sustainable pathway. However, for developed and compact cities we have to act aggressively and plan alternate heat mitigation pathways like vertical or rooftop plantation. Given the varying challenges that cities currently encounter, customized action plans tailored to each city's unique circumstances, supported by scientific research, are crucial for promoting urban sustainability.

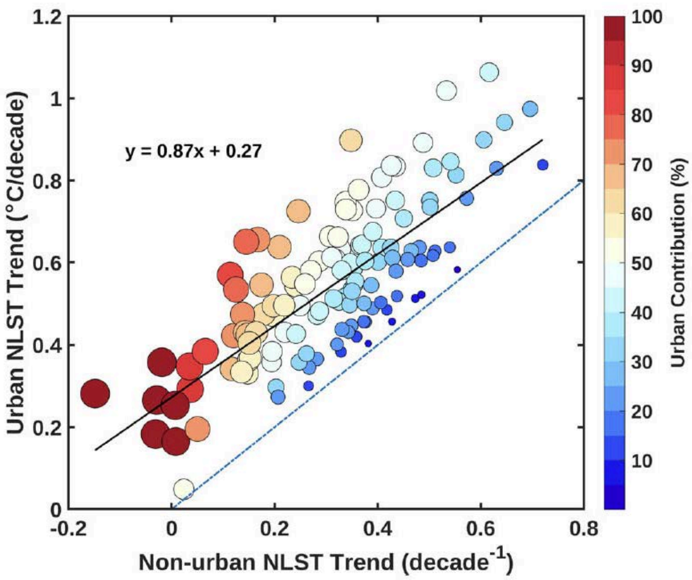


Figure 2. Variation in urban nighttime LST trend with that of background trend. Both the color and size of the bubbles represent the strength of the urban contribution. The plot is created using MATLAB R2022b.

References

Hari, V., Dharmasthala, S., Koppa, A., Karmakar, S. & Kumar, R. 2021. Climate hazards are threatening vulnerable migrants in Indian megacities. *Nat. Clim. Chang.* 11, 636–638. doi: 10.1038/s41558-021-01105-7

IPCC, 2023. Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 184 pp., doi: 10.59327/IPCC/AR6-9789291691647.

Kalnay, E., & Cai, M. 2003. Impact of urbanization and land-use change on climate. *Nature*, 423(6939), 528–531. doi: 10.1038/nature01675

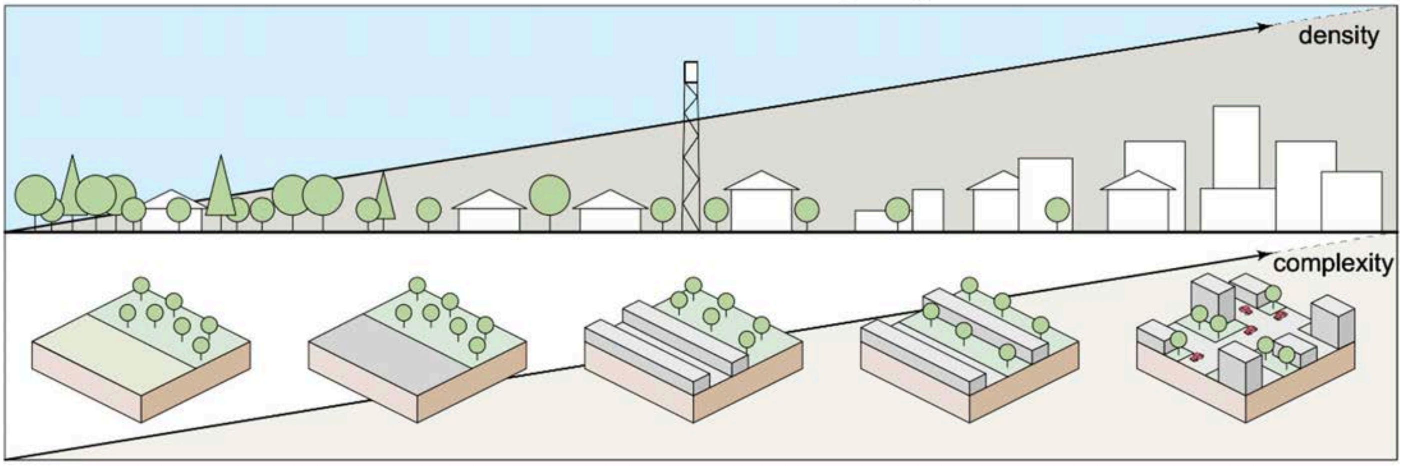
Nandini, G., Vinoj, V., Sethi, S. S., Nayak, H. P., Landu, K., Swain, D., & Mohanty, U. C. 2022. A modelling study on quantifying the impact of urbanization and regional effects on the wintertime surface temperature over a rapidly-growing tropical city. *Computational Urban Science*, 2(1). doi: 10.1007/s43762-022-00067-6

Park, B.-J., Kim, Y.-H., Min, S.-K., Kim, M.-K., Choi, Y., Boo, K.-O., & Shim, S. 2017. Long-Term warming trends in Korea and Contribution of Urbanization: an updated assessment. *Journal of Geophysical Research*. Atmospheres, 122(20). doi: 10.1002/2017jd027167

Sun, Y., Zhang, X., Ren, G., Zwiers, F. W., & Hu, T. 2016. Contribution of urbanization to warming in China. Nature *Climate Change*, 6(7), 706–709. doi: 10.1038/nclimate2956

Zhou, D., Xiao, J., Frolking, S., Zhang, L., & Zhou, G. 2022. Urbanization contributes little to global warming but substantially intensifies local and regional land surface warming. *Earth's Future*, 10(5). doi: 10.1029/2021ef002401

Sethi, S.S. and Vinoj, V. 2024. Urbanization and regional climate change-linked warming of Indian cities. *Nature Cities* 1, 402–405. https://doi.org/10.1038/s44284-024-00074-0



Surface energy and momentum fluxes in the Urban-PLUMBER model evaluation project: initial report

Since the last major urban model comparison project (PILPS-Urban: Grimmond et al., 2010, 2011), new models have emerged, existing models have increased in capability, and a new generation of researchers have begun using them. It is therefore timely to assess progress made. We are pleased to announce the publication of the initial Urban-PLUMBER model evaluation results (Lipson et al., 2024). In this study, 45 scientists employed 30 land surface models (see Table 1) to evaluate surface energy and momentum flux predictions at a suburban site in Preston, Melbourne, Australia – the same location previously studied by Grimmond et al. (2011).

By revisiting the same site, we can track how model performance has changed in the last decade. Broadly, we find significant improvements in predicting short-wave radiation, sensible heat flux, and latent heat flux, and little or no improvement in long-wave radiation and momentum flux. Accurate prediction of surface fluxes is crucial because they impact local meteorology and drive lower atmospheric dynamics in weather, climate, and air quality modelling.

A wide range of modelling approaches are used to represent the site in this project. Most participating models represent impervious and pervious surfaces separately, either by blending the outputs of an "urban" and "vegetation" model, or by using an urban model with integrated vegetation. As in PILPS-Urban (Grimmond et al., 2011), submissions using simpler representations of urban surfaces (such as one-tile or slab schemes) tend to perform well as they use a small set of parameters which can be set close to observed values (e.g., surface albedo). The PILPS-Urban project revealed some work was needed to improve more complex urban schemes to match simpler model skill. In Urban-PLUMBER we find some of the current medium complexity models (e.g., canyon schemes) now match simpler model skill when they include more complete representation of vegetation and hydrology. Models without any impervious representation (i.e. traditional vegetation land surface models) do not perform well for latent heat fluxes at this site. These results reinforce earlier intercomparison findings of the importance of representing both impervious and pervious surface types when modelling surface fluxes in cities and suggests the community's efforts to better integrate vegetation into urban models is proving beneficial.

Several important caveats should be noted when interpreting the results of this, or any, model comparison project.

- **Model configuration:** results are highly dependent on how models are configured; poorly assigned model settings can hinder an otherwise well-performing model.
- **Unintended errors:** in most initial submissions, unintended human errors (e.g., bugs in model or post-processing code) were discovered, often degrading model performances. While eliminating all human errors is unlikely, initial evaluation, feedback and resubmission helps reduce them. We provide recommendations for future projects in the Lipson et al. (2024) paper.
- **Scale and intended model use:** we assess local-scale surface-atmosphere fluxes (i.e. above roofs, within the inertial sub-layer), not pedestrian-level or in-canopy conditions. Conditions within the urban canopy are crucial because they directly affect people. However, appropriate in-canopy observations are difficult to obtain and were not available for this location. Additionally, some of the participating models were not designed to represent in-canopy conditions. Thus, intended model use is important when assessing performance.

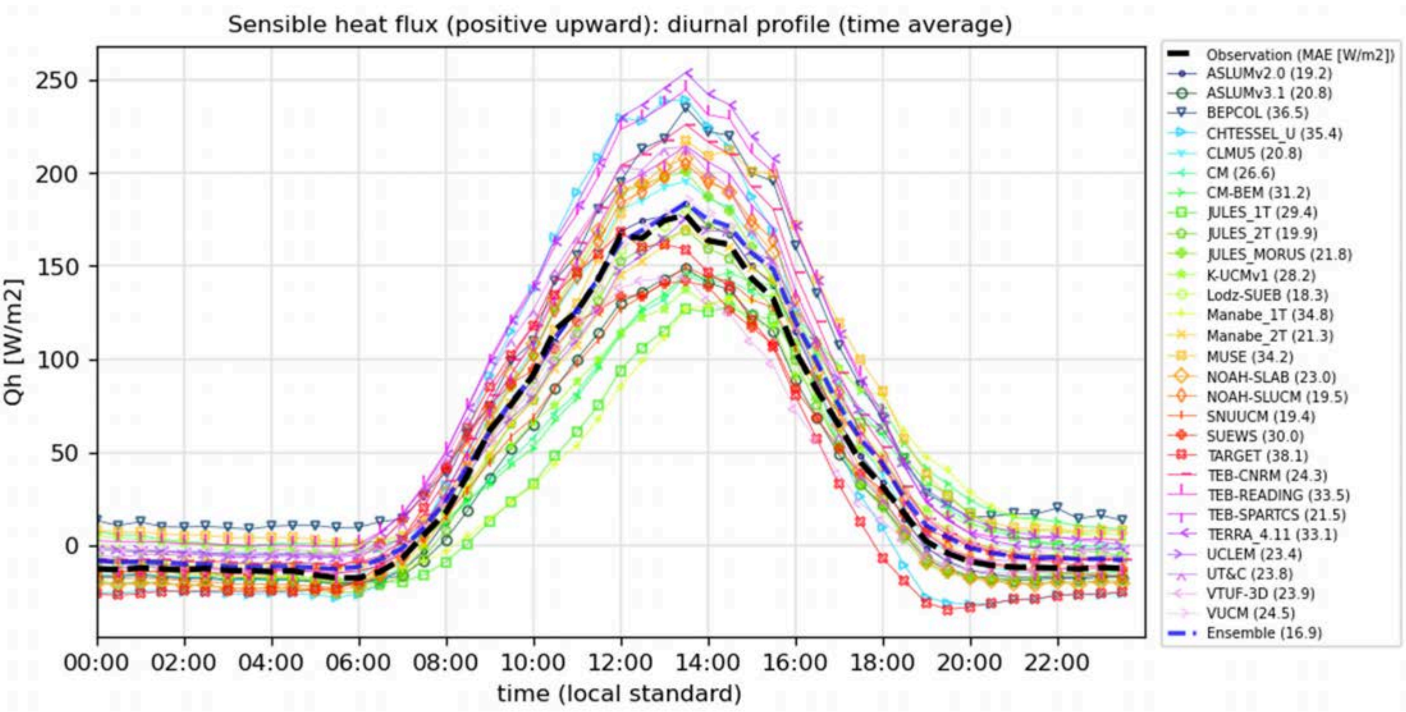


Figure 1. Sensible heat flux model ensemble mean (thick blue dashed line) has smaller mean absolute errors (MAE) than any individual model. These results are for the "detailed" site information experiment, for which CABLE and CHTESSEL did not participate. Plots for all experiments and submitted variables are accessible at https://urban-plumber.github.io/AU-Preston/plots/ and comparative assessment against benchmarks in the paper (Lipson et al., 2024).

Although our results offer valuable insights into overall performance trends across model categories, readers should exercise caution when interpreting individual model results due to the reasons outlined above. Overall, since PILPS-Urban, the ensemble mean timeseries of sensible and latent heat fluxes has substantially improved, indicating progress has been made. Furthermore, the ensemble mean has lower mean absolute errors than any individual model for sensible and latent heat fluxes (Lipson et al., 2024). This underscores the benefits of diverse model configurations and the potential for multi-model studies.

This project adopts the PLUMBER benchmarking approach, previously used to evaluate non-urban land surface models (Best et al., 2015). We select simple benchmarks with few input requirements, such as a linear regression driven by shortwave radiation, trained from observations at other sites (i.e. out-of-sample). These simple benchmarks help establish minimum performance expectations of more complex urban models, whether complexity adds benefit, and if land surface models are effectively utilising available input information. Using this benchmarking approach indicates both latent and sensible heat fluxes are reasonably well predicted by many of the participating models. This result is in stark contrast to the original PLUMBER results, where traditional land surface model turbulent flux predictions were outperformed by out-of-sample single or multiple linear regressions driven by local meteorology. For urban models there may be scope to improve longwave radiation performance, as the relatively simple two-variable out-of-sample linear regression benchmarks outperform most models, and additional geometric complexity (e.g. street canyons or 3D buildings) did not improve overall longwave performance. We believe this result warrants further examination of potential model and/or observational biases in longwave radiation.

As the Lipson et al. (2024) evaluation focuses solely on one suburban site, a second phase is now underway, spanning 20 international locations. This extended phase aims to deepen our understanding of how different categories of urban models perform across varying built fractions and diverse climates. This second phase draws on the efforts of the dozens of scientists who have made their flux tower data openly available for the benefit of the urban community (Lipson et al., 2022). We hope the gap-filled model forcing, observations, site characteristics, benchmarks and model results from the Urban-PLUMBER project will serve as a valuable foundation for future model evaluation and modeller training.

Acknowledgements

We thank all participants in the Urban-PLUMBER project; all supporting staff and funders who made participation and coordination possible; and all the scientists who have made their observations available for use in this project, and openly available for the benefit of the community.

Table 1: Urban-PLUMBER models and co-authors. Participating models include non-urban, one-tile, canyon and 3D geometric representations.

Submission ID	Model (urban and non-urban component)	Participating authors
ASLUMv2.0	Arizona State University Single-Layer Urban Canopy Model v2.0	C. Wang, Z.-H. Wang
ASLUMv3.1	Arizona State University Single-Layer Urban Canopy Model v3.1	C. Wang, Z.-H. Wang
BEPCOL	Building Effect Parameterization - Column model; Bare soil model based on Regional Atmospheric Modelling System	A. Simón-Moral, A. Martilli
CABLE	Community Atmosphere–Biosphere Land Exchange model	M. De Kauwe
CHTESSEL	Carbon Hydrology Tiled ECMWF Scheme for Surface Exchanges over Land (CHTESSEL)	J. McNorton, S. Boussetta
CHTESSEL_U	Urban scheme from CHTESSEL; Tiled ECMWF Scheme for Surface Exchanges over Land	J. McNorton, S. Boussetta
CLMU5	Community Land Model Urban v5	K. Oleson
CM	Canopy Model	Y. Takane, H. Kondo
CM-BEM	Canopy Model - Building Energy Model	Y. Takane, Y. Kikegawa
JULES_1T	One-tile urban scheme from JULES; Joint UK Land Environment Simulator (JULES)	M. Best
JULES_2T	Two-tile urban scheme from JULES; Joint UK Land Environment Simulator (JULES)	M. Best
JULES_MORUSES	Met Office Reading Urban Exchange Scheme; Joint UK Land Environment Simulator (JULES)	M. Hendry, M. Best
K-UCMv1	Klimaat Urban Canopy Model	M. Beyers, M. Roth
Lodz-SUEB	Lodz SUrface Energy Balance	K. Fortuniak
Manabe_1T	One-tile urban scheme from JULES; Manabe bucket	M. Best
Manabe_2T	Two-tile urban scheme from JULES; Manabe bucket	M. Best
MUSE	Microscale Urban Surface Energy model; Bowen ratio method	S.-H. Lee, D.-I. Lee
NOAH-SLAB	Slab urban scheme from Noah-LSM; Noah Land Surface Model (Noah-LSM)	G.-J. Steeneveld, A. Tsiringakis
NOAH-SLUCM	Single Layer Urban Canopy Model (SLUCM); Noah Land Surface Model (Noah-LSM)	A. Tsiringakis, G.-J. Steeneveld
SNUUCM	Seoul National University Urban Canopy Model; Noah Land Surface Model (Noah-LSM)	S.-B. Park, J.-J. Baik
SUEWS	Surface Urban Energy and Water Balance Scheme	T. Sun, L. Blunn
TARGET	The Air-temperature Response to Green/blue-infrastructure Evaluation Tool (TARGET)	K. Nice
TEB-CNRM	Town Energy Balance (TEB) with road canyon hypothesis for radiation; ISBA (included in SURFEX)	T. Machado, C. de Munck, R. Schoetter, V. Masson, A. Lemonsu
TEB-READING	Town Energy Balance (TEB) with road canyon hypothesis for radiation; Simple partitioning using fixed Bowen ratio and albedo	D. Meyer
TEB-SPARTCS	Town Energy Balance with SPARTACUS-Urban for radiative exchanges; ISBA (included in SURFEX)	T. Machado, C. de Munck, R. Schoetter, V. Masson, A. Lemonsu
TERRA_4.11	TERRA_URB v4.11; TERRA (stand-alone version)	M. Demuzere, M. Varentsov
UCLEM	Urban Climate and Energy Model (UCLEM)	M. Thatcher, M. Lipson
UT&C	Urban Tethys-Chloris (UT&C)	N. Meili, S. Fatichi, G. Manoli, E. Bou-Zeid
VTUF-3D	Vegetated Temperatures of Urban Facets (VTUF); MAESPA	K. Nice
VUCM	Vegetated Urban Canopy Model (VUCM)	S.-H. Lee, B.-S. Han

References

Best, M. J., Abramowitz, G., Johnson, H. R., Pitman, A. J., Balsamo, G., Boone, A., Cuntz, M., Decharme, B., Dirmeyer, P. A., Dong, J., Ek, M., Guo, Z., Haverd, V., Hurk, B. J. J. van den, Nearing, G. S., Pak, B., Peters-Lidard, C., Santanello, J. A., Stevens, L., and Vuichard, N.: The Plumbing of Land Surface Models: Benchmarking Model Performance, *Journal of Hydrometeorology*, 16, 1425–1442, https://doi.org/10.1175/JHM-D-14-0158.1, 2015.

Grimmond, C. S. B., Blackett, M., Best, M. J., Barlow, J., Baik, J.-J., Belcher, S. E., Bohnenstengel, S. I., Calmet, I., Chen, F., Dandou, A., Fortuniak, K., Gouvea, M. L., Hamdi, R., Hendry, M., Kawai, T., Kawamoto, Y., Kondo, H., Krayenhoff, E. S., Lee, S.-H., and Loridan, T.: The International Urban Energy Balance Models Comparison Project: First Results from Phase 1, *Journal of Applied Meteorology & Climatology*, 49, 1268–1292, https://doi.org/10.1175/2010JAMC2354.1, 2010.

Grimmond, C. S. B., Blackett, M., Best, M. J., Baik, J.-J., Belcher, S. E., Beringer, J., Bohnenstengel, S. I., Calmet, I., Chen, F., Coutts, A., Dandou, A., Fortuniak, K., Gouvea, M. L., Hamdi, R., Hendry, M., Kanda, M., Kawai, T., Kawamoto, Y., Kondo, H., Krayenhoff, E. S., Lee, S.-H., Loridan, T., Martilli, A., Masson, V., Miao, S., Oleson, K., Ooka, R., Pigeon, G., Porson, A., Ryu, Y.-H., Salamanca, F., Steeneveld, G. J., Tombrou, M., Voogt, J. A., Young, D. T., and Zhang, N.: Initial results from Phase 2 of the international urban energy balance model comparison, *International Journal of Climatology*, 31, 244–272, https://doi.org/10.1002/joc.2227, 2011.

Lipson, M., Grimmond, S., Best, M., Chow, W. T. L., Christen, A., Chrysoulakis, N., Coutts, A., Crawford, B., Earl, S., Evans, J., Fortuniak, K., Heusinkveld, B. G., Hong, J.-W., Hong, J., Järvi, L., Jo, S., Kim, Y.-H., Kotthaus, S., Lee, K., Masson, V., McFadden, J. P., Michels, O., Pawlak, W., Roth, M., Sugawara, H., Tapper, N., Velasco, E., and Ward, H. C.: Harmonized gap-filled datasets from 20 urban flux tower sites, *Earth System Science Data*, 14, 5157–5178, https://doi.org/10.5194/essd-14-5157-2022, 2022.

Lipson, M. J., Grimmond, S., Best, M., Abramowitz, G., Coutts, A., Tapper, N., Baik, J.-J., Beyers, M., Blunn, L., Boussetta, S., Bou-Zeid, E., De Kauwe, M. G., de Munck, C., Demuzere, M., Fatichi, S., Fortuniak, K., Han, B.-S., Hendry, M. A., Kikegawa, Y., Kondo, H., Lee, D.-I., Lee, S.-H., Lemonsu, A., Machado, T., Manoli, G., Martilli, A., Masson, V., McNorton, J., Meili, N., Meyer, D., Nice, K. A., Oleson, K. W., Park, S.-B., Roth, M., Schoetter, R., Simón-Moral, A., Steeneveld, G.-J., Sun, T., Takane, Y., Thatcher, M., Tsiringakis, A., Varentsov, M., Wang, C., Wang, Z.-H., and Pitman, A. J.: Evaluation of 30 urban land surface models in the Urban-PLUMBER project: Phase 1 results, *Quarterly Journal of the Royal Meteorological Society* 150, 126–169, https://doi.org/10.1002/qj.4589, 2024.

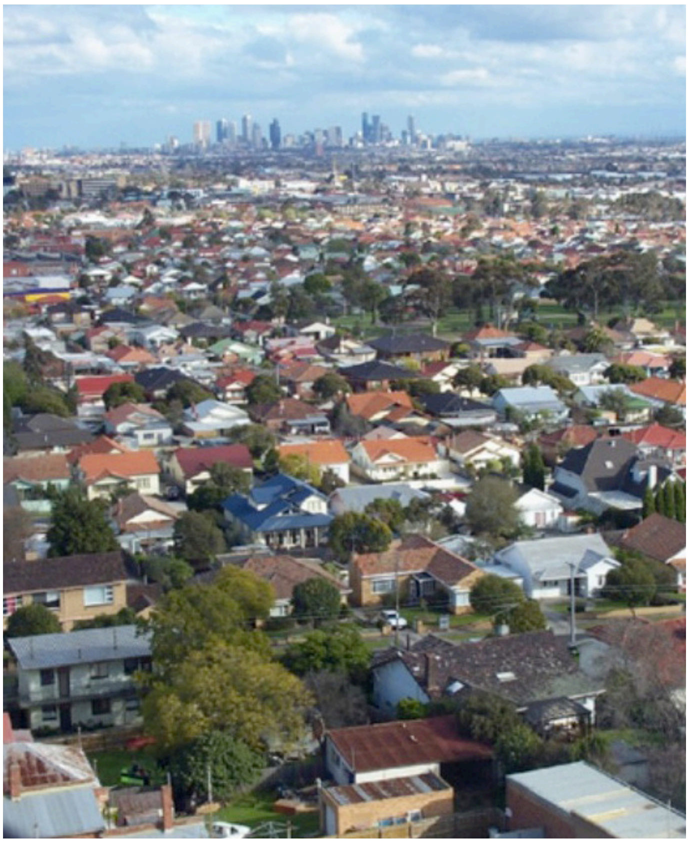
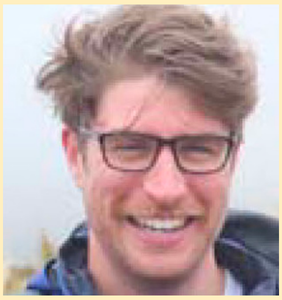


Photo of site in Melbourne, Australia. Coutts et al. 2007



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Urban climate and urban geosciences sessions at EGU General Assembly 2024

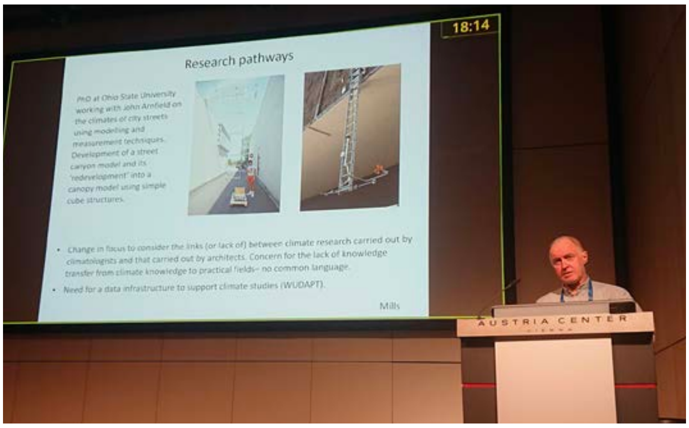
By Daniel Fenner* (University of Freiburg, Germany), Aldo Brandi (École Polytechnique Fédérale de Lausanne, Switzerland), Julia Hidalgo (CNRS, LISST-CIEU, France), Gaby Langendijk (Deltares, The Netherlands), Maider Llaguno-Munitxa (Catholic University of Louvain, Belgium), Gabriele Manoli (École Polytechnique Fédérale de Lausanne, Switzerland), Ting Sun (University College London, UK) *daniel.fenner@meteo.uni-freiburg.de

This year's **General Assembly of the European Geophysical Union (EGU)** was held at the Austria Center Vienna in Vienna, Austria, and online during 14-19 April 2024. Nearly 21,000 researchers attended the meeting with more than 18,000 on site in Vienna, presenting close to 19,000 contributions in 1,044 sessions. Out of these, a number of sessions touched urban climate and urban geo-sciences, showing a growing interest in these topics. Three sessions had particular focus on cities and their interactions with the atmosphere.

The session "Urban climate, urban biometeorology, and science tools for cities" followed similar sessions organised over the past years and was convened by **Daniel Fenner** (University of Freiburg, Germany), **Gaby Langendijk** (Deltares, Delft), **Rafiq Hamdi** (Royal Meteorological Institute, Belgium), **Julia Hidalgo** (CNRS, France), and **Ariane Middel** (Arizona State University, USA). This year the session had received an even larger number of submissions than previous years, which led to 45 oral presentations and 35 posters over the course of 1.5 days – making it the largest session of EGU's "Climate" division.

"Urban climate, urban biometeorology, and science tools for cities" session with the audience listening to the oral presentations.

The oral and poster presentations covered a wide range of topics and scales from detailed case studies to global-scale investigations and data sets, using observations and models, as well as translating data and information into tailored climate services. The session started with oral presentations on "Multi-scale observations and crowdsourcing", followed by contributions focusing on "Model development and applications". The following topical blocks covered contributions on "Urban heat and mitigation" and "Human thermal comfort and heat stress", before the first day of the session was concluded by presentations on "Data sets and science tools". Afterwards, the day was rounded off by an unofficial session dinner to stimulate further exchange amongst participants.



Prof. Gerald Mills giving his solicited talk on "New directions for urban climate science."

Oral presentations on the second day of the session focused on "Urban climate science, planning, and services". The highlight of the session at the end of the oral presentations was the solicited talk given by **Prof. Gerald Mills** (University College Dublin, Ireland), entitled "New directions for urban climate science". In his talk he highlighted progress, current state, challenges, and perspectives of different fields of urban climate science. He spotlighted various aspects where substantial progress has been made in the past, including fundamental concepts and theories, field observations, and numerical models. However, bridging gaps between different fields and disciplines remains a challenge. He concluded with new directions to take, including better placing cities into larger contexts to understand and contextualize urban effects, leveraging opportunities of big data, rethinking

Buzzing poster hall at the Austria Center Vienna during EGU24.

conceptual frameworks and concepts to overcome divisions between different fields, connecting urban climate science better with fields such as urban planning, and enhancing the teaching of urban climate for a broader community. The session was concluded by a well-attended poster session in one of the large poster halls and provided the opportunity to discuss the presented works in detail, as well as a virtual poster session online.

