

November 2023

ASU Julie Ann Wrigley
Global Futures Laboratory™
Arizona State University

Global Futures: **Now**



“We are the first generation to feel the impact of climate change and the last generation that can do something about it.” - Barack Obama

So far, 2023 has set multiple local, regional and global temperature records. Just recall the 31 consecutive days of temperatures above 110F (43.3C) here

in Phoenix. Or the record temperatures in ocean surface waters observed at multiple locations including the area off Florida with temperatures of 101F (38.3C - about the temperature of the human body). We have seen the hottest summer on record followed by multiple months that set records for globally averaged surface air temperature. Globally, we are on track for setting a new temperature record for the year.

Within this general picture of a warming world, there are hot spots that show early signs of the impact at higher amplitudes. Among them are the high latitudes, especially the northern high latitudes - the Arctic. It is a well-known fact that as global temperatures continued to rise due to human-induced activities over the past forty years, the Arctic has experienced diminishing extent and thickness of its sea ice cover, mainly in summer. Since the late 20th century, satellite observations have revealed an ongoing trend of rapidly decreasing sea ice coverage, raising concerns about weather patterns, local impacts and climate systems that extend far beyond the Arctic.

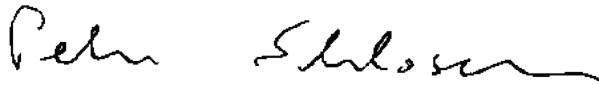
Until recently, the Antarctic sea ice cover was more or less stable if not slightly increasing in its extent. However, during the past few years, the Antarctic sea ice cover is also shrinking with a potential impact on the heat budget of the Southern Ocean and the planet as a whole. This phenomenon has the potential to lead to additional climate extremes along the lines our world is experiencing at increasing frequency and amplitude.

The increase in extreme climate events highlights the urgency for our responses to these human-induced perturbations of the life-supporting systems of our planet. In principle, we have many options to respond to these events but we are using too few of them and/or integrating them at a pace that is too slow. The time for transitioning to renewable energy sources, improving energy efficiency and enacting policies that promote climate solutions is now. We have run out of time for contemplating if climate change is real, and we don't want to transition from being deniers to becoming fatalists.

The Julie Ann Wrigley Global Futures Laboratory is dedicated to finding solutions for the problems related to climate change and beyond. We are

working on innovative technologies, information systems and strategic partnerships to help facilitate these efforts. We have a platform from which we can raise public awareness and promote educational outreach on Arctic conservation. Our transdisciplinary approach to research and innovation allows us to explore new technologies and strategies for responding to climate change and understanding its broader implications, so that one day we will move back into equilibrium with the life-supporting systems of our planet.

In this month of Thanksgiving, I would like to express my appreciation to the students and educators, researchers and staff who so firmly understand this demand of urgency.



Peter Schlosser
Vice President and Vice Provost of Global Futures

Top stories



Join us at COP28

The Julie Ann Wrigley Global Futures Laboratory is hosting a pavilion within the Blue Zone at COP28 in Dubai. The pavilion will feature a series of presentations and conversations around addressing the challenges human activity has brought upon our planetary systems.

[Learn more](#)



"Spruce Smoke" by artist Ree Nancarrow (2012, quilted fiber)

12 Global Futures Scientists and Scholars shape 5th National Climate Assessment

The White House released its Fifth National Climate Assessment, a highly influential scientific assessment of climate change impacts, mitigation and adaptation strategies across the country. Twelve faculty members, all, Senior Global Future Scientists or Scholars, from Arizona State University contributed to the report. [Dave White](#), director of the Global Institute of Sustainability and Innovation, served as the lead author of the chapter on the Southwest region and was present for the presentation of the report at the White House by President Biden.

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**Earth BioGenome Project
secretariat, leader join Global**

Futures Laboratory



[Harris Lewin](#), prominent genome scientist currently spearheading the Earth BioGenome Project, joins the Global Futures Laboratory as a professor. The global secretariat of the project also moves to ASU in December. Lewin's appointment strengthens the Global Futures Laboratory's ability to develop solutions for our world's planetary systems challenges, including the current biodiversity crisis.

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Research

Social tipping dynamics and framing climate change

[Tyler DesRoches](#), an associate professor in the School of Sustainability was an author on an article that claims recent developments in climate science and renewable energy should prompt a reframing of debates surrounding climate change mitigation. The article argues that climate mitigation should not be viewed as a self-sacrifice that individuals and governments must be morally persuaded or incentivized to undertake.