The "Urban Boundary Layer Dynamics Across Scales" session was organized for the first time at EGU24 by **Aldo Brandi** (École Polytechnique Fédérale de Lausanne, Switzerland), **Andrea Zonato** (Royal Netherlands Meteorological Institute, The Netherlands), **Beatriz Sanchez** (CIEMAT, Spain) **Alberto Martilli** (CIEMAT, Spain), and **Francisco Salamanca** (Arizona State University, USA). The goal of the session was to put a spotlight on urban climate research focusing on wind flow in built environments (e.g., local circulations, turbulence, canyon ventilation) and associated societal impacts (e.g., air quality and thermal comfort). The session featured 10 oral and 9 poster presentations ranging from multi-scale numerical modeling of urban impacts on convective storms to urban morphology parameterization for LES and CFD simulations, and from wind tunnel experiments on the impact of street trees in urban canyons to observational campaigns of boundary layer dynamics and cloud base height and cloud cover fraction. Both components of the session were well attended, with around 100 people attending the oral presentations and posters, marking a promising debut that is expected to become an established presence at future EGU meetings.

The "Urban Geo-sciences: modelling and monitoring complex urban systems; from the state of the art to planning challenges" session was organized for the second time by **Maider Llaguno-Munitxa** (Catholic University of Louvain, Belgium), **Gabriele Manoli** (École Polytechnique Fédérale de Lausanne, Switzerland), **Ting Sun** (University College London, UK), **Daniel Schertzer** (École des Ponts Paris Tech, France), **Francesco La Vigna** (ISPRA, Italy), **Tim Kearsey** (British Geological Survey, UK) and **Danlu Cai** (Chinese Academy of Sciences, China). The aim of this session was to elucidate complex urban dynamics, identify strategies and methods for the development of models and digital twins of cities, and understand how the form and function of urban environments can improve liveability and well-being of their citizens. The session welcomed concepts, methodologies and disruptive models to overcome current scientific bottlenecks, to better deal with non-linearities, multi-component systems and extremes over a wide range of scales in geophysical and urban systems. The session featured 29 oral presentations with an attendance of ~150 people alongside 11 poster presentations. Both components attracted engaging discussions, with many researchers establishing connections during these sessions, which will hopefully pave the way for future collaborations. The conveners hope to extend this session next year to continue the inviting presentations on urban complexities.

It was great to see a large number of IAUC members from around the world among the thousands of attendees attending and presenting state-of-the-art research at EGU24. EGU's format for oral presentations of 8-minute length followed by two minutes of discussion made it possible to feature many presentations, yet also posed

Dinner crowd of the unofficial "urban climate" session dinner.

challenges for presenters to fit all relevant details into the relatively short time slots. Therefore, we propose a short checklist (see BOX, below) that could be helpful as a guide for future presentations at conferences.

The growing number of contributions covering a broad variety of topics highlights that, as a complement to urban climate focused meetings such as ICUC, EGU offers a great opportunity to present recent research and meet and exchange with other researchers. The novel science presented has the potential to feed into the upcoming *IPCC Special Report on Cities*. We are looking forward to next year's **EGU25** and hope to see many IAUC members there.

Checklist for comprehensive, yet concise, oral presentations in our domain

- Have you clearly stated the objectives and goals of the presentation?
- Have you introduced the social, geographical, and climatic context of your terrain/study?
- Have you described the methods and the data analysis in a clear, concise, and organized manner?
- Have you defined key concepts? Be careful with acronyms!
- Have you included a last slide summarizing the main messages, challenges or limitations of your study?
- Are your figures useful? Are you commenting all the figures you show?
- Are your text and figures, including legend, readable from distance?
- Have you included a title or text referencing the source of data and the type of calculation you are showing in figures and maps?
- Have you a number of slides appropriate to the available time ? (~1 slide per minute is often a good reference)
- Have you included the key bibliographic references and all co-authors?

Recent Urban Climate Publications

In this edition, we present a list of publications in the field of urban climate mainly published between **February and May 2024**. *Featured papers,* denoted by an asterisk symbol (*), are recommended by members of the Bibliography Committee. If you believe your articles are missing from this compilation, please send the references to my email address below with the subject line "IAUC publications" and the following format: Author, Title, Journal, Year, Volume, Issue, Pages, Dates, Keywords, DOI, and Abstract.

Abed SA, Halder B, Yaseen ZM (2024) Investigation of the decadal unplanned urban expansion influenced surface urban heat island study in the Mosul metropolis. *Urban Climate* **54** 101845.

Adane KG, Denyse S, Ben S, Jon A (2021) How do agro-pastoralists cope with climate change? The case of the Nyangatom in the Lower Omo Valley of Ethiopia. *Journal of Arid Environments* **189** 104485.

Adedeji JA, Lenz R (2024) Christian eco-theology and Urban Climate adaptation in the Yorubaland, Nigeria. *Urban Forestry & Urban Greening* **93** 128213.

Admasu LM, Grant L, Thiery W (2023) Exploring Global Climate Model Downscaling Based on Tile-Level Output. *Journal of Applied Meteorology and Climatology* **62** 171-190.

Aggarwal C, Wang L, Ge H, Defo M, Lacasse M (2024) Long-term hygrothermal performance assessment of wood-frame walls considering climate uncertainties using partial least squares (PLS) regression. *Energy and Buildings* **307** 113953.

Ahmet A, Faruk O (2020) Response of the Mogan and Eymir lakes (Ankara, Central Anatolia) to global warming: Extreme events in the last 100 years. *Journal of Arid Environments* **183** 104299.

Alavi F, Moosavi AA, Sameni A, Nematollahi M (2024) Numerical simulation of wind flow characteristics over a large-scale complex terrain: A computational fluid dynamics (CFD) approach. *City and Environment Interactions* **22** 100142.

Albaladejo-Garcia JA, Zabala JA, Alcon F, Dallimer M, Martinez-Paz JM (2023) Integrating socio-spatial preference heterogeneity into the assessment of the aesthetic quality of a Mediterranean agricultural landscape. *Landscape and Urban Planning* **239** 104846.

Albright C, Schramm H (2018) Improvements and applications in climate data analysis for determining reference rainfall years. *Journal of Applied Meteorology and Climatology* **57** 413-420.

For this quarter, Aditya Rahul, Martina Petralli, and Iara Santos concluded their terms after many years of dedicated service. Thank you, Aditya, Martina, and Iara, for your enthusiasm and contribution to the community! Meanwhile, we would like to warmly welcome Shengbiao Wu (The University of Hong Kong), who recently joined the committee.

We are always seeking researchers at all career stages, particularly early-career professionals, to join our committee and actively contribute to the IAUC community. If you are interested in joining or would like to acquire further details, please do not hesitate to contact me via email.

Happy reading,

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Shengbiao Wu

Alessandro O, Mengran Y, Jaco LR, Heriberto B, Luther U, Michelle L (2023) Research note: Integrating big data to predict tree root blockages across sewer networks. *Landscape and Urban Planning* **240** 104892.

Alexander GA, Voter CB, Wright DB, Loheide II SP (2024) Urban Ecohydrology: Accounting for Sub-Grid Lateral Water and Energy Transfers in a Land Surface Model. *Water Resources Research* **60** e2023WR035511.

Alexander NZ, Luis B-C, Tatiana BT (2020) Local climatically-driven changes of albedo and surface temperatures in the Sonoran Desert. *Journal of Arid Environments* **178** 104147.

Alhajeri NS, Al-Fadhli FM, Aly A, Allen DT (2024) Quantifying the impact of urban road traffic on air quality: activity pre-pandemic and during partial and full lockdowns. *Environmental Monitoring and Assessment* **196** 418.

Alizadehtazi B, Stolper J, Singh K, Montalto FA (2024) Microclimatic implications of a large-scale green roof and high-rise redevelopment in New York City. *Building and Environment* **250** 111113.

Allegri E, Zanetti M, Torresan S, Critto A (2024) Pluvial flood risk assessment for 2021–2050 under climate change scenarios in the Metropolitan City of Venice. *Science of the Total Environment* **914** 169925.

Aminjafari S, Brown I, Mayamey FV, Jaramillo F (2024) Tracking Centimeter-Scale Water Level Changes in Swedish Lakes Using D-InSAR. *Water Resources Research* **60** e2022WR034290.

Amna AlRuheili, Ruben D, John R (2019) Wadi flood impact assessment of the 2002 cyclonic storm in Dhofar, Oman under present and future sea level conditions. *Journal of Arid Environments* **165** 73-80.

An N, Dou J, González-Cruz JE, Bornstein R, Miao S, Li L (2020) An observational case study of synergies between an intense heat wave and the urban heat island in Beijing. *Journal of Applied Meteorology and Climatology* **59** 605-620.

*Anand J, Alhazmi M, Sailor DJ (2024) Achieving net negative sensible heat release from buildings. *Energy and Buildings* **311** 114121.

Anass M, Abdallah D (2022) Normalized Difference Enhanced Sand Index for desert sand dunes detection using Sentinel-2 and Landsat 8 OLI data, application to the north of Figuig, Morocco. *Journal of Arid Environments* **198** 104693.

Ancillotto L, Mosconi F, Labadessa R (2024) A matter of connection: the importance of habitat networks for endangered butterflies in anthropogenic landscapes. *Urban Ecosystems*

Andrade EdL, de Lima EA, Martins ACG, Zannin PHT, da Cunha e Silva DC (2024) Urban noise assessment in hospitals: measurements and mapping in the context of the city of Sorocaba, Brazil. *Environmental Monitoring and Assessment* **196** 267.

Andrew RB, Erin HS, Cristy GB, Maureen DC (2021) An open-source approach to characterizing Chihuahuan Desert vegetation communities using object-based image analysis. *Journal of Arid Environments* **188** 104383.

Anurose TJ, Jayakumar A, Sandhya M, Gordon H, Aryasree S, Mohandas S, Bhati S, Prasad VS (2024) Unraveling the Mechanism of the Holes in the Blanket of Fog Over the Indo-Gangetic Plains: Are They Driven by Urban Heat Islands or Aerosol? *Geophysical Research Letters* **51** e2023GL107252.

Anys M, Weiler M (2024) Rainfall interception by urban trees: Event characteristics and tree morphological traits. *Hydrological Processes* **38** e15146.

Ao M, Ngullie N (2024) Overview of municipal solid waste management in sub-tropical climatic region of North Eastern India. *Environmental Science and Pollution Research*

Ao X, Wang L, Zhi X, Gu W, Yang H, Li D (2019) Observed synergies between urban heat islands and heat waves and their controlling factors in Shanghai, China. *Journal of Applied Meteorology and Climatology* **58** 1955-1972.

*Arceo A, O'Brien W, Touchie M (2024) Ten questions concerning the environmental impacts of housing built form. *Building and Environment* **256** 111490.

Arik AD (2024) Disambiguating Concepts of Fairness in Stormwater Management: A Review of Economic Efficiency and Equity. *Water Resources Research* **60** e2023WR035743.

Armaghan AhmadiVenhari, Martin T, Mohammad T (2019) The role of sky view factor and urban street greenery in human thermal comfort and heat stress in a desert climate. *Journal of Arid Environments* **166** 68-76.

Arrar HF, Kaoula D, Santamouris M, Foufa-Abdessemed A, Emmanuel R, Matallah ME, Ahriz A, Attia S (2024) Coupling of different nature base solutions for pedestrian thermal comfort in a Mediterranean climate. *Building and Environment* **256** 111480.

Ascione F, Boettcher O, Manniti G, Mastellone M, Muehle J (2024) The effect of climate change and urbanization on outdoor microclimate: A case study in Berlin. *Energy and Buildings* **308** 114024.

Ashrafi M, Chua LHC, Irvine KN, Yang P (2022) Spatiotemporal Modeling of the Wind Field over an Urban Lake Subject to Wind Sheltering. *Journal of Applied Meteorology and Climatology* **61** 489-501.

Asif M, Bhatti MS, Dhuria RS, Yadav S (2024) Source apportionment of metal ions in ambient air (PM2.5) during firecracker bursting: A case study of Amritsar Diwali on 24 October 2022. *Urban Climate* **53** 101796.

Assie AF, Arimoro FO, Ndatimana G, Keke UN, Ayanwale AV, Edia EO, Edegbene AO (2024) Development of a macroinvertebrate-based biotic index to assess water quality of rivers in Niger State, North Central Ecoregion of Nigeria. *Environmental Monitoring and Assessment* **196** 230.

Auerswald T, Klippel K, Thomas TG, Goulart EV, Carpentieri M, Hayden P, Hertwig D, Reis Jr NC, Robins A, Coceal O (2024) Effect of Flow Variability on Dispersion of Continuous and Puff Releases in a Regular Street Network. *Boundary-layer Meteorology* **190** 20.

Avalos-Hernandez O, Trujano-Ortega M, Ortega-Alvarez R, Martinez-Fuentes R, Calderon-Parra R, Garcia-Lunab F, Ramirez-Vieyra L, Tapia-Gonzalez J, Vega-Rivas J, Villagomez-Guijon J, Valdenegro-Brito A, Garcia-Vazquez UO (2024) How does urbanization affect the fauna of the largest urban forest in Mexico? *Urban Forestry & Urban Greening* **92** 128191.

*Ayeb-Karlsson S, Chandra A, Mcnamara KE (2023) Stories of loss and healing: connecting non-economic loss and damage, gender-based violence and wellbeing erosion in the Asia-Pacific region. *Climatic Change* **176** 157.

*Ayeni SS (2024) On the attribution of changes in streamflow conditions to climate variability in North Carolina Piedmont, United States. *Physical Geography*

Ayers JR, Yarnell SM, Baruch E, Lusardi RA, Grantham TE (2024) Perennial and Non-Perennial Streamflow Regime Shifts Across California, USA. *Water Resources Research* **60** e2023WR035768.

Baakn EE, Ekmekciolu Ö, Özger M, Altnba N, aylan L (2021) Estimation of measured evapotranspiration using data-driven methods with limited meteorological variables. *Italian Journal of Agrometeorology* 63–80.

*Baez-Garcia WG, Sima E, Chagolla-Aranda MA, Herazo LCS, Carreto-Hernandez LG (2024) Numerical-experimental study of the thermal behavior of a green facade in a warm climate in Mexico. *Energy and Buildings* **311** 114156.

Bai L, Huang W, Zhang X, Du S, Cong G, Wang H, Liu B (2023) Geographic mapping with unsupervised multi-modal representation learning from VHR images and POIs. *ISPRS Journal of Photogrammetry and Remote Sensing* **201** 193-208.

Bai Y, Wang K, Ren Y, Li M, Ji R, Wu X, Yan H, Lin T, Zhang G, Zhou X, Mei H, Ye H (2024) 3D compact form as the key role in the cooling effect of greenspace landscape pattern. *Ecological Indicators* **160** 111776.

Bakanoullar F, aylan L, Yeilköy S (2022) Effects of phenological stages, growth and meteorological factor on the albedo of different crop cultivars. *Italian Journal of Agrometeorology* 23–40.

Bakhtiari M, Ali DarvishiBoloorani, Ataollah AbdollahiKakroodi, Kazem R, Alijafar M (2021) Land degradation modeling of dust storm sources using MODIS and meteorological time series data. *Journal of Arid Environments* **190** 104507.

*Baloch MA, Danish, Ulucak ZS (2023) Understanding the role of green finance and renewable energy consumption for sustainable development in ACI economies. *Climatic Change* **176** 151.

Banerjee S, Biswas R, Mukherjee A, Sattar A (2023) Simulating the impact of elevated thermal condition on wet-season rice grown in eastern india by different crop growth models. *Italian Journal of Agrometeorology* 63–71.

Bao X, Zhou W, Wang W, Yao Y, Xu L (2024) Tree species classification improves the estimation of BVOCs from urban greenspace. *Science of the Total Environment* **914** 169762.

Baran S, Baran Á, Pappenberger F, Ben Bouallègue Z (2020) Statistical post-processing of heat index ensemble forecasts: Is there a royal road? *Quarterly Journal of the Royal Meteorological Society* **146** 3416-3434.

Barrera WJ, Ferrise R, Dalla Marta A (2023) Understanding trends and gaps in global research of crop evapotranspiration: a bibliometric and thematic review. *Italian Journal of Agrometeorology* 13–35.

Bassett R, Young PJ, Blair GS, Samreen F, Simm W (2020) The megacity lagos and three decades of urban heat island growth. *Journal of Applied Meteorology and Climatology* **59** 2041-2055.

Bauer TJ (2020) Interaction of urban heat island effects and land–sea breezes during a new york city heat event. *Journal of Applied Meteorology and Climatology* **59** 477-495.

Bedi S, Katiyar A, Krishnan NMA, Kota SH (2024) Utilizing LSTM models to predict PM2.5 levels during critical episodes in Delhi, the world's most polluted capital city. *Urban Climate* **53** 101835.

Ben Hamouda G, Ventura F (2020) Evaluation of some evapotranspiration estimation models under co2 increasing concentrations: A review. *Italian Journal of Agrometeorology* 85–98.

Bernard É, DE MUNCK C, Lemonsu A (2022) Detailed Mapping and Modeling of Urban Vegetation: What Are the Benefits for Microclimatic Simulations with Town Energy Balance (TEB) at Neighborhood Scale? *Journal of Applied Meteorology and Climatology* **61** 1140-1158.

Bernard J, Bocher E, Gousseff M, Leconte F, Wiederhold ELS (2024) A generic algorithm to automatically classify urban fabric according to the local climate zone system: implementation in GeoClimate 0.0.1 and application to French cities. *Geoscientific Model Development* **17** 2077-2116.

Bernardino GVdS, Mesquita VP, Bobrowiec PED, Iannuzzi L, Salomao RP, Cornelius C (2024) Habitat loss reduces abundance and body size of forest-dwelling dung beetles in an Amazonian urban landscape. *Urban Ecosystems*

Bi S, Hu J, Shao L, Feng T, Appolloni A (2024) Can public transportation development improve urban air quality? Evidence from China. *Urban Climate* **54** 101825.

Bian Z, Fan T, Roujean JL, Wang D, Irvine M, Wu S, Cao B, Li H, Du Y, Xiao Q, Liu Q (2024) An analytical urban temperature model with building heterogeneity using geometric optical theory. *Remote Sensing of Environment* **301** 113948.

Bieri D, Joshi N, Wende W, Kleinschroth F (2024) Increasing demand for urban community gardening before, during and after the COVID-19 pandemic. *Urban Forestry & Urban Greening* **92** 128206.

Bin L, Xu K, Yang Z, He L, Xu X, Lian J (2024) Water cycle evolution in the Haihe River Basin and its relationship with landscape pattern changes. *Ecological Indicators* **159** 111681.

Bishnoi K, Rani P, Bishnoi NR (2024) Polycyclic aromatic hydrocarbons in sewage-irrigated vegetables from industrial cities in Haryana, India. *Environmental Monitoring and Assessment* **196** 337.

Blanca G-M, Elizabeth C-G (2020) Re-thinking the Technosol design for greenery systems: Challenges for the provision of ecosystem services in semiarid and arid cities. *Journal of Arid Environments* **179** 104191.

Blunn L, Xie X, Grimmond S, Luo Z, Sun T, Perera N, Ratnayake R, Emmanuel R (2024) Spatial and temporal variation of anthropogenic heat emissions in Colombo, Sri Lanka. *Urban Climate* **54** 101828.

Bo Y, Li X, Liu K, Wang S, Li D, Xu Y, Wang M (2024) Hybrid Theory-Guided Data Driven Framework for Calculating Irrigation Water Use of Three Staple Cereal Crops in China. *Water Resources Research* **60** e2023WR035234.

Bobalova H, Faltan V, Benova A, Kozuch M, Kotianova M, Petrovic F (2024) Measuring the quality and accessibility of urban greenery using free data sources: A case study in Bratislava, Slovakia. *Urban Forestry & Urban Greening* **93** 128217.

Bojanowski D, Orlinska-Wozniak P, Wilk P, Jakusik E, Szalinska E (2024) Spatial and Temporal Changes in Nutrient Source Contribution in a Lowland Catchment Within the Baltic Sea Region Under Climate Change Scenarios. *Water Resources Research* **60** e2023WR034979.

Bongasie A, Dhakal T, Ayalew A, Kim T-S, Lee Y, Jang G-S (2024) Analysis of forest cover change and its driving factors in Senan district, Amhara Region, Ethiopia. *Environmental Monitoring and Assessment* **196** 339.

Boyaj A, Nadimpalli R, Reddy D, Sinha P, Karrevula NR, Osuri KK, Srivastava A, Swain M, Mohanty UC, Islam S, Kaginalkar A (2023) Role of radiation and canopy model in predicting heat waves using WRF over the city of Bhubaneswar, Odisha. *Meteorology and Atmospheric Physics* **135** 60.

Briegel F, Wehrle J, Schindler D, Christen A (2024) High-resolution multi-scaling of outdoor human thermal comfort and its intra-urban variability based on machine learning. *Geoscientific Model Development* **17** 1667-1688.

Brousse O, Simpson C, Kenway O, Martilli A, Krayenhoff ES, Zonato A, Heavisidea C (2023) Spatially Explicit Correction of Simulated Urban Air Temperatures Using Crowdsourced Data. *Journal of Applied Meteorology and Climatology* **62** 1539-1572.

Bu F, Yan D, Tan G, An J (2024) A novel approach based on equivalent sky radiative temperature for quick computation of radiative cooling in building energy simulation. *Renewable Energy* **221** 119820.

Bu S, Smith KL, Masoud F, Sheinbaum A (2024) Spatial distribution of heat vulnerability in Toronto, Canada. *Urban Climate* **54** 101838.

Burgemeister F, Clemens M, Ament F (2024) Reanalysis of multi-year high-resolution X-band weather radar observations in Hamburg. *Earth System Science Data* **16** 2317-2332.

Cabral M, Loureiro D, Amado C, Covas D (2024) Deterioration Models and Service Life Prediction of Vertical Assets of Urban Water Systems. *Water Resources Research* **60** e2023WR034854.

Caceres N, Robbiati FO, Suarez M, Hick EC, Matoff E, Jim CY, Galetto L, Imhof L (2024) Growth performance of multi-species plant mixtures on an extensive vegetated roof: A two-year experimental study. *Urban Ecosystems*

Cady TJ, Rahn DA, Brunsell NA, Lyles W (2020) Conversion of abandoned property to green space as a strategy to mitigate the urban heat island investigated with numerical simulations. *Journal of Applied Meteorology and Climatology* **59** 1827-1843.

Campos CO, Almeida SFP, Serra SRQ, Calapez AR, Silveira P, Feio MJ (2024) The overlooked margins: how cities impact diversity of plants and terrestrial invertebrates along urban streams. *Urban Ecosystems*

Cano-Sunen E, Ruiz-Varona A, Perez-Bella JM (2024) GIS-based application to calculate directional wind-driven rain exposure on residential buildings at an urban scale: The case study of Zaragoza, Spain. *Building and*

Environment **249** 111152.

Canton J, Dipankar A (2024) Climatological analysis of urban heat island effects in Swiss cities. *International Journal of Climatology*

Cao C, Yang Y, Lu Y, Schultze N, Gu P, Zhou Q, Xu J, Lee X (2020) Performance evaluation of a smart mobile air temperature and humidity sensor for characterizing intracity thermal environment. *Journal of Atmospheric and Oceanic Technology* **37** 1891-1905.

Cao J, Chen Z, Kong S, Liu L, Wang R (2024) Towards urban wind utilization: The spatial characteristics of wind energy in urban areas. *Journal of Cleaner Production* **450** 141981.

*Cao P, Li W (2024) Evaluation and optimization of outdoor wind environment in block based on space syntax and CFD simulation. *Plos One* **19** e0297683.

Cao Y, Chen WY, Wantzen KM (2024) Human-river relationships in Chinese cities: evidence from highly educated water museum visitors. *Urban Ecosystems* **27** 203-217.

Cao Y, Huang X, Weng Q (2023) A multi-scale weakly supervised learning method with adaptive online noise correction for high-resolution change detection of built-up areas. *Remote Sensing of Environment* **297** 113779.

Cardinali M, Beenackers MA, Fleury-Bahi G, Bodenan P, Petrova MT, van Timmeren A, Pottgiesser U (2024) Examining green space characteristics for social cohesion and mental health outcomes: A sensitivity analysis in four European cities. *Urban Forestry & Urban Greening* **93** 128230.

Carlo OS, Fellini S, Palusci O, Marro M, Salizzoni P, Buccolieri R (2024) Influence of obstacles on urban canyon ventilation and air pollutant concentration: An experimental assessment. *Building and Environment* **250** 111143.

Cetin M, Ozenen Kavlak M, Senyel Kurkcuoglu MA, Bilge Ozturk G, Cabuk SN, Cabuk A (2024) Determination of land surface temperature and urban heat island effects with remote sensing capabilities: the case of Kayseri, Türkiye. *Natural Hazards* **120** 5509-5536.

Chai S, Wei M, Tang L, Bi X, Yu Y, Yang J, Jie Z (2024) Can public opinion persuade the government to strengthen the use of environmental regulation policy tools? Evidence from policy texts. *Journal of Cleaner Production* **434** 140352.

Chakraborty S, Stokes EC, Weiss M (2023) Adaptive modeling of satellite-derived nighttime lights time-series for tracking urban change processes using machine learning. *Remote Sensing of Environment* **298** 113818.

Chakraborty T, Wang J, Qian Y, Pringle W, Yang Z, Xue P (2023) Urban Versus Lake Impacts on Heat Stress and Its Disparities in a Shoreline City. *Geohealth* **7** e2023GH000869.

Chamberlain HR, Darin E, Adewole WA, Jochem WC, Lazar AN, Tatem AJ (2024) Building footprint data for countries in Africa: To what extent are existing data products comparable? *Computers, Environment and Urban Systems* **110** 102104.

Chang C, Li X, Duanmu L, Sun B, Ju H (2024) Analysis of the impact of indoor thermal comfort data characteristics on dataset quality. *Energy and Buildings* **310** 114079.

Chang T-W, Tokiwa S, Masui N, Tani A (2024) Quantifying variabilities in monoterpene emission among natural individuals of an urban-greening species (Quercus phylliraeoides) using a rapid measuring method. *Urban Forestry & Urban Greening* **94** 128245.

Chang YH, Chen T-H, Chung H-Y, Hsiao HY, Tseng P-C, Wang YC, Lung S-CC, Su H-J, Tsay Y-S (2024) The health risk reduction of PM 2.5 via a green curtain system in Taiwan. *Building and Environment* **255** 111459.

Chapman S, Thatcher M, Salazar A, Watson JEM, McAlpine CA (2018) The effect of urban density and vegetation cover on the heat island of a subtropical city. *Journal of Applied Meteorology and Climatology* **57** 2531-2550.

Charif O, Romani Z, Bat AM`SE, Draoui A (2024) An experimental and numerical thermal study of a small-scale urban block with courtyard. *Energy and Buildings* **308** 114012.

*Chaudhry D, Mukhopadhyay I (2023) Climate change and human health: estimating district-level health vulnerabilities in the Indian context. *Climatic Change* **176** 154.

Che K, Lauvaux T, Taquet N, Stremme W, Xu Y, Alberti C, Lopez M, Garcia-Reynoso A, Ciais P, Liu Y, Ramonet M, Grutter M (2024) Urban XCO2 Gradients From a Dense Network of Solar Absorption Spectrometers and OCO-3 Over Mexico City. *Journal of Geophysical Research-atmospheres* **129** e2023JD040063.

Chen D, Yin J, Yu C-P, Sun S, Gabel C, Spengler JD (2024) Physiological and psychological responses to transitions between urban built and natural environments using the cave automated virtual environment. *Landscape and Urban Planning* **241** 104919.

Chen G, Ji X, Chen J, Xu L, Hu B, Lin Z, Fan X, Li M, Hong Y, Chen J (2024) Photochemical pollution during summertime in a coastal city of Southeast China: Ozone formation and influencing factors. *Atmospheric Research* **301** 107270.

Chen H, Wang J, Zeng Y, Shen N, Liu F (2024) Using fs/QCA to explore the influencing factors of urban green infrastructure development and its combinational drivers: the case of the Yangtze River Delta region of China. *Environmental Science and Pollution Research*

Chen J, Hu T, Wang J, Yan Z, Li Z (2024) A method for homogenization of complex daily mean temperature data: Application at Beijing Observatory (1915-2021) and trend analysis. *International Journal of Climatology* **44** 1955-1973.

Chen L, Li W, Zhu W, Zhou X, Zhou Z, Liu H (2006) Seasonal trends of climate change in the Yangtze Delta and its adjacent regions and their formation mechanisms. *Meteorology and Atmospheric Physics* **92** 11-23.

Chen P, Huang H, Liu J, Wang J, Liu C, Zhang N, Su M, Zhang D (2023) Leveraging Chinese GaoFen-7 imagery for high-resolution building height estimation in multiple cities. *Remote Sensing of Environment* **298** 113802.

Chen S (2023) Dependency ratio and emission trading scheme: a case study in China. *Climatic Change* **176** 175.

*Chen S, Dipankar A (2022) On the applicability of urban canopy parametrization in building grey zone. *Quarterly Journal of the Royal Meteorological Society* **148** 1644-1662.

Chen S, He P, Yu B, Wei D, Chen Y (2024) The challenge of noise pollution in high-density urban areas: Relationship between 2D/3D urban morphology and noise perception. *Building and Environment* **253** 111313.

Chen S, Yu Z, Liu M, Da L, Hassan MFU (2021) Trends of the contributions of biophysical (climate) and socioeconomic elements to regional heat islands. *Scientific Reports* **11** 12696.

Chen S, Zhang Z, Chen Z, Xu H, Li J (2024) Responses of canopy transpiration and conductance to different drought levels in Mongolian pine plantations in a semiarid urban environment of China. *Agricultural and Forest Meteorology* **347** 109897.

Chen W, Huang H, Liao S, Gao F, Biljecki F (2024) Global urban road network patterns: Unveiling multiscale planning paradigms of 144 cities with a novel deep learning approach. *Landscape and Urban Planning* **241** 104901.

Chen X, Kang J (2023) Natural sounds can encourage social interactions in urban parks. *Landscape and Urban Planning* **239** 104870.

Chen Y, Lv Y, Lu J (2024) Structural equation modeling of the combined effect of urban population, gross regional product and area on air pollution in selected Chinese cities. *Journal of Cleaner Production* **434** 140030.

Chen Y, Weng Q, Tang L, Wang L, Xing H, Liu Q (2023) Developing an intelligent cloud attention network to support global urban green spaces mapping. *ISPRS Journal of Photogrammetry and Remote Sensing* **198** 197-209.

Chen Y, Yang L, Peng H, Zhang X, Zhang S, Lu H, Yao L, Xia J (2024) Relevance evaluation and spatial differentiation analysis between green development and environmental footprint in China's three typical mega-urban agglomerations. *Journal of Cleaner Production* **436** 140644.

Chen Y, Zhang N (2018) Urban heat island mitigation effectiveness under extreme heat conditions in the Suzhou-Wuxi-Changzhou Metropolitan area, China. *Journal of Applied Meteorology and Climatology* **57** 235-253.

Chenappan NK, Ibrahim YS, Anuar ST, Yusof KMKK, Jaafar M, Ahamad F, Sulaiman WZW, Mohamad N (2024) Quantification and characterization of airborne microplastics in the coastal area of Terengganu, Malaysia. *Environmental Monitoring and Assessment* **196** 242.

Cheng G, Schlünzen KH (2023) A conceptual model for a generalized canopy parametrization for atmospheric models. *Quarterly Journal of the Royal Meteorological Society* **149** 494-514.

Cheng G, Schlünzen KH, Grawe D, Voss V, Thatcher M, Rayner P (2023) Parameterizing building effects on airflows within the urban canopy layer for high-resolution models using a nudging approach. *Quarterly Journal of the Royal Meteorological Society* **149** 2617-2633.

Cheng Z, Nesbitt L, Girling C, Sheppard S, Konijnendijk C, Nitoslawski S (2024) Urban density and the urban forest: How well are cities balancing them in the context of climate change? *Cities* **149** 104962.

Chettry V, Sabarinath D, Manonmani IK (2024) Urban Heat Island effect and Urban Thermal Field Variance Index phenomenon at the heart of `Chicken's Neck Corridor' of India. *Urban Climate* **54** 101848.

Chieco C, Morrone L, Magli M, Gelmetti A, Pedò S, Roman T, Stefanini M, Rossi F, Battistel GA, Eccel E (2023) Italian winegrowers' and wine makers' attitudes toward climate hazards and their strategy of adaptation to the change. *Italian Journal of Agrometeorology* 47–65.

Childs SJ, Schumacher RS (2019) An updated severe hail and tornado climatology for eastern colorado. *Journal of Applied Meteorology and Climatology* **58** 2273-2293.

Chiron F, Lorrilliere R, Bessa-Gomes C, Tryjanowski P, Casanelles-Abella J, Laanisto L, Leal A, Van Mensel A, Moretti M, Muyshondt B, Niinemets U, Orti MA, Pinho P, Samson R, Deguines N (2024) How do urban green space designs shape avian communities? Testing the area-heterogeneity trade-off. *Landscape and Urban Planning* **242** 104954.

Choi D, Lee H-J, Chang L-S, Jo H-Y, Jo Y-J, Park S-Y, Yang G-H, Kim C-H (2023) Distinct Meteorological Mode Associated with High-PM2.5 Episodes in Seoul, South Korea. *Journal of Applied Meteorology and Climatology* **62** 853-862.

Chu Y-y, Zhang X-l, Guo Y-c, Tang L-j, Zhong C-y, Zhang J-w, Li X-l, Qiao D-w (2024) Spatial-temporal characteristics and driving factors' contribution and evolution of agricultural non-CO2 greenhouse gas emissions in China: 1995-2021. *Environmental Science and Pollution Research* **31** 19779-19794.

Ciach M, Wrazidlo D, Fedyn I (2023) Ecosystem engineers enter the city: Habitat characteristics influencing the distribution of Eurasian beavers Castor fiber in a human-transformed landscape. *Landscape and Urban Planning* **240** 104893.

Cinantya A, Manea A, Leishman MR (2024) Biostimulants do not affect the performance of urban plant species grown under drought stress. *Urban Ecosystems*

Cinantya A, Manea A, Leishman MR (2024) The effect of root shaving and biostimulant application on the transplant success of six common Australian urban tree species. *Urban Ecosystems*

Clark J, Konrad CE (2024) Observations and Estimates of Wet-Bulb Globe Temperature in Varied Microclimates. *Journal of Applied Meteorology and Climatology* **63** 305-319.

Clement A, Troxler T, Keefe O, Arcodia M, Cruz M, Hernandez A, Moanga D, Adefris Z, Brown N, Jacobson S (2023) Hyperlocal Observations Reveal Persistent Extreme Urban Heat in Southeast Florida. *Journal of Applied Meteorology and Climatology* **62** 863-872.

Cloutier S, Mendes P, Cimon-Morin J, Pellerin S, Fournier V, Poulin M (2024) Assessing the contribution of lawns and semi-natural meadows to bee, wasp, and flower fly communities across different landscapes. *Urban Ecosystems*

Cloutier-Bisbee SR, Raghavendra A, Milrad SM (2019) Heat waves in Florida: Climatology, trends, and related precipitation events. *Journal of Applied Meteorology and Climatology* **58** 447-466.

Codato D, Peroni F, De Marchi M (2024) The multiple injustice of fossil fuel territories in the Ecuadorian Amazon: Oil development, urban growth, and climate justice perspectives. *Landscape and Urban Planning* **241** 104899.

Collins RM, Smith D, Ogutu BO, Brown KA, Eigenbrod F, Spake R (2023) The relative effects of access to public greenspace and private gardens on mental health. *Landscape and Urban Planning* **240** 104902.

Conlisk E, Butsic V, Syphard AD, Evans S, Jennings M (2024) Evidence of increasing wildfire damage with decreasing property price in Southern California fires. *Plos One* **19** e0300346.

Conrad PE, Marinos RE (2024) Nitrogen availability and denitrification in urban agriculture and regreened vacant lots. *Urban Ecosystems*

Cook EJ, Kabasinguzi I, Randhawa G, Ali N (2024) Factors influencing urban greenspace use among a multi-ethnic community in the UK: The Chalkscapes Study. *Urban Forestry & Urban Greening* **92** 128210.

Crespi A, Borghi A, Facchi A, Gandolfi C, Maugeri M (2021) Spatio-temporal variability and trends of drought indices over lombardy plain (northern Italy) from meteorological station records (1951–2017). *Italian Journal of Agrometeorology* 3–18.

Cui D, Liang G, Hang J, Li X, Mak CM (2024) Effects of envelope features on pollutant exposure in 2D street canyons. *Building and Environment* **252** 111215.

Cui L, Shibata S (2024) Exploring climate-adaptive green-space designs for hot and humid climates: Lessons from Japanese dry gardens. *Urban Forestry & Urban Greening* **93** 128207.

Cui Y, Xiao S, Hu L, Zhao Y, Li Q (2024) Mixed Convection in an Idealized Coastal Urban Environment With Momentum and Thermal Surface Heterogeneities. *Journal of Geophysical Research-atmospheres* **129** e2023JD039502.

David P-S, Marelis M, César C-A, Luis AV-M, Tatiana E-A, Andres S (2021) Keeping people in the loop: Socioeconomic valuation of dry forest ecosystem services in the Colombian Caribbean region. *Journal of Arid Environments* **188** 104446.

de Cock MP, Esser HJ, van der Poel WHM, Sprong H, Maas M (2024) Higher rat abundance in greener urban areas. *Urban Ecosystems*

De Groeve M, Kale E, Godts S, Orr SA, De Kock T (2024) Impact of vertical greening on urban microclimate and historic building materials: A meta-analysis. *Building and Environment* **253** 111365.

de Meira AM, Nolasco AM, de Souza EC, de Souza MP, Pereira AKS, Ucella-Filho JGM, Dias Junior AF (2024) Integrated municipal management of waste from tree pruning and removal. *Urban Forestry & Urban Greening* **94** 128238.

de Sousa AS, de Gois G, Paiva RFdPdS, Pimentel LCG, Terassi PMdB, Sobral BS, Muniz MA (2024) Impacts of urban emissions and air quality in São Paulo State, Brazil. *Environmental Monitoring and Assessment* **196** 433.

Del Ponte AV, Fellini S, Marro M, van Reeuwijk M, Ridolfi L, Salizzoni P (2024) Influence of Street Trees on Turbulent Fluctuations and Transport Processes in an Urban Canyon: A Wind Tunnel Study. *Boundary-layer Meteorology* **190** 6.

Deng Z, Wu X, Villarini G, Wang Z, Zeng Z, Lai C (2024) Stronger exacerbation of extreme rainfall at the hourly than daily scale by urbanization in a warming climate.

Journal of Hydrology **633** 131025.

Dervisoglu A, Yagmur N, Sariyilmaz FB (2024) A comprehensive research on open surface drinking water resources in Istanbul using remote sensing technologies. *Environmental Monitoring and Assessment* **196** 377.

Devi NN, Kuiry SN (2024) A Novel Local-Inertial Formulation Representing Subgrid Scale Topographic Effects for Urban Flood Simulation. *Water Resources Research* **60** e2023WR035334.

Di Napoli C, Pappenberger F, Cloke HL (2019) Verification of heat stress thresholds for a health-based heat-wave definition. *Journal of Applied Meteorology and Climatology* **58** 1177-1194.

Di S-C, Li Z-L, Ren Y, Liu M, Jiang Y-Z, Zheng F-D, Li X-M, Qi Y-B, Liu H-L, Tang R (2024) Estimation of Regional Evapotranspiration Based on the Decouple Model and Remote Sensing Information –a Case Study in Beijing City and Nearby Region. *International Journal of Remote Sensing*

Diallo I, He L, Koehler K, Spira AP, Kale R, Ou J, Smith G, Linton SL, Augustinavicius J (2024) Community perspectives on heat and health in Baltimore City. *Urban Climate* **54** 101841.

Dindaroglu T (2021) Determination of ecological networks for vegetation connectivity using GIS & AHP technique in the Mediterranean degraded karst ecosystems. *Journal of Arid Environments* **188** 104385.

Ding H, Wu X, Guo Y, Liu C (2024) Carbon emissions in the logistics industry: driving factors and decoupling effects. *Environmental Science and Pollution Research*

Ding J, Ren C, Wang J, Feng Z, Cao S-J (2024) Spatial and temporal urban air pollution patterns based on limited data of monitoring stations. *Journal of Cleaner Production* **434** 140359.

Ding W, Chen H (2024) Investigating the microclimate impacts of blue-green space development in the urban-rural fringe using the WRF-UCM model. *Urban Climate* **54** 101865.

Ding W, Liu M, Wu Y, Chen H (2024) How to expand the cooling capacity of blue and green spaces in peri-urban areas throughout the entire diurnal cycle: Evidence from an inland multilake city. *Journal of Cleaner Production* **444** 141165.

Doan QC, Chen C, He S, Zhang X (2024) How urban air quality affects land values: Exploring non-linear and threshold mechanism using explainable artificial intelligence. *Journal of Cleaner Production* **434** 140340.

*Doan Q-V, Dipankar A, Simón-Moral A, Sanchez C, Prasanna V, Roth M, Huang X-Y (2021) Urban-induced modifications to the diurnal cycle of rainfall over a tropical city. *Quarterly Journal of the Royal Meteorological Society* **147** 1189-1201.

Doan Q-V, Kobayashi S, Kusaka H, Chen F, He C, Niyogi D (2023) Tracking Urban Footprint on Extreme Precipitation in an African Megacity. *Journal of Applied Meteorology and Climatology* **62** 209-226.

Dong P, Zhan W, Wang C, Jiang S, Du H, Liu Z, Chen Y, Li L, Wang S, Ji Y (2023) Simple yet efficient downscaling of land surface temperatures by suitably integrating kernel- and fusion-based methods. *ISPRS Journal of Photogrammetry and Remote Sensing* **205** 317-333.

*Donnelly A, Yu R, Rehberg C, Schwartz MD (2024) Variation in the timing and duration of autumn leaf phenology among temperate deciduous trees, native shrubs and non-native shrubs. *International Journal of Biometeorology*

Donthu EVSKK, Shashwat S, Zingre KT, Wan MP (2024) Development of a simplified cool coating thermal model for predicting street canyon air temperature. *Building and Environment* **251** 111207.

*Dou J, Bornstein R, Miao S, Sun J, Zhang AY (2020) Observation and simulation of a bifurcating thunderstorm over Beijing. *Journal of Applied Meteorology and Climatology* **59** 2129-2148.

Doucet TC, Duinker PN, Zurba M, Steenberg JWN, Charles JD (2024) Perspectives of successes and challenges in collaborations between non-governmental organization and local government on urban forest management. *Urban Forestry & Urban Greening* **93** 128220.

Dowtin AL, Cregg BC, Nowak DJ, Levia DF (2023) Towards optimized runoff reduction by urban tree cover: A review of key physical tree traits, site conditions, and management strategies. *Landscape and Urban Planning* **239** 104849.

Droste AM, Heusinkveld BG, Fenner D, Steeneveld G-J (2020) Assessing the potential and application of crowdsourced urban wind data. *Quarterly Journal of the Royal Meteorological Society* **146** 2671-2688.

Du H, Perret L, Savory E (2024) Effect of Urban Morphology and an Upstream Tall Building on the Scale Interaction Between the Overlying Boundary Layer and a Street Canyon. *Boundary-layer Meteorology* **190** 5.

Duan G, Takemi T (2021) Predicting urban surface roughness aerodynamic parameters using random forest. *Journal of Applied Meteorology and Climatology* **60** 999-1018.

Duchêne F, Van Schaeybroeck B, Caluwaerts S, De Troch R, Hamdi R, Termonia P (2020) A statistical–dynamical methodology to downscale regional climate projections to urban scale. *Journal of Applied Meteorology and Climatology* **59** 1109-1123.

Dushkova D, Ignatieva M, Konstantinova A, Nilon C, Mueller N (2024) Urban biodiversity and design in time of (post)pandemics: research perspectives from URBIO international network. *Urban Ecosystems*

Dutta I, Das A (2020) Exploring the Spatio-temporal pattern of regional heat island (RHI) in an urban agglomeration of secondary cities in Eastern India. *Urban Climate* **34** 100679.

*Effiong C, Ngang E, Ekott I (2024) Land use planning and climate change adaptation in river-dependent communities in Nigeria. *Environmental Development* **49** 100970.

Eichhorn S (2023) Infilling in Germany. Estimating the extent of infilling in German municipalities between 1979 and 2011. *Landscape and Urban Planning* **240** 104895.

Elmarakby E, Elkadi H (2024) Impact of urban morphology on Urban Heat Island in Manchester's transit-oriented development. *Journal of Cleaner Production* **434** 140009.

Ennis KE, Milrad SM (2024) Man, it's a hot one: Trends and extremes in Florida autumn heat stress. *International Journal of Climatology*

*Esteban-Cantillo OJ, Menendez B, Quesada B (2024) Climate change and air pollution impacts on cultural heritage building materials in Europe and Mexico. *Science of the Total Environment* 170945.

Fabry F, Samuel J, Meunier V (2023) Weather-Driven Complementarity between Daily Energy Demand at One Location and Renewable Supply at Another. *Journal of Applied Meteorology and Climatology* **62** 1115-1127.

Facchinelli F, Crescini E, Della Fera G, De Marchi M (2023) The Apaguen los Mecheros campaign: Supporting climate justice in the Amazonian cities of Ecuador by estimating the health risks of gas flaring. *Landscape and Urban Planning* **240** 104898.

Fan D, Maliki NZB, Yu S, Jin F, Han X (2024) Enhancing urban blue-green landscape quality assessment through hybrid genetic algorithm-back propagation (GA-BP) neural network approach: a case study in Fucheng, China. *Environmental Monitoring and Assessment* **196** 424.

Fang Z, Jiang F, Yan J, Lu Q, Chen L, Tang J, Hong J, Broyd T (2024) A novel lightweight CF decision-making approach for highway reconstruction and operation. *Journal of Cleaner Production* **434** 140127.

Farina G, Le Coent P, Neverre N (2024) Multi-objective optimization of rainwater infiltration infrastructures along an urban-rural gradient. *Landscape and Urban Planning* **242** 104949.

Farinha MJUS, Berezuk AG, Soares Filho A, Silva LFd, Ruviaro CF, Bernardo LVM (2024) Public environmental actions and urban land use planning in the Central-west Region of Brazil. *Urban Forestry & Urban Greening* **92** 128209.

Farooq M, Thulasiraman AV, Manzoor Z, Tripathi S, Nisa FU, Farooq A, Rasool S, Akhoon RH, Shah MY, Gani KM (2024) Comprehensive characterization of unscientifically disposed municipal solid waste (MSW) in Kashmir Region, India. *Environmental Monitoring and Assessment* **196** 450.

Faure X, Lebrun R, Pasichnyi O (2024) Impact of time resolution on estimation of energy savings using a copula-based calibration in UBEM. *Energy and Buildings* **311** 114134.

Fei Y, Xu B, Chen X-n, Pei G (2024) The role of emissivity of the window surface inside and outside the atmospheric window in the radiative cooling effect. *Renewable Energy* **226** 120444.

Fellini S, Ridolfi L, Salizzoni P (2020) Street canyon ventilation: Combined effect of cross-section geometry and wall heating. *Quarterly Journal of the Royal Meteorological Society* **146** 2347-2367.

Feng L, Chen B, Wu G, Zhang Q (2024) Global renewable energy trade network: patterns and determinants. *Environmental Science and Pollution Research*

Feng L, Shuai L, Zhou Y, Zhang X, Sun J (2024) Improving the green space arrangement in residential areas from the perspective of tree leaf temperature utilizing scenario simulation in ENVI-met. *Science of the Total Environment* 170650.

Feng R, Liu S, Wang F, Wang K, Gao P, Xu L (2024) Quantifying the environmental synergistic effect of cooling-air purification-carbon sequestration from urban forest in China. *Journal of Cleaner Production* **448** 141514.

Fernando A-N, Yolanda M-D, Norma EG-C, Guillermo O, Mario G, Enrique T-D (2020) Spatial distribution of soil carbon storage in desert shrubland ecosystems of northwest Mexico. *Journal of Arid Environments* **183** 104251.

Ferreira MP, Santos DRd, Ferrari F, Coelho LCT, Martins GB, Feitosa RQ (2024) Improving urban tree species classification by deep-learning based fusion of digital aerial images and LiDAR. *Urban Forestry & Urban Greening* **94** 128240.

Finardi S, Agrillo G, Baraldi R, Calori G, Carlucci P, Ciccioli P, D'Allura A, Gasbarra D, Gioli B, Magliulo V, Radice P, Toscano P, Zaldei A (2018) Atmospheric dynamics and ozone cycle during sea breeze in a Mediterranean complex urbanized coastal site. *Journal of Applied Meteorology and Climatology* **57** 1083-1099.

Flores-Galicia N, Gutierrez E, Trejo I (2024) Effect of exotic species management on the recovery of relict forests through citizen participation. *Urban Ecosystems*

Forero-Chavez N, Arenas-Clavijo A, Armbrecht I, Montoya-Lerma J (2024) Urban patches of dry forest as refuges for ants and carabid beetles in a neotropical overcrowded city. *Urban Ecosystems*

Fox-Kaemper R, Kirby CK, Specht K, Cohen N, Ilieva R, Caputo S, Schoen V, Hawes JK, Ponizy L, Bechet B (2023) The role of urban agriculture in food-energy-water nexus policies: Insights from Europe and the U.S. *Landscape and Urban Planning* **239** 104848.

Fraser T, Feeley O, Ridge A, Cervini A, Rago V, Gilmore K, Worthington G, Berliavsky I (2024) How far I'll go: Social infrastructure accessibility and proximity in urban neighborhoods. *Landscape and Urban Planning* **241** 104922.

Fry M, Fischer LA (2023) Valuing property over the environment: Municipal landscaping ordinances in Texas. *Landscape and Urban Planning* **239** 104867.

Fu H, Sun G, Zhang L, Zhang A, Ren J, Jia X, Li F (2023) Three-dimensional singular spectrum analysis for precise land cover classification from UAV-borne hyperspectral benchmark datasets. *ISPRS Journal of Photogrammetry and Remote Sensing* **203** 115-134.

Fu Y, Hu J, Song W, Cheng Y, Li R (2023) Satellite observed response of fire dynamics to vegetation water content and weather conditions in Southeast Asia. *ISPRS Journal of Photogrammetry and Remote Sensing* **202** 230-245.

Fu Y, Jiang S, Mao Y, Wu G (2024) Urbanization reshapes extreme precipitation metrics in typical urban agglomerations of Eastern China. *Atmospheric Research* **300** 107253.

Fuentes Reyes M, Xie Y, Yuan X, d'Angelo P, Kurz F, Cerra D, Tian J (2023) A 2D/3D multimodal data simulation approach with applications on urban semantic segmentation, building extraction and change detection. *ISPRS Journal of Photogrammetry and Remote Sensing* **205** 74-97.

Fung SR, Hull EA, Gawel JE, Horner-Devine AR, Neumann RB (2024) Short-Term Arsenic Cycling in a Shallow, Polymictic Lake. *Water Resources Research* **60** e2023WR035842.

Gao H, Luo Y, Jiang X, Zhang D-L, Chen Y, Wang Y, Shen X (2021) A statistical analysis of extreme hot characteristics and their relationships with urbanization in southern china during 1971–2020. *Journal of Applied Meteorology and Climatology* **60** 1301-1317.

*Garcia-Pardo KA, Moreno-Rangel D, Dominguez-Amarillo S, Garcia-Chavez JR (2024) Characterisation of Morphological Patterns for Land Surface Temperature Distribution in Urban Environments: An Approach to Identify Priority Areas. *Climate* **12** 4.

Geng S, Yang L, Sun Z, Wang Z, Qian J, Jiang C, Wen M (2021) Spatiotemporal patterns and driving forces of remotely sensed urban agglomeration heat islands in South China. *Science of the Total Environment* **800** 149499.

Geske M, Benz A, Voelker C (2024) U-value data on an urban scale: Outlier detection using comparative thermography to improve data quality. *Energy and Buildings* **309** 114026.

Getu K, Bhat HG (2024) Quantifying Spatio-temporal dynamics of land surface temperature for the rapidly growing city of Bahir Dar, Northwest Ethiopia using multidated Landsat data. *Physics and Chemistry of the Earth* **134** 103543.

Ghasemian Sorboni N, Wang J, Najafi MR (2024) Urban flood mapping using Sentinel-1 and RADARSAT Constellation Mission image and convolutional Siamese network. *Natural Hazards* **120** 5711-5742.

Ghorbani M, Hossein A, Kristina J, Petr S, Frank W (2021) Sustainable Co-Management of arid regions in southeastern Iran: Social network analysis approach. *Journal of Arid Environments* **192** 104540.

Giani P, Lamer K, Crippa P, Brown MJ (2024) Formulation, Implementation and Validation of a 1D Boundary Layer Inflow Scheme for the QUIC Modeling System. *Boundary-layer Meteorology* **190** 17.

Giglou AN, Nazari R, Karimi M, Museru ML, Opare KN, Nikoo MR (2024) Future eco-hydrological dynamics: Urbanization and climate change effects in a changing landscape: A case study of Birmingham's river basin. *Journal of Cleaner Production* **447** 141320.

Gillerot L, Landuyt D, De Frenne P, Muys B, Verheyen K (2024) Urban tree canopies drive human heat stress mitigation. *Urban Forestry & Urban Greening* **92** 128192.

*Gillerot L, Rozario K, de Frenne P, Oh R, Ponette Q, Bonn A, Chow W, Godbold D, Steinparzer M, Haluza D, Landuyt D, Muys B, Verheyen K (2024) Forests are chill: The interplay between thermal comfort and mental wellbeing. *Landscape and Urban Planning* **242** 104933.

Gloria S-M-d-O, Miriam A-C (2019) Impact of climate change in Mexican peri-urban areas with risk of drought. *Journal of Arid Environments* **162** 74-88.

Goldberg DL, Tao M, Kerr GH, Ma S, Tong DQ, Fiore AM, Dickens AF, Adelman ZE, Anenberg SC (2024) Evaluating the spatial patterns of US urban NOx emissions using TROPOMI NO2. *Remote Sensing of Environment* **300** 113917.

Golroudbary VR, Zeng Y, Mannaerts CM, Su Z (2019) Response of extreme precipitation to urbanization over the Netherlands. *Journal of Applied Meteorology and Climatology* **58** 645-661.

Gonzalez-Crespo C, Martinez-Lopez B, Conejero C, Castillo-Contreras R, Serrano E, Lopez-Martin JM, Lavin S, Lopez-Olvera JR (2023) Predicting human-wildlife interaction in urban environments through agent-based models. *Landscape and Urban Planning* **240** 104878.

Gorecki V, Rhodes M, Parsons S (2024) Urban trawling bats depend on green and blue space in a subtropical city: implications for urban planning and climate change resilience. *Urban Ecosystems*

Gough WA (2020) Thermal signatures of peri-urban landscapes. *Journal of Applied Meteorology and Climatology* **59** 1443-1452.

Gough WA (2021) Impact of urbanization on the nature of precipitation at Toronto, Ontario, Canada. *Journal of Applied Meteorology and Climatology* **60** 425-435.

Grace M, Dickie J, Brown C, Bartie P, Oliver DM (2024) Using solicited research diaries to assess the restorative potential of exposure to inland blue space across time. *Landscape and Urban Planning* **241** 104904.

Grandjouan O, Branger F, Masson M, Cournoyer B, Coquery M (2023) Identification and estimation of hydrological contributions in a mixed land-use catchment based on a simple biogeochemical and hydro-meteorological dataset. *Hydrological Processes* **37** e15035.

*Grigorieva EA, Walsh JE, Alexeev VA (2024) Extremely Cold Climate and Social Vulnerability in Alaska: Problems and Prospects. *Climate* **12** 20.

Gril E, Laslier M, Gallet-Moron E, Durrieu S, Spicher F, Le Roux V, Brasseur B, Haesen S, Van Meerbeek K, Decocq G, Marrec R, Lenoir J (2023) Using airborne LiDAR to map forest microclimate temperature buffering or amplification. *Remote Sensing of Environment* **298** 113820.

Gu C, Shi Q, Tongji C (2024) Evaluating the driving factors of the environmental injustice caused by the spatial mismatch of ecosystem services in mega cities in China. *Urban Ecosystems*

Gu W, Yue C, Han Z, Gao Y, Tang Y, Ao X, Yao Y (2024) Dynamic synthetic analysis of circulation field of tropical cyclones affecting Shanghai. *Frontiers of Earth Science*

Guan C, You M (2024) Integrating landscape and urban development in a comprehensive landscape sensitivity index: A case study of the Appalachian Trail region. *Urban Forestry & Urban Greening* **93** 128234.

Guan J, Wang R, Van Berkel D, Liang Z (2024) How spatial patterns affect urban green space equity at different equity levels: A Bayesian quantile regression approach (vol 233, 104709, 2023). *Landscape and Urban Planning* **242** 104840.

Guilherme F, Goncalves JA, Carretero MA, Farinha-Marques P (2024) Assessment of land cover trajectories as an indicator of urban habitat temporal continuity. *Landscape and Urban Planning* **242** 104932.

Gule TT, Lemma B, Hailu BT (2024) Factors impacting water quality and quantity in rapidly expanding urban areas based on the DPSIR model: experiences and challenges from Addis Ababa City, Ethiopia. *Environmental Science and Pollution Research*

Guo J, Xu Q, Zeng Y, Liu Z, Zhu XX (2023) Nationwide urban tree canopy mapping and coverage assessment in Brazil from high-resolution remote sensing images using deep learning. *ISPRS Journal of Photogrammetry and Remote Sensing* **198** 1-15.