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Digging up the dirt on the Valley's soil contents

Senior Global Futures Scientists [Pierre Herckes](#) and [Matt Fraser](#), along with fourth-year doctoral student Kanchana Chandrakanthan, published a paper exploring Valley's soil contents. They found systematically higher concentrations of microplastics in 2015 soil samples compared with those of 2005. "What amazed me the most about our findings was that we saw microplastics in significant numbers in all samples," Herckes said in an [ASU News article](#) about the research. "There were no cases with nothing or close to nothing."

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SFIS student examines efficacy of healthcare drones

School for the Future of Innovation in Society student Lionel Gamath-Goubili submitted a paper on the use of healthcare drones to the 2023 PIT-UN Convening. The paper, "Healthcare Drones on Reservations: Opportunities, Challenges, and Implications," was among other

country-wide research submissions relating to public interest technology. Find the paper under the "All Submissions" section at the link below.

[Read the paper](#)



Ocean acidification observations

[Nicholas Bates](#) and [Rodney Johnson](#) of the ASU Bermuda Institute of Ocean Sciences wrote a paper providing the longest sustained time-series in the global ocean on ocean acidification with data and trends over the past 40 years. A brief summary of the findings can be found in the research journal *Frontiers*, with a final formatted version available soon.

[Read more](#)

Code of conduct for marine carbon dioxide removal established

[Sonja Klinsky](#), an associate professor in the School of Sustainability, was part of a team that recently released a code of conduct for marine carbon dioxide removal that lays out principles considerations that research teams, funders and communities could use to ensure that research aimed at using the ocean for carbon removal is done in ways that reduce harms to communities and ecological systems.



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More news



Distinguished Global Futures Scholar named 2024 Regents Professor

Among the four Regents Professors named in 2024 is [Sir Jonathan Bate](#), a sustainability scholar, Shakespeare expert and foundation professor of environmental humanities in the College of Global Futures, the School of Sustainability and the Department of English in The College of Liberal Arts and Sciences.

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Expert Q&A: Research shows beliefs about AI can affect our interactions

A recent study co-authored by [Ed Finn](#), a Senior Global Futures Scholar and professor, examines the ways that human perceptions of AI can change based on the way the AI is introduced via “priming statements.” When participants were told the AI’s motives were positive or negative before they engage with the technology, they interacted with it in different ways.

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Expert Q&A: Mapping our water reserves for the future

School of Sustainability Professor [Jay Famiglietti](#) talks about groundwater, satellites and the opportunity to secure a sustainable water supply in Arizona in a Q&A with ASU News. He said he is optimistic about Arizona’s water future: ASU’s team of researchers combined with support from community members and state agencies allow for a time of significant positive change.



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Research team finds high rates of dementia among older unhoused population in Maricopa's largest shelter

[Heather Ross](#), a Senior Global Futures Scientist, leads a team that screens older clients at Central Arizona Shelter Services for cognitive impairments. They found that of 107 individuals screened, 91% screened positive for dementia. “There are a couple of papers in the literature that have asked people who are experiencing homelessness if they have a diagnosis of dementia,” Ross said in an article for KJZZ, “but nobody has ever blanketly screened older adults in shelter before like this.”

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New ASU incubator provides support, funding for sustainable food-system ventures

A new initiative, Cultivate PHX, will grow innovation in sustainable food systems and agriculture. The Cultivate PHX Agrifood Tech Incubator, is a partnership between ASU's [Rob and Melani Walton Sustainability Solutions Service](#), the [J. Orin Edson Entrepreneurship + Innovation Institute](#) and the city of Phoenix.



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Futurecast

Edition 5 | Fall 2023

In this issue of Futurecast, we explore a number of topics including electrification, a conversation with Arizona's State Climatologist Erinanne Saffell, the deployment of humanitarian aid in the face of global challenges and a museum exhibition that explores what Arizona may look like for the next generation.

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Global Futures Viewbook

We must rediscover our planet and our relationship with it.

What does this mean, exactly? For the faculty, students, researchers and global partners of the Julie Ann Wrigley Global Futures Laboratory, it means a

commitment to urgently exploring pathways to impactful solutions and decisions that address the challenges we have caused through resource extraction and thoughtless consumption as part of a relentless pursuit of “progress.”

We believe better is possible.

[Learn more](#)

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**#1 in the U.S.
for global impact**

–Times Higher Education, 2021

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