Guo J, Xu X, Wang L, Wang X, Wu L, Jessell M, Ogarko V, Liu Z, Zheng Y (2024) GeoPDNN 1.0: a semi-supervised deep learning neural network using pseudo-labels for three-dimensional shallow strata modelling and uncertainty analysis in urban areas from borehole data. *Geoscientific Model Development* **17** 957-973.

Guo R, Yang B, Guo Y, Li H, Li Z, Zhou B, Hong B, Wang F (2024) Machine learning-based prediction of outdoor thermal comfort: Combining Bayesian optimization and the SHAP model. *Building and Environment* **254** 111301.

Guo X, Xu J (2024) New ambient air quality standards, human capital flow, and economic growth: Evidence from an environmental information disclosure policy in China. *Journal of Cleaner Production* **434** 140168.

Gupta V, Choudhary R, Agarwal A (2024) Integrating land use and traffic to spatial prediction of particulate matter. *Urban Climate* **54** 101844.

Gwedla N, Muller M, Cilliers SS, Niesing C, Bester P, Du Toit MJ (2024) Exploring the value of ecosystem services at health clinic gardens in a South African context. *Urban Ecosystems*

Hagbo T-O, Giljarhus KET (2024) Sensitivity of urban morphology and the number of CFD simulated wind directions on pedestrian wind comfort and safety assessments. *Building and Environment* **253** 111310.

Halder S, Das S, Bose S (2024) Environmental risk analysis of a Ramsar site: a case study of east Kolkata wetlands with PSR framework. *Environmental Monitoring and Assessment* **196** 432.

*Hall TW, Blunn L, Grimmond S, McCarroll N, Merchant CJ, Morrison W, Shonk JKP, Lean H, Best M (2024) Utility of thermal remote sensing for evaluation of a high-resolution weather model in a city. *Quarterly Journal of the Royal Meteorological Society* **150** 1771-1790.

Han J, Chong A, Lim J, Ramasamy S, Wong NH, Biljecki F (2024) Microclimate spatio-temporal prediction using deep learning and land use data. *Building and Environment* **253** 111358.

Hanaa AK, Hoda AY, Menno PG, Jac AAS (2019) Traditional knowledge and community resilience in Wadi Allaqi, Egypt. *Journal of Arid Environments* **171** 103987.

Hang J, Li Q, Du Y, Feng J, Hua J, Zhao B (2024) Effects of arcade design on wind and thermal environment inside an idealized 2D urban canyon with realistic solar heating. *Building and Environment* **254** 111329.

Hang J, Zeng L, Li X, Wang D (2024) Evaluation of a single-layer urban energy balance model using measured energy fluxes by scaled outdoor experiments in humid subtropical climate. *Building and Environment* **254** 111364.

Hao Y, Gou Y, Wang Z, Huang W, Wan F, Tian M, Chen J (2024) Current challenges in the visibility improvement of urban Chongqing in Southwest China: From the perspective of PM2.5-bound water uptake property over 2015-2021. *Atmospheric Research* **300** 107215.

Havu M, Kulmala L, Lee HS, Saranko O, Soininen J, Ahongshangbam J, Jarvi L (2024) CO2 uptake of urban vegetation in a warming Nordic city. *Urban Forestry & Urban Greening* **94** 128261.

He D, Shi Q, Xue J, Atkinson PM, Liu X, Weiss M (2023) Very fine spatial resolution urban land cover mapping using an explicable sub-pixel mapping network based on learnable spatial correlation. *Remote Sensing of Environment* **299** 113884.

*He H, Sun R (2024) Sentiment variations affected by urban temperature and landscape across China. *Cities* **149** 104933.

He T, Hu Y, Guo A, Chen Y, Yang J, Li M, Zhang M (2024) Quantifying the impact of urban trees on land surface temperature in global cities. *ISPRS Journal of Photogrammetry and Remote Sensing* **210** 69-79.

He X, Wang D, Gao S, Li X, Chang G, Jia X, Chen Q (2024) The anisotropy of MODIS LST in urban areas: A perspective from different time scales using model simulations. *ISPRS Journal of Photogrammetry and Remote Sensing* **209** 448-460.

He Y, Wang J, Zhang Y, Liao C (2024) An efficient urban flood mapping framework towards disaster response driven by weakly supervised semantic segmentation with decoupled training samples. *ISPRS Journal of Photogrammetry and Remote Sensing* **207** 338-358.

Hegarty JD, Lewis J, McGrath-Spangler EL, Henderson J, Scarino AJ, DeCola P, Ferrare R, Hicks M, Adams-Selin RD, Welton EJ (2018) Analysis of the planetary boundary layer height during DISCOVER-AQ Baltimore-Washington, D.C., with Lidar and high-resolution WRF modeling. *Journal of Applied Meteorology and Climatology* **57** 2679-2696.

Hegeman EE, Levin PS (2023) Using human health disparities and salmon health to guide spatial prioritization of green stormwater infrastructure. *Landscape and Urban Planning* **240** 104905.

Hendricks EA, Knievel JC, Wang Y (2020) Addition of multilayer urban canopy models to a nonlocal planetary boundary layer parameterization and evaluation using ideal and real cases. *Journal of Applied Meteorology and Climatology* **59** 1369-1392.

Hendrik JB, Hodaya B-G, Tal S (2019) GIS-based hydrological modelling to assess runoff yields in ancient-agricultural terraced wadi fields (central Negev desert). *Journal of Arid Environments* **166** 91-107.

Hirschfeld D, Boyle R, Nicholls RJ, Behar D, Esteban M, Hinkel J, Smith G, Hanslow DJ (2024) Practitioner needs to adapt to Sea-Level Rise: Distilling information from global workshops. *Climate Services* **34** 100452.

Hong D, Zhang B, Li H, Li Y, Yao J, Li C, Werner M, Chanussot J, Zipf A, Zhu XX (2023) Cross-city matters: A multimodal remote sensing benchmark dataset for cross-city semantic segmentation using high-resolution domain adaptation networks. *Remote Sensing of Environment* **299** 113856.

Hope Akwensi P, Bharadwaj A, Wang R (2024) APC2Mesh: Bridging the gap from occluded building façades to full 3D models. *ISPRS Journal of Photogrammetry and Remote Sensing* **211** 438-451.

Hope AP, Lopez-coto I, Hajny K, Tomlin JM, Kaeser R, Stirm R, Karion A, Shepson PB (2024) Analyzing "Gray Zone" Turbulent Kinetic Energy Predictions in the Boundary Layer from Three WRF PBL Schemes over New York City and Comparison with Aircraft Measurements. *Journal of Applied Meteorology and Climatology* **63** 125-142.

Hosseini M, Erba S, Hajialigol P, Aghaei M, Moazami A, Nik VM (2024) Enhancing climate resilience in buildings using Collective Intelligence: A pilot study on a Norwegian elderly care center. *Energy and Buildings* **308** 114030.

Howell A (2024) Spatioethnic Household Carbon Footprints in China and the Equity Implications of Climate Mitigation Policy: A Machine Learning Approach. *Annals of the American Association of Geographers* **114** 958-976.

Hu C, Kikumoto H, Zhang B, Jia H (2024) Fast estimation of airflow distribution in an urban model using generative adversarial networks with limited sensing data. *Building and Environment* **249** 111120.

Hu C, Li S, Dong X (2024) A new method for evaluate the cold island effect in cities. *Urban Climate* **54** 101846.

Hu J, Fan T, Tang X, Yang Z, Ren Y (2024) Nonlinear relations of urban morphology to thermal anomalies: A cross-time comparative study based on Grad-CAM and SHAP. *Ecological Indicators* **162** 112024.

Hu K, Zhang Z, Li Y, Wang S, Ye T, Song J, Zhang Y, Wei J, Cheng J, Shen Y, Pan J, Fu J, Qi J, Guo Y, Zeng Y, Yao Y (2023) Urban overall and visible greenness and diabetes among older adults in China. *Landscape and Urban Planning* **240** 104881.

Hu Y, Almkvist E, Gustavsson T, Bogren J (2019) Modeling road surface temperature from air temperature and geographical parameters-Implication for the application of floating car data in a road weather forecast model. *Journal of Applied Meteorology and Climatology* **58** 1023-1038.

Hu Y, Tan J, Grimmond S, Ao X, Yan Y, Liu D (2022) Observed and Modeled Urban Heat Island and Sea-Breeze Circulation Interactions: A Shanghai Case Study. *Journal of Applied Meteorology and Climatology* **61** 239-259.

Huang A, Cheng W, Chu M, Wang G, Yang H, Zhang L (2024) A comprehensive attribution analysis of PM2.5 in typical industrial cities during the winter of 2016-2018: Effect of meteorology and emission reduction. *Atmospheric Research* **299** 107181.

Huang J, Tang X, Jones P, Hao T, Tundokova R, Walmsley C, Lannon S, Frost P, Jackson J (2024) Mapping pedestrian heat stress in current and future heatwaves in Cardiff, Newport, and Wrexham in Wales, UK. *Building and Environment* **251** 111168.

Huang L, Chen X, Ye C, Yuan Z, He K (2024) Multiscale effects and drivers of landscape heterogeneity for water-related ecosystem services in urban agglomerations. *Hydrological Processes* **38** e15081.

Huang R, Zhang X, Liu K (2024) Assessment of operational carbon emissions for residential buildings comparing different machine learning approaches: A study of 34 cities in China. *Building and Environment* **250** 111176.

Huang X, Li C, Pan C, Li Y, Zheng W, Lin G, Li H, Zhang Y, Wang J, Lei Y, Ye J, Ge X, Zhang H (2024) Effects of significant emission changes on PM2.5 chemical composition and optical properties from 2019 to 2021 in a typical industrial city of eastern China. *Atmospheric Research* **301** 107287.

Huang Z, Zhong L, Zhao F, Wu J, Tang H, Lv Z, Xu B, Zhou L, Sun R, Meng R (2023) A spectral-temporal constrained deep learning method for tree species mapping of plantation forests using time series Sentinel-2 imagery. *ISPRS Journal of Photogrammetry and Remote Sensing* **204** 397-420.

Huo L (2024) Haze pollution and urban sprawl: An empirical analysis based on panel simultaneous equation model. *Plos One* **19** e0296814.

Ibrahim MO, Robert CB (2021) The utility of combining optical and thermal images in monitoring agricultural drought in semiarid mediterranean environments. *Journal of Arid Environments* **189** 104499.

Ibrahim WA, Gumus V, Seker M (2024) Investigating future projection of precipitation over iraq using artificial neural network based downscaling. *Italian Journal of Agrometeorology* 79–94.

Ismael DS, Goran SMA (2024) Health risk assessment of heavy metals in some vegetables-Erbil City-Kurdistan Region of Iraq. *Environmental Monitoring and Assessment* **196** 417.

Ismail WHW, Mohamad MF, Ikegaya N, Chung J, Hirose C, Abd Razak A, Azmi AM (2024) Comprehensive comparisons of RANS, LES, and experiments over cross-ventilated building under sheltered conditions. *Building and Environment* **254** 111402.

Istrate A-L, Hamel P (2023) Urban Nature Games for integrating nature-based solutions in urban planning: A review. *Landscape and Urban Planning* **239** 104860.

Ito Y, Sasaki K (2024) Effect of modelled areas and inflow turbulence on the wind characteristics over a densely built-up city. *Journal of Wind Engineering and Industrial Aerodynamics* **245** 105646.

Jaafar W, Xu J, Farrar E, Jeong C-H, Ganji A, Evans G, Hatzopoulou M (2024) Challenges and opportunities of low-cost sensors in capturing the impacts of construction activities on neighborhood air quality. *Building and Environment* **254** 111363.

Jacobs S, Gallant A, Tapper N, Li D (2018) Use of cool roofs and vegetation to mitigate urban heat and improve human thermal stress in Melbourne, Australia. *Journal of Applied Meteorology and Climatology* **57** 1747-1764.

Jashim ZB, Shahrukh S, Hossain SA, E-Gulshan J, Huda MN, Islam MM, Hossain ME (2024) Biomonitoring potentially toxic elements in atmospheric particulate matter of greater Dhaka region using leaves of higher plants. *Environmental Monitoring and Assessment* **196** 468.

Jayalath A, Vaz-Serra P, Hui FKP, Aye L (2024) Thermally comfortable energy efficient affordable houses: A review. *Building and Environment* **256** 111495.

Jayasinghe S, Jayasooriya V, Dassanayake SM, Muthukumaran S (2024) Effects of street tree configuration and placement on roadside thermal environment within a tropical urban canyon. *International Journal of Biometeorology* **68** 1133-1142.

Ji X, Dong W, Wang W, Dai X, Huang H (2024) Impacts of Climate Change on Extreme Precipitation Events and Urban Waterlogging: A Case Study of Beijing. *Natural Hazards Review* **25**

Ji Y, Zhan W, Du H, Wang S, Li L, Xiao J, Liu Z, Huang F, Jin J (2023) Urban-rural gradient in vegetation phenology changes of over 1500 cities across China jointly regulated by urbanization and climate change. *ISPRS Journal of Photogrammetry and Remote Sensing* **205** 367-384.

Jia S, Wang Y, Wong NH, Tan CL, Chen S, Weng Q, Mak CM (2024) Estimation of mean radiant temperature across diverse outdoor spaces: A comparative study of different modeling approaches. *Energy and Buildings* **310** 114068.

Jia Y, Chen Z, Lu X, Sheng S, Huang J, Wang Y (2024) The degradation and marginal effects of green space under the stress of urban sprawl in the metropolitan area. *Urban Forestry & Urban Greening* **95** 128318.

Jiang H, Xu L, Li J, Liu J, Shen Y (2024) Enhancing Urban Resilience Through Spatial Interaction-Based City Management Zoning. *Annals of the American Association of Geographers*

Jiang J, Pan W, Zhang R, Hong Y, Wang J (2024) Thermal comfort study of urban waterfront spaces in cold regions: Waterfront skyline control based on thermal comfort objectives. *Building and Environment* **256** 111515.

Jiang S, Zhan W, Li L, Wang C, Dong P, Wang S, Ji Y, Huang F, Liu Z, Gao Y (2024) Contrasting moist heat across local climate zones in heat and non-heat waves: Insights from 29 Chinese metropolises. *Building and Environment* **253** 111328.

Jiang T, Wang Y, Liu S, Zhang Q, Zhao L, Sun J (2023) Instance recognition of street trees from urban point clouds using a three-stage neural network. *ISPRS Journal of Photogrammetry and Remote Sensing* **199** 305-334.

Jimenez MB, Venegas MM (2023) A climate justice approach to urbanisation processes in the South: Oil axis in Ecuador. *Landscape and Urban Planning* **239** 104845.

Jin X, Chen B, Wang W (2024) The rooftop cooling potentials of evaporative cooling porous tiles and high reflective coatings in hot and humid regions. *Urban Climate* **55** 101889.

Jones L, Fletcher D, Fitch A, Kuyer J, Dickie I (2024) Economic value of the hot-day cooling provided by urban green and blue space. *Urban Forestry & Urban Greening* **93** 128212.

*Joshi A, Viswanathan SH, Jaiswal AK, Sadeghi K, Bartels L, Jain RM, Pathikonda G, Vanos JK, Middel A, Rykaczewski K (2024) Characterization of human extreme heat exposure using an outdoor thermal manikin. *Science of the Total Environment* **923** 171525.

Ju Y, Dronova I, Rodriguez DA, Bakhtsiyarava M, Farah I (2023) Recent greening may curb urban warming in Latin American cities of better economic conditions. *Landscape and Urban Planning* **240** 104896.

Juma B, Olang LO, Hassan MA, Chasia S, Mulligan J, Shiundu PM (2023) Flooding in the urban fringes: Analysis of flood inundation and hazard levels within the informal settlement of Kibera in Nairobi, Kenya. *Physics and Chemistry of the Earth* **132** 103499.

Kaine G, Stronge D, Wright V (2024) Predicting people's motivation to engage in urban predator control. *Urban Ecosystems* **27** 173-186.

Kajosaari A, Hasanzadeh K, Fagerholm N, Nummi P, Kuusisto-Hjort P, Kytta M (2024) Predicting context-sensitive urban green space quality to support urban green infrastructure planning. *Landscape and Urban Planning* **242** 104952.

*Katzfey J, Schlünzen H, Hoffmann P, Thatcher M (2020) How an urban parameterization affects a high-resolution global climate simulation. *Quarterly Journal of the Royal Meteorological Society* **146** 3808-3829.

*Kala K, Bolia NB (2024) Empowering the informal sector in urban waste management: Towards a comprehensive waste management policy for India. *Environmental Development* **49** 100968.

Kamjou E, Scott M, Lennon M (2024) A bottom-up perspective on green infrastructure in informal settlements: Understanding nature's benefits through lived experiences. *Urban Forestry & Urban Greening* **94** 128231.

Kanayama H, Kusaka Y, Inoue H, Hirai T, Agishi Y, Schuh A (2024) Benefits of an accelerated climatotherapy programme for busy people: comparisons according to area and season. *International Journal of Biometeorology* **68** 367-380.

Kapwata T, Abdelatif N, Scovronick N, Gebreslasie MT, Acquaotta F, Wright CY (2024) Identifying heat thresholds for South Africa towards the development of a heat-health warning system. *International Journal of Biometeorology* **68** 381-392.

Karaca C (2023) Estimation of daily global solar radiation based on different whitening applications using temperature in Mediterranean type greenhouses. *Italian Journal of Agrometeorology* 79–93.

Karimian Z, Farashi A (2021) Predicting the potential habitat of Russian-Olive (Elaeagnus angustifolia) in urban landscapes. *Italian Journal of Agrometeorology* 3–19.

Katata G, Connolly R, O'neill P (2023) Evidence of Urban Blending in Homogenized Temperature Records in Japan and in the United States: Implications for the Reliability of Global Land Surface Air Temperature Data. *Journal of Applied Meteorology and Climatology* **62** 1095-1114.

Katz DSW, Robinson GS, Ellis A, Nowak DJ (2024) The effects of tree planting on allergenic pollen production in New York City. *Urban Forestry & Urban Greening* **92** 128208.

Ki D, Park K, Chen Z (2023) Bridging the gap between pedestrian and street views for human-centric environment measurement: A GIS-based 3D virtual environment. *Landscape and Urban Planning* **240** 104873.

Kiani B, Thierry B, Fuller D, Firth C, Winters M, Kestens Y (2023) Gentrification, neighborhood socioeconomic factors and urban vegetation inequities: A study of greenspace and tree canopy increases in Montreal, Canada. *Landscape and Urban Planning* **240** 104871.

Kikuchi T, Ohtake K, Takahashi Y, Watanabe H, Hidari K, Tanabe S-i, Nobe T (2024) Comparison of wind pressure coefficients between wind tunnel experiments and full-scale measurements using operational data from an urban high-rise building. *Building and Environment* **252** 111244.

Kılkış Ş, Ulpiani G, Vetters N (2024) Visions for climate neutrality and opportunities for co-learning in European cities. *Renewable and Sustainable Energy Reviews* **195** 114315.

Kim J, Song Y (2023) Integrating ecosystem services and ecological connectivity to prioritize spatial conservation on Jeju Island, South Korea. *Landscape and Urban Planning* **239** 104865.

Kim S, Ko Y, Jang K (2024) Air pollution, perceived health risk, and trip decision-making: Environmental justice considerations. *Cities* **149** 104949.

Kingfield D, Calhoun K, de Beurs K, Henebry G (2018) Effects of city size on thunderstorm evolution revealed through a multiradar climatology of the central United States. *Journal of Applied Meteorology and Climatology* **57** 295-317.

Kingsberry I, Naylor J (2024) Investigating Possible Urban-Induced Precipitation Variations around Louisville, Kentucky. *Journal of Applied Meteorology and Climatology* **63** 425-436.

Kitta E, Katsoulas N (2020) Effect of shading on photosynthesis of greenhouse hydroponic cucumber crops. *Italian Journal of Agrometeorology* 41–48.

Kittas C, Baudoin W, Kitta E, Katsoulas N (2023) Sheltered horticulture adapted to different climate zones in Radhort Countries. *Italian Journal of Agrometeorology* 3–16.

Knapp JLA, Kelleher C (2023) The heat is on: Predicting urban stream temperature responses to summer storms. *Hydrological Processes* **37** e15033.

Koc I, Canturk U, Isinkaralar K, Ozel HB, Sevik H (2024) Assessment of metals (Ni, Ba) deposition in plant types and their organs at Mersin City, Türkiye. *Environmental Monitoring and Assessment* **196** 282.

Kohyt J, Karczmarz J, Pereswiet-Soltan A, Pierzchala E (2024) Spatiotemporal use of urban rivers by local bat populations in a large city (Cracow, Southern Poland). *Urban Ecosystems*

Konarska J, Tarvainen L, Backlin O, Rantfors M, Uddling J (2023) Surface paving more important than species in determining the physiology, growth and cooling effects of urban trees. *Landscape and Urban Planning* **240** 104872.

*Koopmans S, van Haren R, Theeuwes N, Ronda R, Uijlenhoet R, Holtslag AAM, Steeneveld G-J (2023) The set-up and evaluation of fine-scale data assimilation for the urban climate of Amsterdam. *Quarterly Journal of the Royal Meteorological Society* **149** 171-191.

Kormecli PS, Guendogan GS (2024) Assessment of vegetation change using NDVI, LST, and carbon analyses in Çankırı Karatekin University, Turkey. *Environmental Monitoring and Assessment* **196** 331.

Kosma M, Laita A, Duflot R (2023) No net loss of connectivity: Conserving habitat networks in the context of urban expansion. *Landscape and Urban Planning* **239** 104847.

Kotharkar R, Dongarsane P (2024) Investigating outdoor thermal comfort variations across Local Climate Zones in Nagpur, India, using ENVI-met. *Building and Environment* **249** 111122.

Kowarik I (2023) Urban biodiversity, ecosystems and the city. Insights from 50 years of the Berlin School of urban ecology. *Landscape and Urban Planning* **240** 104877.

Kreutz A (2024) Student and senior views on sustainable park design and intergenerational connection: A case study of an urban nature park. *Landscape and Urban Planning* **241** 104920.

Kumar SV (2024) Multi-view Stacked CNN-BiLSTM (MvS CNN-BiLSTM) for urban PM2.5 concentration prediction of India's polluted cities. *Journal of Cleaner Production* **444** 141259.

*Kunda JJ, Gosling SN, Foody GM (2024) The effects of extreme heat on human health in tropical Africa. *International Journal of Biometeorology* **68** 991-1004.

Kuttippurath J, Patel VK, Kashyap R, Singh A, Clerbaux C (2024) Anomalous increase in global atmospheric ammonia during COVID-19 lockdown: Need policies to curb agricultural emissions. *Journal of Cleaner Production* **434** 140424.

Kwon R, Ryu Y, Yang T, Zhong Z, Im J (2023) Merging multiple sensing platforms and deep learning empowers individual tree mapping and species detection at the city scale. *ISPRS Journal of Photogrammetry and Remote Sensing* **206** 201-221.

Kytta M, Randrup T, Sunding A, Rossi S, Harsia E, Palomaki J, Kajosaari A (2023) Prioritizing participatory planning solutions: Developing place-based priority categories based on public participation GIS data. *Landscape and Urban Planning* **239** 104868.

Laaboudi A, Slama A (2021) Using Neuro-fuzzy and linear models to estimate reference Evapotranspiration in South region of Algeria (A comparative study). *Italian Journal of Agrometeorology* 55–64.

Lagmiri S, Dahech S (2023) Weather Types and Their Influence on PM10 and O3 Urban Concentrations in the Cergy-Pontoise Conurbation. *Journal of Applied Meteorology and Climatology* **62** 549-561.

Lai Y, Dzombak DA (2021) Use of integrated global climate model simulations and statistical time series forecasting to project regional temperature and precipitation. *Journal of Applied Meteorology and Climatology* **60** 695-710.

Lampinen J, Garcia-Antunez O, Lechner AM, Olafsson AS, Gulsrud NM, Raymond CM (2023) Mapping public support for urban green infrastructure policies across the biodiversity-climate-society-nexus. *Landscape and Urban Planning* **239** 104856.

Lao IR, Abraham C, Wiebe E, Monahan AH (2022) Temporal and Spatial Structure of Nocturnal Warming Events in a Midlatitude Coastal City. *Journal of Applied Meteorology and Climatology* **61** 1139-1157.

Laszkiewicz E, Kronenberg J, Mohamed AA, Roitsch D, De Vreese R (2023) Who does not use urban green spaces and why? Insights from a comparative study of thirty-three European countries. *Landscape and Urban Planning* **239** 104866.

Laxmi KS, Alok R, Kritika S (2021) Spatio-temporal assessment of Environmentally Sensitive Areas (ESA) in The Thar Desert India, to combat desertification under UNCCD framework. *Journal of Arid Environments* **194** 104609.

Lee G-J, Muñoz-Esparza D, Yi C, Choe HJ (2019) Application of the cell perturbation method to large-eddy simulations of a real urban area. *Journal of Applied Meteorology and Climatology* **58** 1125-1139.

Lee K, Wylie B, Williams NSG, Johnson KA, Sargent LD, Williams KJH (2024) "It's a little soap opera of its own": Fascinating green roofs offer complexity, movement, sensory engagement, and vast vistas. *Landscape and Urban Planning* **242** 104925.

Lee S, Lee S, Lee J, Son Y, Yoon TK (2024) Estimating aboveground volume of diverse urban tree species: Developing allometric equations for higher taxonomic levels. *Urban Forestry & Urban Greening* **94** 128256.

Lee TR, Pal S (2021) The impact of height-independent errors in state variables on the determination of the daytime atmospheric boundary layer depth using the bulk richardson approach. *Journal of Atmospheric and Oceanic Technology* **38** 47-61.

Lee Y, Son B, Im J, Zhen Z, Quackenbush LJ (2024) Two-step carbon storage estimation in urban human settlements using airborne LiDAR and Sentinel-2 data based on machine learning. *Urban Forestry & Urban Greening* **94** 128239.

Leeper RD, Kochendorfer J, Henderson TA, Palecki MA (2019) Impacts of small-scale urban encroachment on air temperature observations. *Journal of Applied Meteorology and Climatology* **58** 1369-1380.

Legg R, Kabisch N (2024) The effects of allergenic pollen in green space on mental health, behaviour and perceptions: A systematic review. *Urban Forestry & Urban Greening* **92** 128204.

Lei B, Liu P, Milojevic-Dupont N, Biljecki F (2024) Predicting building characteristics at urban scale using graph neural networks and street-level context. *Computers, Environment and Urban Systems* **111** 102129.

Leigh G, Leigh A (2024) Leafy localities, longer lives: A cross-sectional and spatial analysis. *Landscape and Urban Planning* **242** 104947.

Lemoine-Rodriguez R, Garcia-Arroyo M, Gomez-Martinez MA, Back M, Lindeman T, MacGregor-Fors I (2024) Unveiling urban ecological integrity: spatially explicit assessment in contrasting environments. *Urban Ecosystems*

Lemonsu A, De Munck C, Redon E, Masson V, Keravec P, Rodriguez F, Pineau L, Legain D (2022) Influence of the Local Urban Environment on the Thermoradiative and Hydrological Behavior of a Garden Lawn. *Journal of Applied Meteorology and Climatology* **61** 25-42.

Letmathe P, Paegert M (2024) External effects of urban automated vehicles on sustainability. *Journal of Cleaner Production* **434** 140257.

Li B, Ni J, Liu J, Zhao Y, Liu L, Jin J, He C (2024) Spatiotemporal patterns of surface ozone exposure inequality in China. *Environmental Monitoring and Assessment* **196** 265.

Li B, Xie H, Liu S, Sun Y, Xu Q, Tong X (2023) Correction of ICESat-2 terrain within urban areas using a water pump deployment criterion with the vertical contour of the terrain. *Remote Sensing of Environment* **298** 113817.

Li C, Chen F, Wang N, Yu B, Wang L (2023) SDGSAT-1 nighttime light data improve village-scale built-up delineation. *Remote Sensing of Environment* **297** 113764.

Li C, Zhang N, Ren K, Zhao W, Wu J, Sun Y (2024) Biophysical Drivers of Seasonal Hysteresis of Urban Heat Islands Across Climates and Urban Landscapes. *Journal of Geophysical Research-atmospheres* **129** e2023JD040446.

Li D, Zuo Q, Jiang E, Zhang Z, Wu Q, Wang Y (2024) An integrated water resources management model considering carbon source and sink under uncertainty:

A case study of agricultural water-dominated basin. *Journal of Cleaner Production* **436** 140667.

Li J, Xiao Z, Sun R, Song J (2023) A method to estimate leaf area index from VIIRS surface reflectance using deep transfer learning. *ISPRS Journal of Photogrammetry and Remote Sensing* **202** 512-527.

Li P, Sharma A (2024) Hyper-Local Temperature Prediction Using Detailed Urban Climate Informatics. *Journal of Advances in Modeling Earth Systems* **16** e2023MS003943.

*Li P, Wang Z-H, Wang C (2024) The potential of urban irrigation for counteracting carbon-climate feedback. *Nature Communications* **15** 2437.

Li Q, Bou-Zeid E, Grimmond S, Zilitinkevich S, Katul G (2020) Revisiting the relation between momentum and scalar roughness lengths of urban surfaces. *Quarterly Journal of the Royal Meteorological Society* **146** 3144-3164.

Li Q, Yan Y (2024) Street tree segmentation from mobile laser scanning data using deep learning-based image instance segmentation. *Urban Forestry & Urban Greening* **92** 128200.

Li T, Liu Q, Wang X, Gao J, Li G, Mao Q (2024) A comprehensive comparison study on household solar-assisted heating system performance in the hot summer and cold winter zone in China. *Journal of Cleaner Production* **434** 140396.

Li T, Ye A, Zhang Y, Zhu L (2024) The spatial correlation network structure and its formation mechanism of urban high-quality economic development: a comparative analysis from the Yangtze River Economic Belt and the Yellow River Basin in China. *Environmental Science and Pollution Research*

Li W, Mak CM, Cai C, Fu Y, Tse KT, Niu J (2024) Wind tunnel measurement of pedestrian-level gust wind flow and comfort around irregular lift-up buildings within simplified urban arrays. *Building and Environment* **256** 111487.

Li W, Sun K, Li W, Huang X, Wei J, Chen Y, Cui W, Chen X, Lv X (2024) Assisted learning for land use classification: The important role of semantic correlation between heterogeneous images. *ISPRS Journal of Photogrammetry and Remote Sensing* **208** 158-175.

Li X, Han S, Wang P, Mei H, Ning Z, Dong F, Cui L, Huang Y, Wang T, Leu S-Y, others (2024) Application of roadside air purifiers in urban street canyons: A pilot-scale study in Hong Kong. *Science of the Total Environment* **912** 168671.

Li X, Li Y, Zheng S, Chen G, Zhao P, Wang C (2024) High efficiency integrated urban flood inundation simulation based on the urban hydrologic unit. *Journal of Hydrology* **630** 130724.

Li X"C, Zhao L, Oleson K, Zhou Y, Qin Y, Zhang K, Fang B (2024) Enhancing Urban Climate-Energy Modeling in the Community Earth System Model (CESM) Through Explicit Representation of Urban Air-Conditioning Adoption. *Journal of Advances in Modeling Earth Systems* **16** e2023MS004107.

Li Y, Lin G (2024) Demand-side effects of urban green spaces: How attractiveness helps overcome subjective barriers to health behaviours. *Urban Forestry & Urban Greening* **94** 128277.

Li Y, Qiao X, Wang Y, Liu L (2023) Spatiotemporal patterns and influencing factors of remotely sensed regional heat islands from 2001 to 2020 in Zhengzhou Metropolitan area. *Ecological Indicators* **155** 111026.

Li Y, Ren C, Ho JY-e, Shi Y (2023) Landscape metrics in assessing how the configuration of urban green spaces affects their cooling effect: A systematic review of empirical studies. *Landscape and Urban Planning* **239** 104842.

*Li Z, Luo Y, Chen F (2024) Analysis of Uncertainties and Associated Convective Processes in Simulations of Extreme Precipitation Over Cities With a Regional Earth System Model: A Case Study. *Journal of Geophysical Research-atmospheres* **129** e2023JD040606.

Li Z, Wu B, Li Y, Chen Z (2023) Fusion of aerial, MMS and backpack images and point clouds for optimized 3D mapping in urban areas. *ISPRS Journal of Photogrammetry and Remote Sensing* **202** 463-478.

Li Z, Wu J (2024) Spatial-temporal characteristics and influencing factors of carbon emission in Chengdu-Chongqing area: an urban transportation perspective. *Environmental Science and Pollution Research*

Li Z, Zhou L, Hong X, Qiu S (2024) Outdoor thermal comfort and activities in urban parks: An experiment study in humid subtropical climates. *Building and Environment* **253** 111361.

*Liang P, Zhang Z, Ding Y, Hu ZZ, Chen Q (2024) The 2022 Extreme Heatwave in Shanghai, Lower Reaches of the Yangtze River Valley: Combined Influences of Multiscale Variabilities. *Advances in Atmospheric Sciences* **41** 593-607.

Liao Q, Li T, Liu D (2024) Evolutionary patterns and influencing factors of relationships among ecosystem services in the hilly red soil region of Southern China. *Environmental Monitoring and Assessment* **196** 360.

Liao Y, Zhang X, Huang N, Fu C, Huang Z, Cao Q, Xu Z, Xiong X, Cai S (2024) High completeness multi-view stereo for dense reconstruction of large-scale urban scenes. *ISPRS Journal of Photogrammetry and Remote Sensing* **209** 173-196.

Lima LHV, da Silva FBV, Araujo PRM, Alvarez AM, Porto KC, do Nascimento CWA (2024) Assessing heavy metal contamination in a Brazilian metropolis: a case study with a focus on (bio)indicators. *Environmental Monitoring and Assessment* **196** 481.

Lin B, Qi F, An X, Zhao C, Gao Y, Liu Y, Zhong Y, Qiu B, Wang Z, Hu Q, Li C, Sun D (2024) Review: The application of source analysis methods in tracing urban non-point source pollution: categorization, hotspots, and future prospects. *Environmental Science and Pollution Research*

Lin C-Y, Chen WC, Liu SC, Liou YA, Liu GR, Lin TH (2008) Numerical study of the impact of urbanization on the precipitation over Taiwan. *Atmospheric Environment* **42** 2934-2947.

Lin G, Song Y, Xu D, Swapan MSH, Wu P, Hou W, Xiao Z (2024) Interpreting differences in access and accessibility to urban greenspace through geospatial analysis. *International Journal of Applied Earth Observation and Geoinformation* **129** 103823.

Lin G-S, Imhoff R, Schleiss M, Uijlenhoet R (2024) Nowcasting of High-Intensity Rainfall for Urban Applications in the Netherlands. *Journal of Hydrometeorology* **25** 653–672.

Lin P-S, Liu W-L, Chen C-D, Wen T-H, Chen C-H, Chen L-W, Kung Y-H (2024) Micro-scale urbanization-based risk factors for dengue epidemics. *International Journal of Biometeorology* **68** 133-141.

Lin W, Gueneralp B (2024) Influence of urban-form and sociodemographic factors on street tree abundance transpire across scales in Houston, TX. *Urban Forestry & Urban Greening* **94** 128263.

Lindberg F, Lindstrom A, Stalnacke V, Thorsson S, Destouni G (2024) Observations and modelling of mosquito prevalence within urban areas - A case study from Uppsala, Sweden. *Urban Ecosystems*

*Lipson MJ, Grimmond S, Best M, Abramowitz G, Coutts A, Tapper N, Baik J-J, Beyers M, Blunn L, Boussetta S, Bou-Zeid E, De Kauwe MG, de Munck C, Demuzere M, Fatichi S, Fortuniak K, Han B-S, Hendry MA, Kikegawa Y, Kondo H, Lee D-I, Lee S-H, Lemonsu A, Machado T, Manoli G, Martilli A, Masson V, McNorton J, Meili N, Meyer D, Nice KA, Oleson KW, Park S-B, Roth M, Schoetter R, Simón-Moral A, Steeneveld G-J, Sun T, Takane Y, Thatcher M, Tsiringakis A, Varentsov M, Wang C, Wang Z-H, Pitman AJ (2024) Evaluation of 30 urban land surface models in the Urban-PLUMBER project: Phase 1 results. *Quarterly Journal of the Royal Meteorological Society* **150** 126-169.

Lis A, Zalewska K, Iwankowski P, Betkier K, Bilska P, Dudar V, Lagiewka AL (2024) Evaluation of sense of safety and privacy in parks in relation to the topography, the presence of dense vegetation and other people in the area. *Landscape and Urban Planning* **242** 104948.

Liu D, Grimmond C, Tan J, Ao X, Peng J, Cui L, Ma B, Hu Y, Du M (2018) A new model to downscale urban and rural surface and air temperatures evaluated in Shanghai, China. *Journal of Applied Meteorology and Climatology* **57** 2267-2283.

Liu F, Liu J, Zhang Y, Hong S, Fu W, Wang M, Dong J (2024) Construction of a cold island network for the urban heat island effect mitigation. *Science of the Total Environment* **915** 169950.

Liu H, Yu Y, Xia D, Zhao S, Ma X, Dong L (2024) Aerosol optical and radiative characteristics under contrasting pollution conditions in a typical urban valley in Northwestern China. *Atmospheric Research* **300** 107263.

*Liu J, Chai Y, Zheng J, Dai J, Wang Z (2024) Optimizing City-Scale Demolition Waste Supply Chain Under Different Carbon Policies. *Environmental Science and Pollution Research*

Liu J, Zhang Y, Feng Q, Yin G, Zhang D, Li Y, Gong J, Li Y, Li J (2024) Understanding urban expansion and shrinkage via green plastic cover mapping based on GEE cloud platform: A case study of Shandong, China. *International Journal of Applied Earth Observation and Geoinformation* **128** 103749.

Liu M, Wang X, Wang Y (2024) Interactions between aerosols and surface ozone in arid and semi-arid regions of China. *Environmental Monitoring and Assessment* **196** 390.

Liu P, Cheng S, Shang M, Wang Z, Wei S (2024) Determination of the minimum soil infiltration rate of sunken green space considering the annual runoff collection ratio, sunken depth and sunken green space area of Hefei city, China. *Plos One* **19** e0299630.

Liu S, Chen L, Zhang L, Hu J, Fu Y (2023) A large-scale climate-aware satellite image dataset for domain adaptive land-cover semantic segmentation. *ISPRS Journal of Photogrammetry and Remote Sensing* **205** 98-114.

Liu W, Shi N, Wang H, Huang Q (2024) Thermodynamic characteristics of extreme heat waves over the middle and lower reaches of the Yangtze River Basin. *Climate Dynamics*

Liu WY, Liu C-R, Lin C-C (2024) Enhancing Urban Climate resilience: A holistic evaluation of urban forest disservices in the aftermath of typhoons. *Urban Climate* **54** 101857.

Liu X, Li W, Chang R, Shen J, Cui J, Jia X (2024) Examining the influence of location-oriented policies on green transition development of resource-based cities: evidence from China. *Environmental Science and Pollution Research*

Liu X, Mo X, Liu S, Hu S (2024) Spatiotemporal distribution and influencing factors of impervious surface evaporation in the Baiyangdian catchment from

1980 to 2020. *Hydrological Processes* **38** e15059.

Liu X, Zuo L, Hu L, Wang C, Sheng S (2024) Industrial agglomeration, environmental regulation, and carbon emissions reduction under the carbon neutrality goal: Threshold effects based on stages of industrialization in China. *Journal of Cleaner Production* **434** 140064.

Liu Y, Liu R, Qi L, Chen J, Dong J, Wei X (2024) Global mapping of fractional tree cover for forest cover change analysis. *ISPRS Journal of Photogrammetry and Remote Sensing* **211** 67-82.

Liu Y, Pan Z, Liu Y, Li Z (2023) Can living in an age-friendly neighbourhood protect older adults' mental health against functional decline in China? *Landscape and Urban Planning* **240** 104897.

*Liu Z, Ding M, Hu C, Rong R, Lin C, Yao G, Shao X, Jin G (2024) Susceptibility and exposure risk to airborne aerosols in intra-urban microclimate: Evidence from subway system of mega-cities. *Science of the Total Environment* **917** 170514.

Liu Z, Li X (2024) A new sensor configuration design method for source term estimation in urban neighborhood with complex conditions under different wind directions. *Building and Environment* **252** 111210.

Liwur SB, Takyi SA, Asibey MO, Amponsah O (2024) Sustainable functional roles of ecologically sensitive areas in the Greater Kumasi Metropolis of Ghana: exploring local perceptions and attitudes from a socio-economic purview. *Urban Ecosystems* **27** 85-99.

Lopez-Coto I, Hicks M, Karion A, Sakai RK, Demoz B, Prasad K, Whetstone J (2020) Assessment of planetary boundary layer parameterizations and urban heat island comparison: Impacts and implications for tracer transport. *Journal of Applied Meteorology and Climatology* **59** 1637-1653.

Lourdes KT, Gibbins CN, Sherrouse BC, Semmens DJ, Hamel P, Sanusi R, Azhar B, Diffendorfer J, Lechner AM (2024) Mapping development preferences on the perceived value of ecosystem services and land use conflict and compatibility in Greater Kuala Lumpur. *Urban Forestry & Urban Greening* **92** 128183.

*Lu J, Nazarian N, Hart MA, Krayenhoff ES, Martilli A (2024) A one-dimensional urban flow model with an eddy-diffusivity mass-flux (EDMF) scheme and refined turbulent transport (MLUCM v3.0). *Geoscientific Model Development* **17** 2525-2545.

Lu J, Nazarian N, Hart MA, Krayenhoff ES, Martilli A (2024) Representing the effects of building height variability on urban canopy flow. *Quarterly Journal of the Royal Meteorological Society* **150** 46-67.

Lu Y, Chen R, Chen B, Wu J (2024) Inclusive green environment for all? An investigation of spatial access equity of urban green space and associated socioeconomic drivers in China. *Landscape and Urban Planning* **241** 104926.

Lu Y, Monache LD, Weil J, Ngan K, Li Q (2023) Predictability of passive scalar dispersion in atmospheric surface layers with urban-like roughness: A large-eddy simulations study. *Quarterly Journal of the Royal Meteorological Society* **149** 994-1017.

Lu Y, Yu Z, Albertson JD, Chen H, Hu L, Pendergrass A, Chen X, Li Q (2024) Understanding the Influence of Urban Form on the Spatial Pattern of Precipitation. *Earth's Future* **12** e2023EF003846.

Luan C, Liu R, Zhang Q, Sun J, Liu J (2024) Multi-objective land use optimization based on integrated NSGA-II-PLUS model: Comprehensive consideration of economic development and ecosystem services value enhancement. *Journal of Cleaner Production* **434** 140306.

Luan G, Hou J, Wang T, Li D, Zhou Q, Liu L, Duan C (2023) A 1D-2D dynamic bidirectional coupling model for high-resolution simulation of urban water environments based on GPU acceleration techniques. *Journal of Cleaner Production* **428** 139494.

Lugten M, Wuite G, Peng Z, Tenpierik M (2024) Assessing the influence of street canyon shape on aircraft noise: Results from measurements in courtyards near Amsterdam Schiphol Airport. *Building and Environment* **255** 111400.

Lumet E, Jaravel T, Rochoux MC, Vermorel O, Lacroix S (2024) Assessing the Internal Variability of Large-Eddy Simulations for Microscale Pollutant Dispersion Prediction in an Idealized Urban Environment. *Boundary-layer Meteorology* **190** 9.

Luo C, Yu H, Liu Y, Yang W (2024) Supply and demand assessment of physical activity services provided by urban green spaces: A case study of Chongqing, China. *Urban Forestry & Urban Greening* **95** 128315.

Luo H, Gao X, Liu Z, Liu W, Li Y, Meng X, Yang X, Yan J, Sun L (2024) Real-time Characterization Model of Carbon Emissions Based on Land-use Status: A Case Study of Xi'an City, China. *Journal of Cleaner Production* **434** 140069.

Luo Z, Liu J, Zhang S, Shao W, Zhou J, Zhang L (2023) Impact of urbanization factors considering artificial water dissipation on extreme precipitation: A numerical simulation of rainfall in Shanghai. *Quarterly Journal of the Royal Meteorological Society* **149** 2320-2332.

Luong TM, Dasari HP, Hoteit I (2020) Impact of urbanization on the simulation of extreme rainfall in the City of Jeddah, Saudi Arabia. *Journal of Applied Meteorology and Climatology* **59** 953-971.

Lupi Edao A, Dechassa N, Merga F, Alemayehu Y, Abebe T

(2024) Analysis of projected climate change in sorghum growing semi-arid rift valley of Ethiopia. *Italian Journal of Agrometeorology* 49–68.

Lyu H, Wang W, Zhang K, Cao C, Xiao W, Lee X (2024) Factors Influencing the Spatial Variability of Air Temperature Urban Heat Island Intensity in Chinese Cities. *Advances in Atmospheric Sciences* **41** 817-829.

Lyu R, Zhang J, Pang J, Zhang J (2024) Modeling the impacts of 2D/3D urban structure on PM2.5 at high resolution by combining UAV multispectral/LiDAR measurements and multi-source remote sensing images. *Journal of Cleaner Production* **437** 140613.

Ma CY, Yang C (2024) The moderating effects of mobile applications on the use of urban green space and mental health of older people: A mixed-method investigation in Hong Kong(vol 91,128182, 2024). *Urban Forestry & Urban Greening* **93** 128201.

Ma H, Jing C, Hu A, Ma L (2024) Evaluation of characteristics on the indoor dwelling environments of traditional villages in Hehuang area of China based on basic environmental parameters under remote sensing technology. *Physics and Chemistry of the Earth* **134** 103547.

Ma L, Yan Z, He W, Lv L, He G, Li M (2023) Towards better exploiting object-based image analysis paradigm for local climate zones mapping. *ISPRS Journal of Photogrammetry and Remote Sensing* **199** 73-86.

Ma S, Pitman A, Yang J, Carouge C, Evans J, Hart M, Green D (2018) Evaluating the effectiveness of mitigation options on heat stress for Sydney, Australia. *Journal of Applied Meteorology and Climatology* **57** 209-220.

Ma X, Liu C, Niu Y, Zhang Y (2024) Spatio-temporal pattern and prediction of agricultural blue and green water footprint scarcity index in the lower reaches of the Yellow River Basin. *Journal of Cleaner Production* **437** 140691.

*Ma X, Yang B, Dai G, Lin H, Yang X, Qian Y, Zhang Y, Huang A (2024) Contrasting Effects of Urban Land Cover Change and Anthropogenic Heat on Summer Precipitation Over the Yangtze River Delta of China: Analyses From an Atmospheric Moisture Budget Perspective. *Journal of Geophysical Research-atmospheres* **129** e2023JD039430.

*Ma YX, Yu AC (2024) Impact of urban heat island on high-rise residential building cooling energy demand in Hong Kong. *Energy and Buildings* **311** 114127.

Ma Z, Zhai C, Ren Z, Zhang D, Hu N, Zhang P, Guo Y, Wang C, Hong S, Hong W (2024) Spatial pattern of urban forest diversity and its potential drivers in a snow climate city, Northeast China. *Urban Forestry & Urban Greening* **94** 128260.

Machado CB, Campos TLOB, Abou Rafee SA, Martins JA, Grimm AM, De Freitas ED (2021) Extreme rainfall events in the macrometropolis of São Paulo: Trends and connection with climate oscillations. *Journal of Applied Meteorology and Climatology* **60** 661-675.

Machon M (2024) Community forestry in the Czech Republic - A historical throwback or a step forward? *Urban Forestry & Urban Greening* **94** 128227.

Mahdavinejad M, Shaeri J, Nezami A, Goharian A (2024) Comparing universal thermal climate index (UTCI) with selected thermal indices to evaluate outdoor thermal comfort in traditional courtyards with BWh climate. *Urban Climate* **54** 101839.

Mahmoud I, Morello E, Bisello A, Kolokotsa D (2024) Embedding technologies for improving Nature-Based Solutions performance and fostering social inclusion in urban greening strategies: Augmented NBS for cities. *Urban Forestry & Urban Greening* **93** 128215.

Mahsa T, Ahmad H, Farzin EN (2020) The Effects of Parks' Landscape Characteristics on Women's Perceptual Preferences in Semi-arid environments. *Journal of Arid Environments* **174** 104080.

Mai B, Diao Y, Yang H, Deng T, Zou Y, Wang Y, Lan W, Liu X, Deng X (2024) Assessing atmospheric CO 2 concentrations and contributions from biogenic and anthropogenic sources in the Pearl River Delta region. *Urban Climate* **54** 101864.

Maisha RT, Ndarana T, Engelbrecht FA, Thatcher M, Bopape M-JM, van der Merwe J, Padayachi Y, Masemola AC (2023) Simulation of the eThekwini Heat Island in South Africa. *Journal of Applied Meteorology and Climatology* **62** 589-609.

Malik IH, Ford JD (2024) Addressing the Climate Change Adaptation Gap: Key Themes and Future Directions. *Climate* **12** 24.

Malin JT, Kaushal SS, Mayer PM, Maas CM, Hohman SP, Rippy MA (2024) Longitudinal stream synoptic (LSS) monitoring to evaluate water quality in restored streams. *Environmental Monitoring and Assessment* **196** 437.

Maltare NN, Vahora S, Jani K (2024) Seasonal analysis of meteorological parameters and air pollutant concentrations in Kolkata: An evaluation of their relationship. *Journal of Cleaner Production* **436** 140514.

Manirathinam T, Narayanamoorthy S, Geetha S, Ahmadian A, Ferrara M, Kang D (2024) Assessing performance and satisfaction of micro-mobility in smart cities for sustainable clean energy transportation using novel APPRESAL method. *Journal of Cleaner Production* **436** 140372.

Mariano AMC, Domingos-Melo A, da Silva EG, dos Santos AM, Ribeiro MdF, Milet-Pinheiro P (2024) Where the risk is more intense: riparian forests keep the euglossine bees community most affected by anthropic disturbance in the Caatinga dry forest. *Urban Ecosystems*

Marin C, Couderchet L, Le Campion G, Werno J (2024) Wildlife and the city. Modelling wild boar use of urban nature: Empirical contribution, methodological proposal. *Urban Ecosystems*

Marques P, Chin ATM, Ruppert JLW, Mandrak NE (2024) The luxury effect in urban aquatic ecosystems: exploring drivers of change. *Urban Ecosystems*

*Marquet O, Mojica L, Fernandez-Nunez M, Maciejewska M (2024) Pathways to 15-Minute City adoption: Can our understanding of climate policies' acceptability explain the backlash towards x-minute city programs? *Cities* **148** 104878.

Martin AJF (2024) Experiential learning in a problem-based course on urban forest planning and management. *Urban Forestry & Urban Greening* **95** 128283.

Martin AJF, Olson LG, Almas AD (2024) Knowledge translation for the advancement of practice: A survey of facilitators and barriers in arboriculture and urban forestry. *Urban Forestry & Urban Greening* **94** 128242.

Martin M, Ramani V, Miller C (2024) InfraRed Investigation in Singapore (IRIS) Observatory: Urban heat island contributors and mitigators analysis using neighborhood-scale thermal imaging. *Energy and Buildings* **307** 113973.

Marzieh K, Reihaneh SM (2021) Assessing rural households' resilience and adaptation strategies to climate variability and change. *Journal of Arid Environments* **184** 104323.

Mascaro G (2020) Comparison of local, regional, and scaling models for rainfall intensity–duration–frequency analysis. *Journal of Applied Meteorology and Climatology* **59** 1519-1536.

Maseko MST, Zungu MM, Downs CT (2024) Nest characteristics of African crowned eagles and black sparrowhawks in urban mosaic landscapes: Potential constraints in finding nesting sites and implications for exotic tree management. *Landscape and Urban Planning* **242** 104946.

Masouleh ZP, Walker DJ, Crowther JM (2019) A long-term study of sea-breeze characteristics: A case study of the coastal city of Adelaide. *Journal of Applied Meteorology and Climatology* **58** 385-400.

Mattijssen TJM, Hennen W, Buijs AE, De Dooij P, Van Lammeren R, Walet L (2024) Urban greening co-creation: Participatory spatial modelling to bridge data-driven and citizen-centred approaches. *Urban Forestry & Urban Greening* **94** 128257.

McAllister C, Stephens A, Milrad SM (2022) The Heat Is On: Observations and Trends of Heat Stress Metrics during Florida Summers. *Journal of Applied Meteorology and Climatology* **61** 277-296.

Mehta K, Koli VK, Kittur S, Sundar KSG (2024) Can you nest where you roost? Waterbirds use different sites but similar cues to locate roosting and breeding sites in a small Indian city. *Urban Ecosystems*

Michel J, Hagolle O, Hook SJ, Roujean J-L, Gamet P (2023) Quantifying Thermal Infra-Red directional anisotropy using Master and Landsat-8 simultaneous acquisitions. *Remote Sensing of Environment* **297** 113765.

Ming Y, Liu Y, Liu X, Tian Z (2024) Demographic disparity in diurnal surface urban Heat Island exposure across local climate zones: A case study of Chongqing. *Science of the Total Environment* 171203.

*Mitchell TD, Fry MJ (2024) The importance of crowdsourced observations for urban climate services. *International Journal of Climatology*

Mo Y, Bao Y, Wang Z, Wei W, Chen X (2024) Spatial coupling relationship between architectural landscape characteristics and urban heat island in different urban functional zones. *Building and Environment* **257** 111545.

Moezzi SMM, Mohammadi M, Mohammadi M, Saloglu D, Sheikholeslami R (2024) Machine learning insights into PM2.5 changes during COVID-19 lockdown: LSTM and RF analysis in Mashhad. *Environmental Monitoring and Assessment* **196** 453.

Mohamed AAA, Maharana P, Phartyal SS, Dimri AP (2024) Projected change in precipitation and temperature over undivided Sudan and its major cities. *Meteorology and Atmospheric Physics* **136** 11.

Mohamed HE, Hadeer EK, Sherif EA (2021) Rainfall variation over Sinai Peninsula and its teleconnection to El Niño sea surface temperature. *Journal of Arid Environments* **193** 104581.

Mohammed A, Khan A, Khan HS, Santamouris M (2024) On the cooling energy impacts of combined urban heat mitigation strategies in subtropical urban building environment. *Energy and Buildings* **309** 113918.

Mohammedamin JK, Shekha YA (2024) Indoor sulfur dioxide prediction through air quality modeling and assessment of sulfur dioxide and nitrogen dioxide levels in industrial and non-industrial areas. *Environmental Monitoring and Assessment* **196** 463.

Mohanty S, Swain M, Nadimpalli R, Osuri KK, Mohanty UC, Patel P, Niyogi D (2023) Meteorological Conditions of Extreme Heavy Rains over Coastal City Mumbai. *Journal of Applied Meteorology and Climatology* **62** 191-208.

Mokarram M, Taripanah F, Minh-Pham T (2024) Assessing air pollution changes during the COVID-19 and its impact on the urban environment using remote sensing and neural networks. *Advances in Space Research* **73** 1760-1779.

Mokhles S, Acuto M (2024) Expanding the urban climate imagination: A review of mitigation actions across 800 local governments. *Journal of Cleaner Production* **442** 141055.

Mondol MAH, Habib MA, Kabir F, Islam ARMT, Rahman MZ, Kamruzzaman M, Siddiki UR (2023) Variability in episodic precipitation concentration in the Asian megacity of Dhaka, Bangladesh. *Meteorology and Atmospheric Physics* **135** 57.

Mpakairi KS, Muthivhi FF, Dondofema F, Munyai LF, Dalu T (2024) Chlorophyll-a unveiled: unlocking reservoir insights through remote sensing in a subtropical reservoir. *Environmental Monitoring and Assessment* **196** 401.

Muratet A, Barra M, Hardion L (2024) Origins and drivers of roof plant assemblages: Designing green roofs for biodiversity conservation. *Urban Forestry & Urban Greening* **94** 128247.

Murphy SF, Runkel RL, Stets EG, Nolan AJ, Repert DA (2024) Urbanization and Water Management Control Stream Water Quality Along a Mountain to Plains Transition. *Water Resources Research* **60** e2023WR035633.

Mwenje E, Kumar P (2024) Challenges for mainstreaming climate adaptation in African cities. A case study of Kigali, Rwanda. *Landscape and Urban Planning* **245** 105017.

Mydlarz C, Sai Venkat Challagonda P, Steers B, Rucker J, Brain T, Branco B, Burnett HE, Kaur A, Fischman R, Graziano K, Krueger K, Henaff E, Ignace V, Jozwiak E, Palchuri J, Pierone P, Rothman P, Toledo-Crow R, Silverman AI (2024) FloodNet: Low-Cost Ultrasonic Sensors for Real-Time Measurement of Hyperlocal, Street-Level Floods in New York City. *Water Resources Research* **60** e2023WR036806.

Naicker R, Mutanga O, Peerbhay K, Odebiri O (2024) Estimating high-density aboveground biomass within a complex tropical grassland using Worldview-3 imagery. *Environmental Monitoring and Assessment* **196** 370.

Nath A, Paul B, Deka P (2024) Chemical characterization of road dust during diwali festival in Guwahati city of Assam, Northeast India. *Environmental Monitoring and Assessment* **196** 484.

Nath SJ, Girach IA, Harithasree S, Bhuyan K, Ojha N, Kumar M (2024) Urban ozone variability using automated machine learning: inference from different feature importance schemes. *Environmental Monitoring and Assessment* **196** 393.

Nauth D, Loughner CP, Tzortziou M (2023) The Influence of Synoptic-Scale Wind Patterns on Column-Integrated Nitrogen Dioxide, Ground-Level Ozone, and the Development of Sea-Breeze Circulations in the New York City Metropolitan Area. *Journal of Applied Meteorology and Climatology* **62** 645-655.

Nazarian RH, Vizzard JV, Agostino CP, Lutsko NJ (2022) Projected Changes in Future Extreme Precipitation over the Northeast United States in the NA-CORDEX Ensemble. *Journal of Applied Meteorology and Climatology* **61** 1643-1662.

Neale C, Austin MMK, Roe J, Converse BA (2023) Making people aware of eco-innovations can decrease climate despair. *Climatic Change* **176** 162.

Nederhoff K, van Ormondt M, Veeramony J, van Dongeren A, Antolinez JAA, Leijnse T, Roelvink D (2024) Accounting for uncertainties in forecasting tropical-cyclone-induced compound flooding. *Geoscientific Model Development* **17** 1789-1811.

Nichol JE, Choi SY, Wong MS, Abbas S (2020) Temperature change and urbanisation in a multi-nucleated megacity: China's Pearl River Delta. *Urban Climate* **31** 100592.

Nicola P, Chiara C, Guangcheng H, Chaolei Z, Massimo M, Li J, Marco M (2021) Evapotranspiration estimates from an energy-water-balance model calibrated on satellite land surface temperature over the Heihe basin. *Journal of Arid Environments* **188** 104466.

Nielsen KF, Rahn DA (2022) Morning Transition of the Boundary Layer over Dallas–Fort Worth. *Journal of Applied Meteorology and Climatology* **61** 1433-1448.

Niepsch D, Clarke LJ, Jones RG, Tzoulas K, Cavan G (2024) Lichen biomonitoring to assess spatial variability, potential sources and human health risks of polycyclic aromatic hydrocarbons (PAHs) and airborne metal concentrations in Manchester (UK). *Environmental Monitoring and Assessment* **196** 379.

Ning P, Shuai W, Yanxu L, Yan L, Feng X, Fangli W, Haipeng Y, Bojie F (2021) Rapid increase of potential evapotranspiration weakens the effect of precipitation on aridity in global drylands. *Journal of Arid Environments* **186** 104414.

*Nojavan M, Tabib Mahmoudi F (2024) Surface Urban Heat Islands changes analysis considering the effects of Covid-19 lockdown. *Natural Hazards* **120** 5129–5140.

Norozi A, Attarod P, Pypker TG, Sadeghi SMM, Etemad V (2024) Estimation of bark water storage capacity of broad- and needle-leaved trees planted in a semi-arid climate zone. *Journal of Arid Environments* **220** 105100.

Nuta F, Shahbaz M, Khan I, Cutcu I, Khan H, Eren MV (2024) Dynamic impact of demographic features, FDI, and technological innovations on ecological footprint: evidence from European emerging economies. *Environmental Science and Pollution Research*

Nwilo PC, Olayinka DN, Okolie CJ, Emmanuel EI, Orji MJ, Daramola OE (2020) Impacts of land cover changes on desertification in northern Nigeria and implications on the Lake Chad Basin. *Journal of Arid Environments* **181** 104190.

*Nyingi RW, Mwangi JK, Karimi P, Kiptala JK (2024) Reliability of stream flow in inter-basin water transfer under different climatic conditions using remote sensing in the Upper Tana basin. *Physics and Chemistry of the Earth* **134** 103527.

Obe OB, Morakinyo TE, Mills G (2024) An assessment of WRF-urban schemes in simulating local meteorology for heat stress analysis in a tropical sub-Saharan African city, Lagos, Nigeria. *International Journal of Biometeorology* **68** 811-828.

Oda PSS, Teixeira DLS, Pinto TAC, da Silva FP, Riondet-Costa DRT, Mattos EV, de Souza DO, Bartolomei F, Reboita MS, dos Santos APP (2024) Disasters in Petr<acute accent>opolis, Brazil: political, urban planning, and geometeorological factors that contributed to the event on February 15, 2022. *Urban Climate* **54** 101849.

Oh G, Yang M, Choi J-I (2024) Large-eddy simulation-based wind and thermal comfort assessment in urban environments. *Journal of Wind Engineering and Industrial Aerodynamics* **246** 105682.

Oh S, Chang J, Jeong J, Yang DS, Ham DJ, Kwon HJ, Choi H, Kim M, Ha J, Heo H-s, Vervoort R, Lee HC (2024) Effects of air purifiers and ventilation on particulate matter concentration at semi-outdoor space. *Journal of Cleaner Production* **434** 139903.

Ojha SK, Mukherjee M (2024) Investigating the potential of integrated urban greening strategies for reducing outdoor thermal stresses: a case of asymmetrical configuration in the tropical city of Bhopal. *International Journal of Biometeorology*

Oliveira MC, Ferreira-Silva C, Silva RJ, Franca FGR, Lorenco-de-Moraes R (2024) Water snakes have a high diversity of parasites in anthropized environments. *Urban Ecosystems*

Oncini F, Hirth S, Mylan J, Robinson CH, Johnson D (2024) Where the wild things are: How urban foraging and food forests can contribute to sustainable cities in the Global North. *Urban Forestry & Urban Greening* **93** 128216.

Ortiz L, Gonzalez J, Wu W, Schoonen M, Tongue J, Bornstein R (2018) New York City impacts on a regional heat wave. *Journal of Applied Meteorology and Climatology* **57** 837-851.

Pantavou K, Kotroni V, Lagouvardos K (2024) Thermal environment and indices: an analysis for effectiveness in operational weather applications in a Mediterranean city (Athens, Greece). *International Journal of Biometeorology* **68** 79-87.

Parde AN, Ghude SD, Dhangar NG, Bhautmage UP, Wagh S, Lonkar P, Govardhan G, Kumar R, Biswas M, Chen F (2024) Challenges in Simulating Prevailing Fog Types Over Urban Region of Delhi. *Journal of Geophysical Research-atmospheres* **129** e2023JD039772.

Park Y, Zhao Q, Guldmann J-M, Wentz EA (2023) Quantifying the cumulative cooling effects of 3D building and tree shade with high resolution thermal imagery in a hot arid urban climate. *Landscape and Urban Planning* **240** 104874.

Parvar Z, Mohammadzadeh M, Saeidi S (2024) LCZ framework and landscape metrics: Exploration of urban and peri-urban thermal environment emphasizing 2/3D characteristics. *Building and Environment* **254** 111370.

Patel S, Indraganti M, Jawarneh RN (2024) A comprehensive systematic review: Impact of Land Use/Land Cover (LULC) on Land Surface Temperatures (LST) and outdoor thermal comfort. *Building and Environment* **249** 111130.

Pauly L, Canonico M, Ferrero E (2024) Numerical investigation of thermal patterns and local wind circulations to characterize Urban Heat Island during a heatwave in Turin. *Urban Climate* **54** 101847.

Peng S, Chen M, Qi Z, Benani N, Wang T, Wu X, Cheng X, Chen JL, Mao G, Yang P (2024) Unequal transfer and its policy implications of carbon emissions and economic benefits embodied among Central Plains urban agglomeration. *Urban Climate* **54** 101858.

Pereira RG, Ribeiro JGM, Mattos EV, Reboita MS (2024) Analysis of a hailstorm in the south of Minas Gerais state on October 13, 2020. *Meteorology and Atmospheric Physics* **136** 21.

Perez-Planells L, Goettsche F-M (2023) Combined modelling of annual and diurnal land surface temperature cycles. *Remote Sensing of Environment* **299** 113892.

Peroni F, Pappalardo SE (2024) Climate justice in future cities: Geographical perspectives for inclusive urban resilience and adaptation. *Landscape and Urban Planning* **244** 104998.

Pham KL, Nguyen AX, Nguyen HV, Hoang SH, Nguyen VN, Vu TV (2024) Application of wetPf2 Data for Investigating Characteristics of Temperature and Humidity of Air Masses over Paracel and Spratly Islands. *Advances in Meteorology* **2024** 9927285.

Phillips A, Plastara D, Khan AZ, Canters F (2023) Integrating public perceptions of proximity and quality in the modelling of urban green space access. *Landscape and Urban Planning* **240** 104875.

Platonov VS, Varentsov MI, Yarinich YI, Shikhov AN, V. Chernokulsky A (2024) A large mid-latitude city intensifies severe convective events: Evidence from long-term high-resolution simulations. *Urban Climate* **54** 101837.

Plazas FL, Sanchez EC, Perez RL, Albanilla ES (2023) Schools as climate shelters: Design, implementation and monitoring methodology based on the Barcelona experience. *Journal of Cleaner Production* **432** 139588.

Pogaar T, Kajfež Bogataj L, Kuk R, repinšek Z (2022) Effects of heat waves on soil temperatures in slovenia. *Italian Journal of Agrometeorology* 41–48.

Poliukhov AA, Zhdanova EY, Chubarova NY (2024) Long-term variations of aerosol optical depth according to satellite data and its effects on radiation and temperature in the Moscow megacity. *Atmospheric Research* **304** 107398.

Prashant H, Vyas BM, Aswini AR, Aryasree S, Prabha RN (2020) Carbonaceous and water-soluble inorganic aerosols over a semi-arid location in north west India: Seasonal variations and source characteristics. *Journal of Arid Environments* **172** 104018.

Pretorius I, Sturman A, Strand T, Katurji M, Pearce G (2020) A meteorological study of the port hills fire, christchurch, New Zealand. *Journal of Applied Meteorology and Climatology* **59** 263-280.

Prinsloo AS, Fitchett JM (2024) Quantifying climatic suitability for tourism in Southwest Indian Ocean Tropical Islands: Applying the Holiday Climate Index to Réunion Island. *International Journal of Biometeorology*

Pueyo-Ros J, Skerjanec M, Castellar JAC, Atanasova N, Comas J, Corominas L (2024) Beyond food: A stochastic model to estimate the contributions of urban agriculture to sustainability. *Landscape and Urban Planning* **241** 104930.

Pulkkinen S, Chandrasekar V, Harri A-M (2019) Stochastic spectral method for radar-based probabilistic precipitation nowcasting. *Journal of Atmospheric and Oceanic Technology* **36** 971-985.

Pysander E-LS, Martensson F, Waern A, Litsmark A, Hedblom M, Raustorp A, Ghilagaber G, Zhu H (2024) Nature and digitalization challenging the traditional playground. *Urban Forestry & Urban Greening* **93** 128148.

Qiao P, Ni J, Huang R, Cheng Z (2024) Prediction of instantaneous particle number for light-duty gasoline vehicles under real driving conditions based on ensemble learning. *Journal of Cleaner Production* **434** 139859.

Qiao S, Yeh AG-O (2023) Understanding the effects of environmental perceptions on walking behavior by integrating big data with small data. *Landscape and Urban Planning* **240** 104879.

Qin P, Xie Z, Han R, Liu B (2024) Evaluation and Projection of Population Exposure to Temperature Extremes over the Beijing–Tianjin–Hebei Region Using a High-Resolution Regional Climate Model RegCM4 Ensemble. *Advances in Atmospheric Sciences* **41** 1132-1146.

Qu R, Han G, Zeng J (2024) New tracer for anthropogenic pollution in the atmosphere: Stable potassium isotopes in rainwater. *Journal of Cleaner Production* **435** 140574.

Quan J, Guan Y, Zhan W, Ma T, Wang D, Guo Z (2023) Generating 60–100 m, hourly, all-weather land surface temperatures based on the Landsat, ECOSTRESS, and reanalysis temperature combination (LERC). *ISPRS Journal of Photogrammetry and Remote Sensing* **205** 115-134.

Quaranta E, Arkar C, Branquinho C, Cristiano E, Carvalho RCd, Dohnal M, Gnecco I, Gossner D, Jelinkova V, Maucieri C, Mohri M, Nektarios PA, Ntoulas N, Palermo SA, Palla A, Piro P, Serrano HC, Soulis KX, Turco M, Van Renterghem T, Varela Z, Viola F, Zanin G, Pistocchi A (2024) A daily time-step hydrological-energy-biomass model to estimate green roof performances across Europe to support planning and policies. *Urban Forestry & Urban Greening* **93** 128211.

Quej VH, Castillo CdlC, Almorox J, Rivera-Hernandez B (2022) Evaluation of artificial intelligence models for daily prediction of reference evapotranspiration using temperature, rainfall and relative humidity in a warm sub-humid environment. *Italian Journal of Agrometeorology* 49–63.

Radhakrishnan C, Chandrasekar V (2020) CASA prediction system over dallas–fort worth urban network: Blending of nowcasting and high-resolution numerical weather prediction model. *Journal of Atmospheric and Oceanic Technology* **37** 211-228.

*Radovic J, Belda M, Resler J, Eben K, Bures M, Geletic J, Krc P, Reznicek H, Fuka V (2024) Challenges of constructing and selecting the "perfect" boundary conditions for the large-eddy simulation model PALM. *Geoscientific Model Development* **17** 2901-2927.

Rai AK, Malakar S, Goswami S (2024) Evaluating seismic risk by MCDM and machine learning for the eastern coast of India. *Environmental Monitoring and Assessment* **196** 471.

Rakshit G, Chakravarty K, Mohapatra M, Sai-Krishnan KC (2024) Unraveling the influence of varied airflow patterns on atmospheric instabilities, rain microphysics, and cloud features over Delhi, the capital city of India. *Advances in Space Research* **73** 4202-4212.

Ramadan F, Nour HE, Wahed NA, Rakha A, Amuda AK, Faisal M (2024) Heavy metal contamination and environmental risk assessment: a case study of surface water in the Bahr Mouse stream, East Nile Delta, Egypt. *Environmental Monitoring and Assessment* **196** 429.

Ramani V, Arjunan P, Poolla K, Miller C (2024) Semantic segmentation of longitudinal thermal images for identification of hot and cool spots in urban areas. *Building and Environment* **249** 111112.

Ray P, Tan H, Tewari M, Brownlee J, Ajayamohan RS, Barrett BS (2021) Role of advection on the evolution of near-surface temperature and wind in urban-aware simulations. *Journal of Applied Meteorology and Climatology* **60** 201-221.

Reinwald F, Weichselbaumer R, Schindelegger A, Damyanovic D (2024) From strategy to implementation: Mainstreaming urban green infrastructure in Austria's spatial planning instruments for climate change adaptation. *Urban Forestry & Urban Greening* **94** 128232.

Reiss K, Seifert TL, Artmann M (2024) Initiating, innovating and accelerating edible cities. A case study based on two transition experiments in the city of Dresden (Germany). *Urban Ecosystems*

Reynolds C, Howes CG (2023) Contrasting relationships between socio-economic status and avian ecosystem service provision in a developing world city. *Landscape and Urban Planning* **240** 104900.

Rezazadeh AA, Avami A, Baghshah MS (2024) Climatic scenario-based integrated recurrent ensemble model for energy demand forecasting. *Energy and Buildings* **310** 114103.

Riach N, Glaser R (2024) Local Climate Services. Can municipal climate profiles help improve climate literacy? *Climate Services* **34** 100449.

Rissanen K, Lapa G, Houle D, Kneeshaw D, Paquette A (2024) Large variation in the radial patterns of sap flow among urban trees. *Agricultural and Forest Meteorology* **345** 109848.

Rocha AD, Branco JO (2024) The behaviour of Athene cunicularia (Molina 1782) on the coast of Santa Catarina, Brazil, and the influence of urbanization on daily activity. *Urban Ecosystems*

Roggero M, Gotgelf A, Eisenack K (2023) Co-benefits as a rationale and co-benefits as a factor for urban climate action: linking air quality and emission reductions in Moscow, Paris, and Montreal. *Climatic Change* **176** 179.

Rolleman E, Lantz T, Mathews D, Shackelford N (2024) Common camas (Camassia quamash) response across an urban-rural gradient in coastal oak meadows in Greater Victoria, Canada. *Urban Ecosystems*

Romero PCH, Ugalde JJVT, Muench CE, Rodriguez DM, Arizmendi MdC, Botello F, Prieto-Torres DA (2024) Species richness and ecological connectivity of the mammal communities in urban and peri-urban areas at Mexico City. *Urban Ecosystems*

Roseman CA, Argrow BM (2020) Weather hazard risk quantification for sUAS safety risk management. *Journal of Atmospheric and Oceanic Technology* **37** 1251-1268.

Roth AT, Kleemann J, Spyra M (2024) Policy-making for peri-urban landscapes as arenas of human-wildlife interactions. *Urban Ecosystems*

Roy P, Pal SC, Chakrabortty R, Chowdhuri I, Saha A, Ruidas D, Islam ARMT, Islam A (2024) Climate change and geo-environmental factors influencing desertification: a critical review. *Environmental Science and Pollution Research* **31** 20343-20361.

Roy S, Rao CM, Abioui M (2024) Evaluation of non-stationary spatial relationship between meteorological-environmental parameters and PM2.5. *Advances in Space Research* **73** 4106-4124.

Rozoffx CM, Nolan DS, Bryan GH, Hendricks EA, Knievel JC (2023) Large-Eddy Simulations of the Tropical Cyclone Boundary Layer at Landfall in an Idealized Urban Environment. *Journal of Applied Meteorology and Climatology* **62** 1457-1478.

Ruffener SC, Matthey-de-l'Endroit N, Berner D (2024) Invasion of Pieris mannii butterflies across Central Europe facilitated by urbanization. *Urban Ecosystems*

Ryan HL, Luis AN-N, América LL, Kyle H, Douglas RT, Christopher AS (2021) Spatio-temporal dynamics of climate change, land degradation, and water insecurity in an arid rangeland: The Río San Miguel watershed, Sonora, Mexico. *Journal of Arid Environments* **193** 104539.

Sabiru AY, Akinbolati A, Ikechiamaka FN, Abe BT (2024) Characterization of some secondary radio-climatic factors for reliable radio wave propagation and link's design over North western Nigeria. *Advances in Space Research*

Sakhri N, Younes M, Houari A (2020) Experimental investigation of the performance of earth-to-air heat exchangers in arid environments. *Journal of Arid Environments* **180** 104215.

Sales J, da Rocha PA (2024) Relevance of forest fragments and synanthropic habitats for the maintenance of non-phyllostomid bats in an anthropogenic matrix. *Urban Ecosystems*

Salvi KA, Kumar M (2024) Imprint of urbanization on snow precipitation over the continental USA. *Nature Communications* **15** 2348.

Sanudo E, Cea L, Puertas J, Naves J, Anta J (2024) Large-scale physical facility and experimental dataset for the validation of urban drainage models. *Hydrological Processes* **38** e15068.

Sarhadi A, Rousseau-Rizzi R, Mandli K, Neal J, Wiper MP, Feldmann M, Emanuel K (2024) Climate Change Contributions to Increasing Compound Flooding Risk in New York City. *Bulletin of the American Meteorological Society* **105** E337-E356.

Sathish K, Devakumar AS (2024) Composition of soil mesofauna in changing cropping systems due to urbanization in Bengaluru, India. *Environmental Monitoring and Assessment* **196** 335.

Sato T, Kusaka H (2023) Applicability of Methods for Inflow Turbulence Generation Developed in a CFD Field to the Thermally Driven Convective Boundary Layer Simulations. *Journal of Applied Meteorology and Climatology* **62** 1783-1801.

*Schoetter R, Hidalgo J, Jougla R, Masson V, Rega M, Pergaud J (2020) A statistical-dynamical downscaling for the urban heat island and building energy consumption-analysis of its uncertainties. *Journal of Applied Meteorology and Climatology* **59** 859-883.

*Schwingshackl C, Daloz AS, Iles C, Aunan K, Sillmann J (2024) High-resolution projections of ambient heat for major European cities using different heat metrics. *Natural Hazards and Earth System Sciences* **24** 331-354.

Senderewich T, Goltz D, Rodriguez-Gil JL, Laird B, Prosser RS, Hanson ML (2024) Human health and environmental risk assessment of metals in community gardens of Winnipeg, Manitoba, Canada. *Environmental Science and Pollution Research*

Sergio G-U, Roberto L (2019) Modelling the effects of climate factors on soil respiration across Mediterranean ecosystems. *Journal of Arid Environments* **165** 46-54.

Shaik DS, Ratnam MV, Subrahmanyam KV, Madhavan BL, Kumar KK (2024) Seasonal dependence of characteristics of rain drop size distribution over two different climatic zones of India. *Meteorology and Atmospheric Physics* **136** 12.

Shang Z, Chen G, Tang X (2024) Characteristics of cold events in the eastern China: Perspective from five metropolitan regions. *International Journal of Climatology*

Sharifnezhadazizi Z, Norouzi H, Prakash S, Beale C, Vardi R (2019) A global analysis of land surface temperature diurnal cycle using modis observations. *Journal of Applied Meteorology and Climatology* **58** 1279-1291.

Sharma A, Dutta P, Shah P, Iyer V, He H, Sapkota A, Gao C, Wang Y-C (2024) Characterizing the effects of extreme heat events on all-cause mortality: A case study in Ahmedabad city of India, 2002-2018. *Urban Climate* **54** 101832.

Shen C, Chen X, Dai W, Li X, Wu J, Fan Q, Wang X, Zhu L, Chan P, Hang J, Fan S, Li W (2019) Impacts of high-resolution urban canopy parameters within the WRF model on dynamical and thermal fields over Guangzhou, China. *Journal of Applied Meteorology and Climatology* **58** 1155-1176.

Sheppy J, Sudduth EB, Clinton S, Riveros-Iregui D, Ledford SH (2024) Urban beaver ponds show limited impact on stream carbon quantity in contrast to stormwater ponds. *Urban Ecosystems*

Sheridan S, de Guzman EB, Eisenman DP, Sailor DJ, Parfrey J, Kalkstein LS (2024) Increasing tree cover and high-albedo surfaces reduces heat-related ER visits in Los Angeles, CA. *International Journal of Biometeorology*

Sherman P, Gao M, Song S, Ohiomoba P, Archibald A, McElroy M (2019) The influence of dynamics and emissions changes on China's wintertime haze. *Journal of Applied Meteorology and Climatology* **58** 1603-1611.

Shi D, Song J, Zhong Q, Myint SW, Zeng P, Che Y (2024) Cooling wisdom of `water towns': How urban river networks can shape city climate? *Remote Sensing of Environment* **300** 113925.

Shi J, Han W, Chen J, Yan T, Chen X, Chen H, Xu J, Huang X (2024) Impact of China's ECA policies on air pollution in coastal cities: Empirical analysis based on synthetic-DID model. *Cities* **148** 104871.

Shi Q, Liang Q, Huo T, You K, Cai W (2023) Evaluation of CO2 and SO2 synergistic emission reduction: The case of China. *Journal of Cleaner Production* **433** 139784.

Shi W, Wei K, Cheng P, Yu J, Han H, Guo X, Ni T, Ma B (2024) Preparation and properties of one-component polyurea composite phase change cooling coating for asphalt pavement. *Journal of Cleaner Production* **434** 140280.

Shi Y, Zhang Y, Li R (2019) Local-scale urban energy balance observation under various sky conditions in a humid subtropical region. *Journal of Applied Meteorology and Climatology* **58** 1573-1591.

Shreevastava A, Raymond C, Hulley GC (2023) Contrasting Intraurban Signatures of Humid and Dry Heatwaves over Southern California. *Journal of Applied Meteorology and Climatology* **62** 709-720.

Shtjefni D, Ulpiani G, Vetters N, Koukoufikis G, Bertoldi P (2024) Governing climate neutrality transitions at the urban level: A European perspective. *Cities* **148** 104883.

Siiba A, Kangmennaang J, Baatiema L, Luginaah I (2024) The relationship between climate change, globalization and non-communicable diseases in Africa: A systematic review. *Plos One* **19** e0297393.

*Silva T, Lopes A, Vasconcelos J, Chokhachian A, Wagenfeld M, Santucci D (2024) Thermal stress and comfort assessment in urban areas using Copernicus Climate Change Service Era 5 reanalysis and collected microclimatic data. *International Journal of Biometeorology* **68** 949-963.

Silva-Castano AF, Brochero H, Franco-Lara L (2024) Insects as potential vectors of phytoplasmas in urban trees in a mega-city: a case study in Bogotá, Colombia. *Urban Ecosystems*

Simón-Moral A, Dipankar A, Doan Q-V, Sanchez C, Roth

M, Becker E, Huang X-Y (2021) Urban intensification of convective rainfall over the Singapore – Johor Bahru region. *Quarterly Journal of the Royal Meteorological Society* **147** 3665-3680.

Simón-Moral A, Dipankar A, Roth M, Sánchez C, Velasco E, Huang X-Y (2020) Application of MORUSES single-layer urban canopy model in a tropical city: Results from Singapore. *Quarterly Journal of the Royal Meteorological Society* **146** 576-597.

Singh RK, Satyanarayana ANV, Prasad PSH (2024) Retrieval of high-resolution aerosol optical depth (AOD) using Landsat 8 imageries over different LULC classes over a city along Indo-Gangetic Plain, India. *Environmental Monitoring and Assessment* **196** 473.

Skjelvik CE, Dale S (2024) Bird population changes in urban green spaces explained by regional population trends. *Urban Ecosystems*

Smith JA, Baeck ML, Miller AJ, Claggett EL (2024) Rainfall Frequency Analysis Based on Long-Term High-Resolution Radar Rainfall Fields: Spatial Heterogeneities and Temporal Nonstationarities. *Water Resources Research* **60** e2023WR035640.

Smith-Ramírez C, Grez A, Galleguillos M, Cerda C, Ocampo-Melgar A, Miranda MD, Muñoz AA, Rendón-Funes A, Díaz I, Cifuentes C, Alaniz A, Seguel O, Ovalle J, Montenegro G, Saldes-Cortés A, Martínez-Harms MJ, Armesto JJ, Vita A (2023) Ecosystem services of Chilean sclerophyllous forests and shrublands on the verge of collapse: A review. *Journal of Arid Environments* **211** 104927.

Sola-Caraballo J, Lopez-Cabeza VP, Roa-Fernandez J, Rivera-Gomez C, Galan-Marin C (2024) Assessing and upgrading urban thermal resilience of a Spanish MoMo neighbourhood over the span of 1960-2080. *Building and Environment* **256** 111485.

Song F, Bao J, Li T, Yu T, Yuan Y, Huang X, Bao A, De Maeyer P (2024) Contrasting inequality of green spaces and buildings between cities in China. *Building and Environment* **254** 111384.

*Sousa-Silva R, Zanocco C (2024) Assessing public attitudes towards urban green spaces as a heat adaptation strategy: Insights from Germany. *Landscape and Urban Planning* **245** 105013.

Spencer T, Magnan AK, Donner S, Garschagen M, Ford J, Duvat VKE, Wabnitz CCC (2024) Habitability of low-lying socio-ecological systems under a changing climate. *Climatic Change* **177** 14.

Sprah N, Potocnik J, Kosir M (2024) The influence of façade colour, glazing area and geometric configuration of urban canyon on the spectral characteristics of daylight. *Building and Environment* **251** 111214.

Squintu AA, VAN DER SCHRIER G, VAN DEN BESSELAAR EJM, Cornes RC, Tank AMGK (2020) Building long homogeneous temperature series across europe: A new approach for the blending of neighboring series. *Journal of Applied Meteorology and Climatology* **59** 175-189.

Srikumar SKR, Cotteleer L, Mosca G, Gambale A, Parente A (2024) Application of a comprehensive atmospheric boundary layer model to a realistic urban-scale wind simulation. *Building and Environment* **253** 111330.

Strobach E, Sparling L, Rabenhorst S, Demoz B (2018) Impact of inland terrain on mid-Atlantic offshore wind and implications for wind resource assessment: A case study. *Journal of Applied Meteorology and Climatology* **57** 777-796.

Su C, Hu X, Meng Q, Zhang L, Shi W, Zhao M (2024) A multimodal fusion framework for urban scene understanding and functional identification using geospatial data. *International Journal of Applied Earth Observation and Geoinformation* **127** 103696.

Su J, Kong F, Yin H, Meadows M, Zhou K, Li Z, Cui H (2023) Past, present and future climate connectivity informs conservation strategies in the Yangtze River delta urban agglomeration, China. *Landscape and Urban Planning* **240** 104894.

Su J, Wang M, Zhang D, Yuan H, Zhou S, Wang Y, Razi MAM (2024) Integrating technical and societal strategies in Nature-based Solutions for urban flood mitigation in Guangzhou, a heritage city. *Ecological Indicators* **162** 112030.

Su Y, Wang X, Xuan L, Wu T, Ge X, Wang Z, Duan J, Yang M (2024) Analysis of the correlation mechanism between geometric parameters and the thermal environment of Xi'an's summer outdoor commercial pedestrian streets. *International Journal of Biometeorology* **68** 861-869.

Suarez M, Rieiro-Diaz AM, Alba D, Langemeyer J, Gomez-Baggethun E, Ametzaga-Arregi I (2024) Urban resilience through green infrastructure: A framework for policy analysis applied to Madrid, Spain. *Landscape and Urban Planning* **241** 104923.

Subiza-Perez M, Krenz K, Watmuff A, Yang T, Gilbody S, Vaughan L, Wright J, Mceachan RRC (2024) Social inequalities, residential greenness and common mental disorders in women: evidence from the Born in Bradford family cohort study. *Urban Forestry & Urban Greening* **94** 128241.

Sun L, Xia J, She D (2024) Integrating Model Predictive Control With Stormwater System Design: A Cost-Effective Method of Urban Flood Risk Mitigation During Heavy Rainfall. *Water Resources Research* **60** e2023WR036495.

Sun T, Omidvar H, Li Z, Zhang N, Huang W, Kotthaus S, Ward HC, Luo Z, Grimmond S (2024) WRF (v4.0)-SUEWS (v2018c) coupled system: development, evaluation and application. *Geoscientific Model Development* **17** 91-116.

Sun X, Liu H, Liao C, Nong H, Yang P (2024) Understanding recreational ecosystem service supply-demand mismatch and social groups' preferences: Implications for urban-rural planning. *Landscape and Urban Planning* **241** 104903.

Sun Y, Deng K, Ren K, Liu J, Deng C, Jin Y (2024) Deep learning in statistical downscaling for deriving high spatial resolution gridded meteorological data: A systematic review. *ISPRS Journal of Photogrammetry and Remote Sensing* **208** 14-38.

Susane ELM, Priscila FN, Louise PS, Carlos ACS, Monica C, Raphael A (2021) Influence of climatic variability on the electricity generation potential by renewable sources in the Brazilian semi-arid region. *Journal of Arid Environments* **184** 104331.

Sützl BS, Rooney GG, Finnenkoetter A, Bohnenstengel SI, Grimmond S, van Reeuwijk M (2021) Distributed urban drag parametrization for sub-kilometre scale numerical weather prediction. *Quarterly Journal of the Royal Meteorological Society* **147** 3940-3956.

Swarnkar K, Gupta K, Nikam V (2024) Water quality monitoring and modeling for an urban storm drainage channel in Thane, India. *Environmental Monitoring and Assessment* **196** 440.

Swietek AR, Zumwald M (2023) Visual Capital: Evaluating building-level visual landscape quality at scale. *Landscape and Urban Planning* **240** 104880.

Tabassum S, Manea A, Leishman MR (2024) Limiting the impact of insect pests on urban trees under climate change. *Urban Forestry & Urban Greening* **94** 128246.

Tahereh T, Ezatollah K, Marzieh K (2020) Agricultural land use change under climate variability and change: Drivers and impacts. *Journal of Arid Environments* **180** 104202.

Talaei M, Sangin H (2024) Multi-objective optimization of energy and daylight performance for school envelopes in desert, semi-arid, and mediterranean climates of Iran. *Building and Environment* **255** 111424.

Tan W, Qin N, Zhang Y, Mcgrath H, Fortin M, Li J (2024) A rapid high-resolution multi-sensory urban flood mapping framework via DEM upscaling. *Remote Sensing of Environment* **301** 113956.

Tang X, Feng Y, Xi M, Chen S, Wang R, Lei Z (2024) Dynamic simulation and projection of ESV changes in arid regions caused by urban growth under climate change scenarios. *Environmental Monitoring and Assessment* **196** 411.

Tao W, Song M, Weng S, Chen X, Cui L (2024) Assessing the impact of environmental regulation on ecological risk induced by PM2.5 pollution: Evidence from China. *Journal of Cleaner Production* **451** 142029.

Techer D, Aran D, De Silva M, Claverie R, Erbrech M, Bojic C, Goncalves V, Maunoury-Danger F (2024) Field evaluation of the cotton-strip assay for quantifying decomposition rates in extensive green roof substrates. *Urban Forestry & Urban Greening* **94** 128292.

Terry JP, Al Ruheili A, Almarzooqi MA, Almheiri RY, Alshehhi AK (2023) The rain deluge and flash floods of summer 2022 in the United Arab Emirates: Causes, analysis and perspectives on flood-risk reduction. *Journal of Arid Environments* **215** 105013.

Theethai Jacob A, Jayakumar A, Gupta K, Mohandas S, Hendry MA, Smith DKE, Francis T, Bhati S, Parde AN, Mohan M, Mitra AK, Kumar Gupta P, Chauhan P, Jenamani RK, Ghude S (2023) Implementation of the urban parameterization scheme in the Delhi model with an improved urban morphology. *Quarterly Journal of the Royal Meteorological Society* **149** 40-60.

Tiago P, Leal AI, Rosario IT, Chozas S (2024) Discovering urban nature: citizen science and biodiversity on a university campus. *Urban Ecosystems*

Tian G, Ma Y, Chen Y, Wan M, Chen S (2024) Impact of urban canopy characteristics on turbulence dynamics: Insights from large eddy simulation. *Building and Environment* **250** 111183.

Tian J, Yan Y, Zeng S (2024) Intelligent identification and management of flood risk areas in high-density blocks from the perspective of flood regulation supply and demand matching. *Ecological Indicators* **160** 111799.

Tian Y, Xie Z, Xie J, Jia B, Chen S, Qin P, Li R, Wang L, Yan H, You Y, Liu B (2024) Analyzing the Land Surface Temperature Response to Urban Morphological Changes: A Case Study of the Chengdu-Chongqing Urban Agglomeration. *Journal of Geophysical Research-atmospheres* **129** e2023JD040228.

Toledo-Garibaldi M, Puric-Mladenovic D, Smith SM (2024) Urban forest biotope mapping: A new approach for sustainable forest management planning in Mexico City. *Urban Forestry & Urban Greening* **92** 128205.

Tomasi M, Nikolopoulou M, Giridharan R, Love M, Ratti C (2024) Definition of a maximum threshold of direct solar radiation exposure for pedestrians of diverse walking abilities. *International Journal of Biometeorology* **68** 17-31.

Tong A, Xu L, Ma Q, Shi Y, Feng M, Lu Z, Wu Y (2024) Evaluation of the level of park space service based on the residential area demand. *Urban Forestry & Urban Greening* **93** 128214.

Topuz M, Feidas H, Karabulut M (2021) Trend analysis of precipitation data in turkey and relations to atmospheric circulation: (1955-2013). *Italian Journal of Agrometeorology* 91–107.

Torquato PR, Hahs AK, Szota C, Arndt SK, Sun Q(C, Hurley J, Livesley SJ (2024) Spatially analysed expansion of individual street tree crowns enables species-specific crown expansion predictions in different rainfall zones. *Urban Forestry & Urban Greening* **94** 128268.

Treppiedi D, Villarini G, Noto LV (2024) Climate change exacerbates the compounding of heat stress and flooding in the mid-latitudes. *International Journal of Climatology*

Tu L, Huang X, Li J, Yang J, Gong J (2024) A multi-task learning method for extraction of newly constructed areas based on bi-temporal hyperspectral images. *ISPRS Journal of Photogrammetry and Remote Sensing* **208** 308-323.

Udoh AC, Usoro AE, Chinwuko AI (2024) Integrated assessment of pollution status of MSW sites: a case study of Uyo, Ikot Ekpene and Oron, Akwa Ibom State, southern Nigeria. *Environmental Monitoring and Assessment* **196** 397.

Urban MC, Alberti M, De Meester L, Zhou Y, Verrelli BC, Szulkin M, Schmidt C, Savage AM, Roberts P, Rivkin LR, Palkovacs EP, Munshi-South J, Malesis AN, Harris NC, Gotanda KM, Garroway CJ, Diamond SE, Roches SD, Charmantier A, Brans KI (2024) Interactions between climate change and urbanization will shape the future of biodiversity. *Nature Climate Change* 436-447.

Valman SJ, Boyd DS, Carbonneau PE, Johnson MF, Dugdale SJ (2024) An AI approach to operationalise global daily PlanetScope satellite imagery for river water masking. *Remote Sensing of Environment* **301** 113932.

van den Bogerd N, Maas J (2024) Development and testing of the green schoolyard evaluation tool (GSET). *Landscape and Urban Planning* **241** 104921.

Van Helden BE, Skates LM, Close PG (2024) Use of wildlife-friendly structures in residential gardens by animal wildlife: evidence from citizen scientists in a global biodiversity hotspot. *Urban Ecosystems*

Van Meter KJ, Ceisel E (2024) Road Salt Legacies: Quantifying Fluxes of Chloride to Groundwater and Surface Water Across the Chicago Metropolitan Statistical Area. *Water Resources Research* **60** e2023WR035103.

Varghese L, Cedillo-Gonzalez EI, Cattini A, Vacchi M, Siligardi C (2024) Frit-Free solar reflective porcelain stoneware ceramic tiles using recycled granite Waste: An investigation on its engobe and glaze formulations. *Energy and Buildings* **311** 114129.

Verma A, Bhattacharya A, Dey S, López-Martínez C, Gamba P (2023) Built-up area mapping using Sentinel-1 SAR data. *ISPRS Journal of Photogrammetry and Remote Sensing* **203** 55-70.

Verma A, Ranga V, Vishwakarma DK (2024) BREATH-Net: a novel deep learning framework for NO2 prediction using bi-directional encoder with transformer. *Environmental Monitoring and Assessment* **196** 340.

Versini P-A, Castellanos-Diaz LA, Ramier D, Tchiguirinskaia I (2024) Evapotranspiration evaluation using three different protocols on a large green roof in the greater Paris area. *Earth System Science Data* **16** 2351-2366.

Viana LMdS, Pestana IA, Tostes ECL, Constantino WD, Luze FHR, Salomao MSMdB, de Jesus TB, de Carvalho CEV (2024) Understanding seasonal variations in As and Pb river fluxes and their regulatory mechanisms through monitoring data. *Environmental Monitoring and Assessment* **196** 333.

Vijay A, Varija K (2024) Spatio-temporal classification of land use and land cover and its changes in Kerala using remote sensing and machine learning approach. *Environmental Monitoring and Assessment* **196** 459.

Vilanova C, Ferran JS, Concepcion ED (2024) Integrating landscape ecology in urban green infrastructure planning: A multi-scale approach for sustainable development. *Urban Forestry & Urban Greening* **94** 128248.

Vissio C, Drewniak EM, Cocucci AA, More M, Benitez-Vieyra S, Giaquinta A, Soteras F (2024) Artificial light changes visual perception by pollinators in a hawkmoth-plant interaction system. *Urban Ecosystems*

Voordeckers D, Lauriks T, Baetens D, Ysebaert T, Denys S, Billen P, Tytgat T, Van Acker M (2024) Numerical study on the impact of traffic lane adjustments and low boundary walls on pedestrian exposure to NO2 in street canyons. *Landscape and Urban Planning* **243** 104974.

Vurro G, Carlucci S (2024) Contrasting the features and functionalities of urban microclimate simulation tools. *Energy and Buildings* **311** 114042.

Walker RH, Keeler BL, Derickson KD (2024) The impacts of racially discriminatory housing policies on the distribution of intra-urban heat and tree canopy: A comparison of racial covenants and redlining in Minneapolis, MN. *Landscape and Urban Planning* **245** 105019.

Wan M, Han Y, Song Y, Hashimoto S (2024) Estimating and projecting the effects of urbanization on the forest habitat quality in a highly urbanized area. *Urban Forestry & Urban Greening* **94** 128270.

Wan W, Doell P, Schmied HM (2024) Global-Scale Groundwater Recharge Modeling Is Improved by Tuning Against Ground-Based Estimates for Karst and Non-Karst Areas. *Water Resources Research* **60** e2023WR036182.

Wang A, Ren C, Wang J, Feng Z, Kumar P, Haghighat F, Cao S-J (2024) Health assessment and mitigating solutions to heat-pollution induced by urban traffic. *Journal of*

Cleaner Production **434** 140097.

Wang C, Guo M, Yan B, Wei J, Liu F, Li Q, Bo Y (2024) Characteristics of microplastics in the atmosphere of Anyang City. *Environmental Monitoring and Assessment* **196** 350.

Wang D, Hu L, Voogt JA, Chen Y, Zhou J, Chang G, Quan J, Zhan W, Kang Z (2024) Simulation of urban thermal anisotropy at remote sensing pixel scales: Evaluating three schemes using GUTA-T over Toulouse city. *Remote Sensing of Environment* **300** 113893.

Wang H, Tassinary LG (2024) Association between greenspace morphology and prevalence of non-communicable diseases mediated by air pollution and physical activity. *Landscape and Urban Planning* **242** 104934.

Wang J, Hu X-M (2021) Evaluating the performance of wrf urban schemes and pbl schemes over dallas–fort worth during a dry summer and a wet summer. *Journal of Applied Meteorology and Climatology* **60** 779-798.

Wang J, Tang R, Jiang Y, Liu M, Li Z-L (2023) A practical method for angular normalization of global MODIS land surface temperature over vegetated surfaces. *ISPRS Journal of Photogrammetry and Remote Sensing* **199** 289-304.

Wang L, Li D (2021) Urban heat islands during heat waves: A comparative study between Boston and Phoenix. *Journal of Applied Meteorology and Climatology* **60** 621-641.

Wang L, Li D, Zhang N, Sun J, Guo W (2020) Surface urban heat and cool islands and their drivers: An observational study in Nanjing, China. *Journal of Applied Meteorology and Climatology* **59** 1987-2000.

Wang Q, Peng LLH, Jiang W, Yin S, Feng N, Yao L (2024) Urban form affects the cool island effect of urban greenery via building shadows. *Building and Environment* **254** 111398.

Wang T, Yang J, Zhu Y, Zhang Z, Chi X, Sun Z, Wang C, Fang L, Dou H, Fan Z, Li S, Liu C (2024) The invasive Alternanthera philoxeroides modifies the sediment microbiome in urban and periurban river wetlands. *Urban Ecosystems*

Wang X, Peng W, Xiong H (2024) Spatial-temporal evolution and driving factors of rural resilience in the urban agglomerations in the middle reaches of the Yangtze River, China. *Environmental Science and Pollution Research*

Wang X, Xiang H, Niu W, Mao Z, Huang X, Zhang F (2023) Oblique photogrammetry supporting procedural tree modeling in urban areas. *ISPRS Journal of Photogrammetry and Remote Sensing* **200** 120-137.

Wang Y, Decker J, Pardyjak ER (2020) Large-eddy simulations of turbulent flows around buildings using the Atmospheric Boundary Layer Environment-Lattice Boltzmann Model (ABLE-LBM). *Journal of Applied Meteorology and Climatology* **59** 885-899.

Wang Y, Lauret N, Regaieg O, Yang X, Guilleux J, Chavanon E, Kallel A, Moulana M, Colin J, Hagolle O, Ramon D, Gastellu-Etchegorry J-P (2024) 3D Monte Carlo surface-atmosphere radiative transfer modelling with DART. *Remote Sensing of Environment* **301** 113946.

Wang Y, Li X, Yin P, Yu G, Cao W, Liu J, Pei L, Hu T, Zhou Y, Liu X, Huang J, Gong P (2023) Characterizing annual dynamics of urban form at the horizontal and vertical dimensions using long-term Landsat time series data. *ISPRS Journal of Photogrammetry and Remote Sensing* **203** 199-210.

Wang Y, Lu S, Xu M, Zhang Y, Xu F (2024) What influences stress reduction in urban forests: Environment types or personality traits? *Urban Forestry & Urban Greening* **92** 128187.

Wang Y, Sun Y, Cao X, Wang Y, Zhang W, Cheng X (2023) A review of regional and Global scale Land Use/Land Cover (LULC) mapping products generated from satellite remote sensing. *ISPRS Journal of Photogrammetry and Remote Sensing* **206** 311-334.

Wang Y, Xiang Y, Song L, Liang X-Z (2022) Quantifying the Contribution of Urbanization to Summer Extreme High-Temperature Events in the Beijing–Tianjin–Hebei Urban Agglomeration. *Journal of Applied Meteorology and Climatology* **61** 669-683.

Wang Y, Xu S, Li B, Li Y, Wang R, Chen W, He X, Hayes F, Li M (2024) Individual and interactive effects of air warming and elevated O3 on carbon fixation and allocation in two urban tree species. *Agricultural and Forest Meteorology* **345** 109856.

Wang Y, Zheng T, Li J, Chen Y, Hong C, Zhang Y, Shao F (2024) Research on the outdoor thermal comfort of children in Hangzhou and Its influence on the underlying surface reflectance. *International Journal of Biometeorology*

Wang Z, Cheng H, Li Z, Gou F, Zhai W (2024) Can green space exposure enhance the health of rural migrants in Wuhan, China? An exploration of the multidimensional roles of place attachment. *Urban Forestry & Urban Greening* **93** 128228.

Wang Z, Li J, Hou J, Zhao K, Wu R, Sun B, Lu J, Liu Y, Cui C, Liu J (2024) Enhanced evapotranspiration induced by vegetation restoration may pose water resource risks under climate change in the Yellow River Basin. *Ecological Indicators* **162** 112060.

Wang Z, Li Z, Wang Y, Zheng X, Deng X (2024) Building green infrastructure for mitigating urban flood risk in Beijing, China. *Urban Forestry & Urban Greening* **93**

128218.

Wang Z, Wang Z, Zou Z, Chen X, Wu H, Wang W, Su H, Li F, Xu W, Liu Z, Zhu J (2024) Severe Global Environmental Issues Caused by Canada's Record-Breaking Wildfires in 2023. *Advances in Atmospheric Sciences* **41** 565-571.

Wang Z, Xiong H, Zhang F, Qiu Y, Ma C (2024) Sustainable development assessment of ecological vulnerability in arid areas under the influence of multiple indicators. *Journal of Cleaner Production* **436** 140629.

Wang Z, Zhou J, Ma J, Wang Y, Liu S, Ding L, Tang W, Pakezhamu N, Meng L (2023) Removing temperature drift and temporal variation in thermal infrared images of a UAV uncooled thermal infrared imager. *ISPRS Journal of Photogrammetry and Remote Sensing* **203** 392-411.

Warren E, Charlton-Perez C, Lean H, Kotthaus S, Grimmond S (2022) Spatial variability of forward modelled attenuated backscatter in clear-sky conditions over a megacity: Implications for observation network design. *Quarterly Journal of the Royal Meteorological Society* **148** 1168-1183.

Waugh DW, Zaitchik B, Scott AA, Ibsen PC, Jenerette GD, Schatz J, Kucharik CJ (2023) Limited Role of Absolute Humidity in Intraurban Heat Variability. *Journal of Applied Meteorology and Climatology* **62** 1845-1854.

Weeding B, Love P, Beyer K, Lucieer A, Remenyi T (2024) High-resolution projections of outdoor thermal stress in the twenty-first century: a Tasmanian case study. *International Journal of Biometeorology* **68** 777-793.

Wehrli K, Sidler F, Gubler S, Settembrini G, Koschenz M, Irigoyen SD, Kotlarski S, Fischer AM, Zweifel G (2024) Building design in a changing climate - Future Swiss reference years for building simulations. *Climate Services* **34** 100448.

Wei J, Sun K, Li W, Li W, Gao S, Miao S, Zhou Q, Liu J (2024) Robust change detection for remote sensing images based on temporospatial interactive attention module. *International Journal of Applied Earth Observation and Geoinformation* **128** 103767.

Wei M, Yin X (2024) Broadband infrastructure and urban carbon emissions: Quasi-experimental evidence from China. *Urban Climate* **54** 101863.

Wei W, Alim S, Jilili A, Yongxiao G (2021) Quantifying the influences of land surface parameters on LST variations based on GeoDetector model in Syr Darya Basin, Central Asia. *Journal of Arid Environments* **186** 104415.

Wei Y, Chen H, Huang JJ (2024) Response of surface energy components to urban heatwaves and its impact on human comfort in coastal city. *Urban Climate* **54** 101836.

Wei Y, Zhao M, Gao J (2024) What factors are influencing peri-urban forest carbon storage in different land use types based on permanent plots from 2009-2018. *Urban Ecosystems*

Wen J, Chen JI, Lin W, Jiang B, Xu S, Lan J (2020) Impacts of anthropogenic heat flux and urban land-use change on frontal rainfall near coastal regions: A case study of a rainstorm over the pearl river Delta, South China. *Journal of Applied Meteorology and Climatology* **59** 363-379.

Wentz EA, Solís P, Wang C, Aguiar-Hernandez C, Courtright H, Dock AJ (2024) Planning for Heat Resilience and the Future of Residential Electricity Usage. *Annals of the American Association of Geographers* **114** 918-942.

Wiechman A, Vicario SA, Anderies JM, Garcia M, Azizi K, Hornberger G (2024) Institutional Dynamics Impact the Response of Urban Socio-Hydrologic Systems to Supply Challenges. *Water Resources Research* **60** e2023WR035565.

Williams-Subiza EA, Brand C, Assef YA, Grech MG, Miserendino ML (2024) Effects of urbanization-related disturbances on macroinvertebrate communities in a Patagonian river system: insights from a functional approach. *Urban Ecosystems*

Wilson SL (2024) Integrating biocultural diversity into urban school grounds through transdisciplinary curriculum design. *Urban Ecosystems*

Wistrom B, Martensson F, Ode Sang A, Litsmark A, Hedblom M (2024) Creative management: a framework for designing multifunctional play biotopes - lessons from a Scandinavian landscape laboratory. *Urban Ecosystems*

Wu D, Chen T, Zhang L, Ling H, Yang J, Shen C (2024) Ecological risk assessment under the PSR framework and its application to shallow urban lakes. *Environmental Science and Pollution Research*

Wu J, Meng Q, Gao L, Zhang L, Zhao M, Su C (2024) A deep learning framework for 3D vegetation extraction in complex urban environments. *International Journal of Applied Earth Observation and Geoinformation* **129** 103798.

Wu K-Y, Hsia IW, Kow P-Y, Chang L-C, Chang F-J (2023) High-spatiotemporal-resolution PM2.5 forecasting by hybrid deep learning models with ensembled massive heterogeneous monitoring data. *Journal of Cleaner Production* **433** 139825.

Wu M, Luo Y, Chen F, Wong WK (2019) Observed link of extreme hourly precipitation changes to urbanization over coastal South China. *Journal of Applied Meteorology and Climatology* **58** 1799-1819.

Wu R, Zhang Q, Hao Z, Li L, Gao B, Li J, Liu X, Liao C, Pei N (2024) Insectivorous birds are more sensitive to urban greenspace changes in Guangzhou city, China. *Urban Forestry & Urban Greening* **94** 128243.

Wu S, Chen C, Song H, Yu Z, Wang J, Wang Y (2024) Reduced-scale numerical simulation method and its application to urban-scale buoyancy-driven flows. *Building and Environment* **249** 111117.

Wu W, Huang Y, Fath BD, Schwarzfurtner-Lutnik K, Harder MK (2024) Using desirable urban states to understand key linkages between resilience subsystems. *Journal of Cleaner Production* **436** 140678.

Wu W, Huang Y, Zhang Y, Zhou B (2024) Research on the coupling relationship and interaction between urbanization and eco-environment in urban agglomerations: A case study of the Chengdu-Chongqing urban agglomeration. *Plos One* **19** e0301287.

Wu W, Qiu X, Ou M, Guo J (2024) Optimization of land use planning under multi-objective demand-the case of Changchun City, China. *Environmental Science and Pollution Research* **31** 9512-9534.

Wu W-B, Yu Z-W, Ma J, Zhao B (2022) Quantifying the influence of 2D and 3D urban morphology on the thermal environment across climatic zones. *Landscape and Urban Planning* **226** 104499.

Wu Y, Han X, Lin P (2024) Numerical simulation and characteristic analysis of flood intrusion into streets and buildings. *Journal of Hydrology* **631** 130751.

Wu Y, Quan SJ (2024) A review of surrogate-assisted design optimization for improving urban wind environment. *Building and Environment* **253** 111157.

Wu Y, Xue F, Li M, Chen S-H (2024) A novel Building Section Skeleton for compact 3D reconstruction from point clouds: A study of high-density urban scenes. *ISPRS Journal of Photogrammetry and Remote Sensing* **209** 85-100.

Xi Y, Wang S, Zou Y, Zhou X, Zhang Y (2024) Seasonal surface urban heat island analysis based on local climate zones. *Ecological Indicators* **159** 111669.

Xia C (2024) Escaping Environmental Hazards? Human Mobility in Response to Air Pollution and Extreme Cold Events. *Annals of the American Association of Geographers*

Xia X, Sun H, Yang Z, Zhu S (2024) Evaluation on evolution of spatial relationship between carbon emissions and economic growth in Beijing-Tianjin-Hebei region. *Environmental Science and Pollution Research* **31** 8453-8466.

Xiang Y, Huang C, Huang X, Zhou Z, Wang X (2021) Seasonal variations of the dominant factors for spatial heterogeneity and time inconsistency of land surface temperature in an urban agglomeration of central China. *Sustainable Cities and Society* **75** 103285.

Xiao C, Wang Y, Yan M, Chiaka JC (2024) Impact of cross-border transportation corridors on changes of land use and landscape pattern: A case study of the China-Laos railway. *Landscape and Urban Planning* **241** 104924.

Xiao S, Cheng D, Hu N, Wang Y, Zhang H, Gou Y, Li X, Lv Z (2023) Experiments on the Thermal Performance and Service Life of Three High-Albedo Roof Materials in Nanjing, China. *Journal of Applied Meteorology and Climatology* **60** 1909-1920.

Xie J, Zhou S, Chung LCH, Chan TO (2024) Evaluating land-surface warming and cooling environments across urban-rural local climate zone gradients in subtropical megacities. *Building and Environment* **251** 111232.

Xing Y, Williams A, Knight A (2024) Developing a biophilic behavioural change design framework - A scoping study. *Urban Forestry & Urban Greening* **94** 128278.

Xu B, Xu J, Xue N, Xia G-S (2023) HiSup: Accurate polygonal mapping of buildings in satellite imagery with hierarchical supervision. *ISPRS Journal of Photogrammetry and Remote Sensing* **198** 284-296.

Xu F, Wang H, Tian D, Gao Z, Zhang J (2024) Factors affecting the daytime cooling effect of cool materials: A case study combining experiment and simulation. *Building and Environment* **250** 111213.

Xu F, Wong MS, Zhu R, Heo J, Shi G (2023) Semantic segmentation of urban building surface materials using multi-scale contextual attention network. *ISPRS Journal of Photogrammetry and Remote Sensing* **202** 158-168.

Xu H, Li C, Hu Y, Wang H, Wen D, Li Z, Ping X, Wang Q, Li Q (2024) Spatiotemporal evolution and influencing factors of surface urban heat island footprint across different-sized cities. *Urban Climate* **54** 101852.

Xu M, de Guenni LB, Cordova JR (2024) Climate change impacts on rainfall intensity-duration-frequency curves in local scale catchments. *Environmental Monitoring and Assessment* **196** 372.

Xu W, Wang H, Su H, Sullivan WC, Lin G, Pryor M, Jiang B (2024) Impacts of sights and sounds on anxiety relief in the high-density city. *Landscape and Urban Planning* **241** 104927.

Xu X, Zeng L, Li S, Liu Y, Zhang T (2024) Dynamic nonlinear CO2 emission effects of urbanization routes in the eight most populous countries. *Plos One* **19** e0296997.

Xu Y, Yang J, Zheng Y, Li W (2024) Impacts of two-dimensional and three-dimensional urban morphology on urban thermal environments in high-density cities: A case study of Hong Kong. *Building and Environment* **252** 111249.

Xuan Q, Lao J, Zhao B, Li G, Pei G, Niu J, Dai J-G (2024) Experimental and numerical investigation on energy-saving performance of radiative cooling coating for metal container office. *Energy and Buildings* **310** 114084.

Yabo SD, Lu L, Ma L, Li B, Fu D, Meng F, Jiang J, Xie S, Zhang W, Qi H (2024) Probing into the radiative mechanisms and drivers influencing urban heat-cold islands and urban pollution islands during heavy-haze events in a cold megacity of Northeast China. *Atmospheric Research* **301** 107259.

Yadav A, Parida M, Choudhary P, Kumar B, Singh D (2024) Traffic noise modelling at intersections in mid-sized cities: an artificial neural network approach. *Environmental Monitoring and Assessment* **196** 396.

Yamamoto M, Ishida Y, Mochida A, Kobayashi H, Watanabe H, Abe K, Fujita S (2024) Assessment of cooling effect of sea breeze under future climate based on analysis of heat balance mechanism of urban space. *Building and Environment* **253** 111296.

Yan C, Miaomiao X, Bin C, Huihui W, Yali T (2023) Surface Regional Heat (Cool) Island Effect and Its Diurnal Differences in Arid and Semiarid Resource-based Urban Agglomerations. *Chinese Geographical Science* **33** 131-143.

Yan H, Gao Y, Wilby R, Yu D, Wright N, Yin J, Chen X, Chen J, Guan M (2024) Urbanization Further Intensifies Short-Duration Rainfall Extremes in a Warmer Climate. *Geophysical Research Letters* **51** e2024GL108565.

Yan J, Chen WY, Zhang Z, Zhao W, Liu M, Yin S (2024) Mitigating PM2.5 exposure with vegetation barrier and building designs in urban open-road environments based on numerical simulations. *Landscape and Urban Planning* **241** 104918.

Yang C, Zhang Y (2024) Public emotions and visual perception of the East Coast Park in Singapore: A deep learning method using social media data. *Urban Forestry & Urban Greening* **94** 128285.

Yang J, Bou-Zeid E (2018) Should cities embrace their heat islands as shields from extreme cold? *Journal of Applied Meteorology and Climatology* **57** 1309-1320.

*Yang L, Yang Y, Shen Y, Yang J, Zheng G, Smith J, Niyogi D (2024) Urban development pattern's influence on extreme rainfall occurrences. *Nature Communications* **15** 3997.

Yang M, Xue L, Liu Y, Wang W, Han Q, Liu S, Fu R (2024) Runoff response to multiple land-use changes and climate perturbations. *Hydrological Processes* **38** e15072.

*Yang N, Xue S, Ahmad MR, Xuan Q, Kai M, Dai J (2024) Development of red mud-modified geopolymer coating with radiative cooling effect for footway application. *Journal of Cleaner Production* **450** 141915.

Yang Q, Xu Y, Tong X, Huang X, Liu Y, Chakraborty T, Xiao C, Hu T (2023) An adaptive synchronous extraction (ASE) method for estimating intensity and footprint of surface urban heat islands: A case study of 254 North American cities. *Remote Sensing of Environment* **297** 113777.

Yang S, Zhou H, Pang Z, Wang Y, Chao J (2024) Microbial community structure and diversity attached to the periphyton in different urban aquatic habitats. *Environmental Monitoring and Assessment* **196** 445.

*Yang X, Wang Z-H, Wang C, Lai Y-C (2024) Megacities are causal pacemakers of extreme heatwaves. *Npj Urban Sustainability* **4** 8.

Yang Y, Bao W, de Sherbinin A (2023) Mapping fine-resolution nested social-ecological system archetypes to reveal archetypical human-environmental interactions. *Landscape and Urban Planning* **239** 104863.

Yang Z, Zhang M, Wang L, Su X, Qin W (2023) Diurnal time representation of MODIS, VIIRS, MISR, and AHI over Asia and Oceania. *Remote Sensing of Environment* **299** 113878.

Yao H, Shen X, Wu W, Lv Y, Vishnupriya V, Zhang H, Long Z (2024) Assessing and predicting indoor environmental quality in 13 naturally ventilated urban residential dwellings. *Building and Environment* **253** 111347.

Yao L (2024) Assessment of long time-series greening signatures across the urban-rural gradient in Chinese cities. *Ecological Indicators* **160** 111826.

Yao P, Zhang B, Yang R, Ma X, Zhang X, Wu T, Li B (2024) Assessment of the combined vulnerability to droughts and heatwaves in Shandong Province in summer from 2000 to 2018. *Environmental Monitoring and Assessment* **196** 464.

Yao R, Huang X, Zhang Y, Wang L, Li J, Yang Q (2024) Estimation of the surface urban heat island intensity across 1031 global cities using the regression-modification-estimation (RME) method. *Journal of Cleaner Production* **434** 140231.

Yao X, Yu Z, Ma W, Xiong J, Yang G (2024) Quantifying threshold effects of physiological health benefits in greenspace exposure. *Landscape and Urban Planning* **241** 104917.

Yass R, Mohammed S, Jalal T, Hamzah H (2024) Evaluation of physiochemical, heavy metals, and bacteriological parameters of celery and its irrigation water within Sulaymaniyah city of Iraq. *Environmental Monitoring and Assessment* **196** 483.

Yecheng X, Yaoqi Z, Jiquan C (2021) Migration under economic transition and changing climate in Mongolia. *Journal of Arid Environments* **185** 104333.

Yilmaz M, Kara Y, Toros H, Incecik S (2024) Analysis of the summer thermal comfort indices in İstanbul. *International Journal of Biometeorology*

Yin P, Li X, Zhou Y, Mao J, Fu YH, Cao W, Gong P, He W, Li B, Huang J, Liu X, Shi Z, Liu D, Guo J (2024) Urbanization effects on the spatial patterns of spring vegetation phenology depend on the climatic background. *Agricultural and Forest Meteorology* **345** 109718.

You C, Fung JC (2019) Characteristics of the sea-breeze circulation in the pearl river delta region and its dynamical diagnosis. *Journal of Applied Meteorology and Climatology* **58** 741-755.

You C, Fung JC-H, Tse WP (2019) Response of the sea breeze to urbanization in the pearl river delta region. *Journal of Applied Meteorology and Climatology* **58** 1449-1463.

Yu C, Pan W, Bai Y (2024) Sensitivities of energy use reduction in subtropical high-rise office buildings: A Hong Kong case. *Energy and Buildings* **311** 114117.

Yu M, González J, Miao S, Ramamurthy P (2019) On the assessment of a cooling tower scheme for high-resolution numerical weather modeling for urban areas. *Journal of Applied Meteorology and Climatology* **58** 1399-1415.

Yu Y, Renzullo LJ, Mcvicar TR, Malone BP, Tian S (2023) Generating daily 100 m resolution land surface temperature estimates continentally using an unbiased spatiotemporal fusion approach. *Remote Sensing of Environment* **297** 113784.

Yu Y, Zhao B, Yu J, Xu Y, Chang W-S, Chen Y, Guo H (2024) Study of phase change material on alleviating building overheating risk in cold regions of China. *Building Research and Information*

*Yu Z, Chen J, Chen J, Zhan W, Wang C, Ma W, Yao X, Zhou S, Zhu K, Sun R (2024) Enhanced observations from an optimized soil-canopy-photosynthesis and energy flux model revealed evapotranspiration-shading cooling dynamics of urban vegetation during extreme heat. *Remote Sensing of Environment* **305** 114098.

Yu Z, Yao Y, Yang G, Wang X, Vejre H (2019) Spatiotemporal patterns and characteristics of remotely sensed region heat islands during the rapid urbanization (1995-2015) of Southern China. *Science of the Total Environment* **674** 242-254.

Yu Z, Yao Y, Yang G, Wang X, Vejre H (2019) Strong contribution of rapid urbanization and urban agglomeration development to regional thermal environment dynamics and evolution. *Forest Ecology and Management* **446** 214-225.

*Yuan B, Li X, Zhou L, Bai T, Hu T, Huang J, Liu D, Li Y, Guo J (2023) Global distinct variations of surface urban heat islands in inter- and intra-cities revealed by local climate zones and seamless daily land surface temperature data. *ISPRS Journal of Photogrammetry & Remote Sensing* **204** 1-14.

Yuan J, Zheng F, Duan H-F, Deng Z, Kapelan Z, Savic D, Shao T, Huang WM, Zhao T, Chen X (2024) Numerical modelling and quantification of coastal urban compound flooding. *Journal of Hydrology* **630** 130716.

Yuan Y, Zheng Y, Huang X, Zhai J (2024) Climate resilience of urban water systems: A case study of sponge cities in China. *Journal of Cleaner Production* **451** 141781.

Yun J, Shin W, Kim J, Thorne JH, Song Y (2024) Citizen-science data identifies the daily movement patterns and habitat associations of a nocturnal urban-invading bird species (Corvus frugilegus). *Urban Ecosystems*

Zabel A, Hausler M-M (2024) Policy instruments for green infrastructure. *Landscape and Urban Planning* **242** 104929.

Zahn E, Bou-Zeid E (2024) Setting Up a Large-Eddy Simulation to Focus on the Atmospheric Surface Layer. *Boundary-layer Meteorology* **190** 12.

Zahor DL, Glynn KJ, Majestic B, Cornelius JM (2024) You are what you eat: urban soil lead predicts American robin (Turdus migratorius) blood lead in Flint, MI. *Urban Ecosystems*

Zgela M, Herceg-Bulic I, Lozuk J, Juresa P (2024) Linking land surface temperature and local climate zones in nine Croatian cities. *Urban Climate* **54** 101842.

Zgela M, Lozuk J, Juresa P, Justic K, Popovic M, Boras M, Herceg-Bulic I (2024) Urban heat load assessment in Zagreb, Croatia: a multi-scale analysis using mobile measurement and satellite imagery. *Environmental Monitoring and Assessment* **196** 410.

Zha F, Lu L, Wang R, Zhang S, Cao S, Baqa MF, Li Q, Chen F (2024) Understanding fine-scale heat health risks and the role of green infrastructure based on remote sensing and socioeconomic data in the megacity of Beijing, China. *Ecological Indicators* **160** 111847.

Zha X, Fang W, Zhu W, Wang S, Mu Y, Wang X, Luo P, Zainol MRRMA, Zawawi MH, Chong KL, Apip A (2024) Optimizing the deployment of LID facilities on a campus-scale and assessing the benefits of comprehensive control in Sponge City. *Journal of Hydrology* **635** 131189.

Zhan X, Yu S, Li Y, Zhou Z, Cao H, Tang G (2024) Reconstructing historical forest spatial patterns based on CA-AdaBoost-ANN model in northern Guangzhou, China. *Landscape and Urban Planning* **242** 104950.

Zhang B, Li CY, Kikumoto H, Niu J, Tse TKT (2024) Smart urban windcatcher: Conception of an AI-empowered wind-channeling system for real-time enhancement of urban wind environment. *Building and Environment* **253** 111357.

*Zhang B, MacKenzie A (2024) Trade-offs and synergies in urban green infrastructure: A systematic review. *Urban Forestry & Urban Greening* **94** 128262.

Zhang C, Wen C-Y, Juan Y-H, Lee Y-T, Chen Z, Yang A-S, Li Z (2024) Accelerating flow simulations in the built environment by using the fast fluid dynamics initializer. *Building and Environment* **253** 111274.

Zhang D-L, Jin MS, Shou Y, Dong C (2019) The influences of urban building complexes on the ambient flows over the washington–reston region. *Journal of Applied*

Meteorology and Climatology **58** 1325-1336.

Zhang H, Dang X, Zhao J, Lu M (2024) Analysis and prediction of ground deformation in Yinxi Industrial Park based on time-series InSAR technology. *Environmental Monitoring and Assessment* **196** 359.

Zhang H, Wang C, Yang H, Ma Z (2024) How do morphology factors affect urban heat island intensity? an approach of local climate zones in a fast-growing small city, Yangling, China. *Ecological Indicators* **161** 111972.

Zhang H-L, Xiu H, Nizamani MM, Zhou Q, Long K, Quan Y, Fu T, Sun Q (2024) China's urban green growth from 2000 to 2020 is influenced by legacy effects. *Urban Ecosystems*

Zhang J, Ren G, You Q (2024) Detection and Attribution of Human-Perceived Warming Over China. *Geophysical Research Letters* **51** e2023GL106283.

Zhang L, Li X, Li Q, Xia X, Zhang H (2024) The effects of land use types on microplastics in river water: A case study on the mainstream of the Wei River, China. *Environmental Monitoring and Assessment* **196** 349.

Zhang L, Zhang Y, Wang J, Liang X, Wei Y (2024) Spatiotemporal evolution characteristics and driving forces of vegetation cover variations in the Chengdu-Chongqing region of China under the background of rapid urbanization. *Environmental Science and Pollution Research*

Zhang L, Zheng J, Li H, Yu R, Wei L, Zhang Y (2024) False Alarm Causes and Wind Field Sensitivity Analysis of a Severe Rainfall Event in the Guangdong-Hong Kong-Macao Greater Bay Area Urban Cluster. *Advances in Meteorology* **2024** 6819711.

Zhang M, Guo X, Li J, Gao Z, Ji G, Zhang J, Buccolieri R (2024) Urban-canopy airflow dynamics: A numerical investigation of drag forces and distribution for generic neighborhoods, and their relationships with breathability. *Science of the Total Environment* **926** 171836.

Zhang N, Ye H, Wang M, Li Z, Li S, Li Y (2022) Response Relationship between the Regional Thermal Environment and Urban Forms during Rapid Urbanization (2000-2010-2020): A Case Study of Three Urban Agglomerations in China. *Remote Sensing* **14** 3749.

Zhang P, Fahey RT, Park S (2024) The importance of current and potential tree canopy on urban vacant lots for landscape connectivity. *Urban Forestry & Urban Greening* **94** 128235.

Zhang Q, Zhang Z, Xu N, Li Y (2023) Fully automatic training sample collection for detecting multi-decadal inland/seaward urban sprawl. *Remote Sensing of Environment* **298** 113801.

Zhang R, Ying J, Zhang R, Zhang Y (2024) Urban green and blue infrastructure: unveiling the spatiotemporal impact on carbon emissions in China's Yangtze River Delta. *Environmental Science and Pollution Research*

Zhang W, Zeng H (2024) Spatial differentiation characteristics and influencing factors of the green view index in urban areas based on street view images: A case study of Futian District, Shenzhen, China. *Urban Forestry & Urban Greening* **93** 128219.

Zhang W, Zeng H (2024) Spatial differentiation characteristics and influencing factors of the green view index in urban areas based on street view images: A case study of Futian District, Shenzhen, China(vol 93 128219 , 2024). *Urban Forestry & Urban Greening* **94** 128265.

Zhang X (2024) Research on the dynamic mechanism of digital economy system coupling to enhance urban ecological resilience. *Environmental Science and Pollution Research*

Zhang X, Wang X, Du S, Tian S, Jia A, Ye Y, Gao N, Kuang X, Shi X (2024) A systematic review of urban form generation and optimization for performance-driven urban design. *Building and Environment* **253** 111269.

Zhang X, Zhang D (2023) Urban carbon emission scenario prediction and multi-objective land use optimization strategy under carbon emission constraints. *Journal of Cleaner Production* **430** 139684.

Zhang Y, Feng X, Sun C, Leng X, Zhou C, Wang Y, Fu B (2023) Evolution of social-ecological system and the hydrological linkages in oasis area, northwestern China. *Journal of Arid Environments* **219** 105082.

Zhang Y, Liu P, Biljecki F (2023) Knowledge and topology: A two layer spatially dependent graph neural networks to identify urban functions with time-series street view image. *ISPRS Journal of Photogrammetry and Remote Sensing* **198** 153-168.

Zhang Y, Luo F (2024) Carbon emissions in China's urban agglomerations: spatio-temporal patterns, regional inequalities, and driving forces. *Environmental Science and Pollution Research*

Zhang Z, Wang J, Ge Y (2024) Quantifying Human Contributions to Near-Surface Temperature Inversions: Insights From COVID-19 Natural Experiments. *Geophysical Research Letters* **51** e2023GL107964.

Zhang Z, Yu H, He N, Jin G (2024) Future land use simulation model-based landscape ecological risk prediction under the localized shared socioeconomic pathways in the Xiangjiang River Basin, China. *Environmental Science and Pollution Research*

Zhao H, Chen Z, Zhang M, Niu H, Zhang H (2024) Rapid urbanization declined mammals and mammal-mediated seed dispersal in a megacity, central China. *Urban Ecosystems*

Zhao J, Sun G, Webster C (2024) Global Street Experiment: A Geospatial Database of Pandemic-induced Street

Transitions. *Landscape and Urban Planning* **242** 104931.

Zhao Q, Gao L, Meng Q, Zhu M, Xiong M (2024) Nonlinear causal relationships between urbanization and extreme climate events in China. *Journal of Cleaner Production* **434** 139889.

Zhao Q, Li R, Cao K, Yi M, Liu H (2024) Influence of building spatial patterns on wind environment and air pollution dispersion inside an industrial park based on CFD simulation. *Environmental Monitoring & Assessment* **196** 427.

Zhao Y, Diao C, Augspurger CK, Yang Z (2023) Monitoring spring leaf phenology of individual trees in a temperate forest fragment with multi-scale satellite time series. *Remote Sensing of Environment* **297** 113790.

Zhao Y, Zhao K, Zhang X, Zhang Y, Du Z (2024) Assessment of combined passive cooling strategies for improving outdoor thermal comfort in a school courtyard. *Building and Environment* **252** 111247.

Zhao Z, Li W, Zhang J, Zheng Y (2024) Constructing an urban heat island network based on connectivity perspective: A case study of Harbin, China. *Ecological Indicators* **159** 111665.

Zhao Z, Ye H, Wang K, Lin T, Zhang G, Lin M (2024) Building energy consumption reduction driven by the accessibility to greenspace ecological effect. *Ecological Indicators* **160** 111750.

Zheng Q, Seto KC, Zhou Y, You S, Weng Q (2023) Nighttime light remote sensing for urban applications: Progress, challenges, and prospects. *ISPRS Journal of Photogrammetry and Remote Sensing* **202** 125-141.

Zheng T, Pan Q, Zhang X, Wang C, Yan Y, Van De Voorde T (2024) Research Note: Linking sensory perceptions with landscape elements through a combined approach based on prior knowledge and machine learning. *Landscape and Urban Planning* **242** 104928.

Zhong X, Zhao L, Wu R, Zhao H, Zhang X, Ren P, Zhang Y (2024) How to rapidly map outdoor mean radiation temperatures with high-spatial-resolution from UAV-derived multimodal images: A case study in Guangzhou. *Building and Environment* **255** 111389.

Zhong Y, Yan B, Yi J, Yang R, Xu M, Su Y, Zheng Z, Zhang L (2023) Global urban high-resolution land-use mapping: From benchmarks to multi-megacity applications. *Remote Sensing of Environment* **298** 113758.

Zhou J, Yang Q, Liu L, Kang Y, Jia X, Chen M, Ghosh R, Xu S, Jiang C, Guan K, Kumar V, Jin Z (2023) A deep transfer learning framework for mapping high spatiotemporal resolution LAI. *ISPRS Journal of Photogrammetry and Remote Sensing* **206** 30-48.

Zhou W, Persello C, Li M, Stein A (2023) Building use and mixed-use classification with a transformer-based network fusing satellite images and geospatial textual information. *Remote Sensing of Environment* **297** 113767.

Zhou X, Cao G, Peng B, Xu X, Yu F, Xu Z, Yan Y, Du H (2024) Citizen environmental complaint reporting and air quality improvement: A panel regression analysis in China. *Journal of Cleaner Production* **434** 140319.

*Zhou X, Letson F, Crippa P, Pryor SC (2024) Urban Effect on Precipitation and Deep Convective Systems Over Dallas-Fort Worth. *Journal of Geophysical Research-atmospheres* **129** e2023JD039972.

Zhou X, Zhang C, Li Y, Sun J, Chen Z, Li L (2024) Concurrence of Temperature and Humidity Inversions in Winter in Qingdao, China. *Geophysical Research Letters* **51** e2024GL108350.

Zhou Y, Zhao C, Sun Y, Du Q, Zhao C, Yang Y, Ma Z, Fan H, Zhao X, Yang J, Zhang H (2024) A modeling study of aerosol effect on summer nocturnal convective precipitation in Beijing. *Atmospheric Research* **305** 107430.

Zhou Y, Zheng S (2024) A co-simulated material-component-system-district framework for climate-adaption and sustainability transition. *Renewable and Sustainable Energy Reviews* **192** 114184.

Zhu B, Han Z, Pouramini S (2024) Optimization of urban buildings form using a modified competitive search algorithm. *Journal of Cleaner Production* **434** 139615.

Zhu J, Hou J, Cai A, Zhang Y, Liu D, Lu D, Zheng X (2024) Two-stage assessment: Towards a novel and holistic evaluation of urban geographically isolated wetland sustainability under global warming-induced dryness and loss. *Journal of Cleaner Production* **434** 140035.

Zhu L, Ma J, Wang C, Defilla S, Yan Z (2024) Sensitivity analysis of coastal cities to effects of rainstorm and flood disasters. *Environmental Monitoring & Assessment* **196** 386.

Zhu Q, Li Z, Song T, Yao L, Guan Q, Zhang L (2024) Unrestricted region and scale: Deep self-supervised building mapping framework across different cities from five continents. *ISPRS Journal of Photogrammetry and Remote Sensing* **209** 344-367.

Zhu S, Zhang C, Fang X, Yan Y, Hang X, Chen Y, Sun L, Xie X, Li Y (2024) The spatiotemporal patterns and climate impacts of the carbon dynamics in economically developed areas of China during the past 40 years: A case of Jiangsu Province. *Journal of Cleaner Production* **435** 140567.

Zonato A, Martilli A, Santiago JL, Zardi D, Giovannini L (2023) On a new one-dimensional k–ε turbulence closure for building-induced drag. *Quarterly Journal of the Royal Meteorological Society* **149** 1674-1689.

Zuo W, Ren Z, Shan X, Zhou Z, Deng Q (2024) Analysis of Urban Heat Island Effect in Wuhan Urban Area Based on Prediction of Urban Underlying Surface Coverage Type Change. *Advances in Meteorology* **2024** 4509221.

Upcoming Conferences...

ICOS SCIENCE CONFERENCE 2024 SESSION ON "QUANTIFICATION OF URBAN GREENHOUSE GAS EMISSIONS -- FROM NOVEL MONITORING TO SOURCE IDENTIFICATION
Versailles, France • Sep. 10-12, 2024
https://www.icos-cp.eu/news-and-events/science-conference/icos2024sc

20TH INTERNATIONAL DAYS ON THERMAL SCIENCE AND ENERGY (Journées internationales de thermique, JITH 2024)
Paris, France • October 29-31, 2024
http://www.jith.eu/index.php/jith-2024

AMERICAN GEOPHYISCAL UNION (AGU) FALL MEETING
Washington, D.C., USA • December 9-13, 2024
https://www.agu.org/fall-meeting/

AMERICAN METEOROLOGICAL SOCIETY (AMS) ANNUAL MEETING (Abstract Deadline: 15 August)
New Orleans, USA • January 12-16, 2025
https://annual.ametsoc.org/index.cfm/2025/

The Board of the AMS has decided to devote four sessions to urban climate at different symposiums:

Session 1:
Cities and Climate Change
Submit abstracts to:
38th Conference on Climate Variability and Change

Topic Description: The Intergovernmental Panel on Climate Change (IPCC) has announced the Special Report on Climate Change and Cities, set for release in early 2027. In response, this session seeks to facilitate the exchange, update, and synthesis of insights derived from innovative research and approaches in this field. In particular, we encourage submissions on four key areas central to the discussion:

- Two-Way Feedback Between Cities and Regions, and their Climates: Cities play a significant role in shaping their local and regional climates, leading to a dynamic two-way interaction that influences climate extremes and high-impact weather events.
- Compounding and Cascading Climate Hazards: Urban areas face a multitude of weather-related hazards (such as cold and heat waves, flooding, and extreme wind events) across various scales.
- Transparency of Model Outputs in Future Climate Scenarios: Communicating the uncertainties in global future climate projections, and their propagation to the regional and local scale analyses in cities, is essential for informed decision-making and effective adaptation strategies.
- Improving Actionability of Science for Cities: Enhancing the usability of scientific findings for urban decision-making may require collaborative efforts, such as co-production or engagement initiatives, to tailor scientific advancements to the specific needs of cities.

This session seeks submission within, but not limited to, these areas that explore the contribution of urban climate research to understanding the relationship between cities and climate change.

Session 2:
Environmental Health Across Urban Scales
Submit abstracts to:
16th Conference on Environment and Health

Topic Description: Urban residents are subject to a range of adverse environmental exposures--from heat which is exacerbated by urban heat island effects, to air pollution which is enhanced by industrial and other human activities. Much of the attention in understanding the drivers and distribution of environmental exposures and health outcomes to date has been focused on large cities and mega-urban regions or at coarse scales of global analysis. Efforts to mitigate heat and other environmental exposure disparities within communities have, to date, been likewise focused on large cities and mega-urban regions. This session will explore the varying scales of interventions and practices that can be implemented within the range of urban landscapes, with a particular focus on smaller urban systems. Small and medium sized cities (SMSC), home to a diverse and growing segment of the population, face unique barriers and vulnerabilities which may not be fully captured by research at the scale of large cities and mega-urban regions. The session will cover the challenges of understanding and mitigating environmental health impacts within urban climates, particularly in SMSC, with the goal of promoting healthier urban communities.

Upcoming Conferences (continued)

Session 3:

ML/AI advances for urban climate research

Submit abstracts to: [24th Conference on Artificial Intelligence for Environmental Science]

Topic Description: Climate is increasingly becoming a data problem. The compressed climate model output for the sixth Coupled Model Intercomparison Project (CMIP6) is estimated at 18 Peta Bytes, five times the size of the CMIP5 archive. The demand for higher-resolution observation and modeling data intensifies at the city scale, underscoring the need for innovative data analysis techniques.
In response to this big data trend, the emerging field of urban climate informatics is leveraging machine learning (ML) and artificial intelligence (AI) to extract complex patterns and insights from large datasets – insights that might otherwise require expert knowledge and time. ML also speeds up the development of parameterizations in weather and climate models (or their sub-components, e.g., land surface models) by replacing physically-based parameterizations with data-driven neural networks. With many focus areas, AI and ML are revolutionizing how we approach urban climate research. This session seeks submissions that present novel approaches using AI and MI and examine their potential in various areas including, but not limited to, observational analyses, modelling, process understanding, and urban characterizations.

Session 4:

Urban Modeling, Climate Change and Sustainable Cities

Submit abstracts to: [13th Symposium on Building a Weather-Ready Nation: Enhancing Our Nation]

Topic Description: Weather patterns in cities and their surroundings are changing due to modifications in land surface characteristics and a warming planet. As a result, people living in urban areas are at higher risk due to the extreme weather events which are happening more frequently. In the coming decades, more people are expected to move to urban areas and the construction of new high-rise buildings and highways are expected to expand. Hence, the demand on built infrastructure and its vulnerability to weather-related events would increase in the future warmer climate. Due to the advancement of the field of urban meteorology with the development of urban canopy models, observing systems and creation of resilient solutions which take into account both simulation and instrumentation frameworks, and feedback from the community and stakeholders, we are currently in a better position to understand and evaluate the risk from extreme weather events in urban areas. This has led to more effective dissemination of urban weather information to decision makers. For example, recently, the US Department of Energy (DOE) has funded four Urban Integrated Field Laboratories for the advancement of urban science and to better understand the two-way interactions between cities and climate, especially from the perspective of impacts on disadvantaged communities. Independently of this progress in the field of urban science, has been the maturation of openly available Artificial Intelligence (AI) technology in both deep learning and generative (e.g., large language) models. Their potential application to further improve urban-scale modeling or enabling more effective decision making under uncertainty needs to be explored, which could lead to the development of new resilient solutions.

AMS 2025 105TH ANNUAL MEETING
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AMS URBAN ENVIRONMENT SESSIONS

The International Association for Urban Climate (IAUC) warmly invites you to the **12th International Conference on Urban Climate (ICUC12) to be held from July 7 to 11, 2025, in Rotterdam** (The Netherlands).

The call for ICUC12 (Special) Sessions and Workshops is open! Read the call here and submit a proposal for (special) session or workshop if interested. The (special) session template can be downloaded from here; the workshop template can be downloaded from here. Send the (special) session and workshop proposals to gert-jan.steeneveld@wur.nl and m.m.e.vanesch@tudelft.nl by August 15th 2024.

ICUC12 aims to bring together scientists, practitioners, lecturers and innovators from all over the globe to present, discuss and advance the scientific, societal, and educational forefronts in the field of urban climate in its broadest definition.

The conference will develop a series of oral and poster sessions to convey science messages, keynote lectures, an early career scientist event and discussion platforms. The theme will be "Heritage as urban climate challenge". We define Heritage in the broadest sense; not only historical and/or listed buildings and sites, but the totality of the existing built environment we inherit as a society. Furthermore, we also open the door to you as a community working in the field of urban climate to actively shape the conference.

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The next edition of *Urban Climate News* will appear in late September. Contributions for the upcoming issue are welcome, and should be submitted by August 31, 2024 to the relevant editor.

Submissions should be concise and accessible to a wide audience. The articles in this Newsletter are unrefereed, and their appearance does not constitute formal publication; they should not be used or cited otherwise.

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