



Woodwell Climate Research Center



**Woodwell and partners
join climate leaders at
Earthshot Prize / 02**

**Woodwell research
informing Congress'
"climate think tank" / 03**

Woodwell at COP27 / 04

**30 Day Map Challenge
2022 / 06**

In the news: highlights / 07

Notes from the Field

Month in Review • November 2022
woodwellclimate.org

Woodwell and partners join climate leaders at Earthshot Prize

President & CEO Dr. Max Holmes on Host Organizing Committee for 2022 Boston awards ceremony

Maddie Rocklin Associate, 90 West

on Friday, December 2, Dr. Max Holmes, President and CEO of Woodwell Climate, will join climate and clean energy leaders from throughout Massachusetts as a member of the Boston Host Committee to celebrate the awarding of the second annual Earthshot Prize. The ambitious global environmental prize—founded in 2020 by Prince William and The Royal Foundation, and inspired by John F. Kennedy’s “Moon Shot”—aims to incentivize urgent climate action by awarding funding to winning climate solutions across five “Earthshot” goals: Protect and restore nature; Clean our air; Revive our oceans; Build a waste-free world; and Fix our climate.

“Just two weeks ago, the international climate community gathered in Egypt to commit to urgently needed action to accelerate just decarbonization, limit global warming, prepare for inevitable impacts of climate change, and mitigate the worst of the climate crisis,” said Dr. Holmes. “It is essential that we come together to build and invest in scalable, natural climate solutions that can address the challenges we face, and I’m proud to be a part of the Earthshot Prize that is shining an important spotlight on the talented and innovative leaders who are bringing these solutions to life.”

Dr. Holmes will be joined at the ceremony by Heather McMann, of Groundwork USA, and Iliana Panameno, of

Greenroots Chelsea, two of Woodwell’s partner organizations in their work to assess the local risk that climate change poses to municipalities around the world—including Lawrence and Chelsea, Massachusetts. These partnerships are part of Woodwell’s efforts to broaden access to actionable climate risk insights that can inform effective, community-driven solutions to foster climate resilience and ensure that municipal climate policies are developed through a climate justice lens.

Attendees of this year’s ceremony include Prince William and Princess Kate Middleton, as well as a diverse roster of activists and celebrities from around the world, both attending as guests and performing at the event. The ceremony will celebrate fifteen global finalists, including the five Earthshot Prize winners. The event will be available to stream on Monday, December 5th, at 2:00 pm EST on PBS.org and the PBS App, and at 8:00 pm EST on the PBS YouTube channel. It will also be broadcast on PBS on Wednesday, December 14th at 8:00 pm EST.

LEARN MORE

Additional information about the event can be found at:
<https://www.jfklibrary.org/events-and-awards/the-earthshot-prize-boston-2022>



Woodwell research informing Congress' "climate think tank"

Anneka Williams External Affairs Fellow

On October 27, Woodwell Climate Research Center scientists Dr. Jennifer Watts and Dr. Rich Birdsey presented their research on natural climate solutions to the congressional staff of the House Select Committee on the Climate Crisis. Established in 2019, the Select Committee is charged with developing innovative policies and strategies to address climate change.

Since January, Woodwell's External Affairs Department and Carbon Program have been working to incorporate more effective provisions for natural climate solutions into the upcoming Farm Bill—U.S. federal omnibus legislation that includes a wide array of agricultural and forestry programs and is due for renewal in 2023. Woodwell has identified priority issues for the 2023 Farm Bill, and the External Affairs team has been conducting outreach to congressional offices in addition to Drs. Watts and Birdsey's presentation to the Select Committee.

but policies need to include safeguards to avoid unintended consequences, such as degrading unprotected lands that have disproportionately high carbon stocks and high biodiversity values," Dr. Birdsey said.

Dr. Watts currently co-leads the Carbon Monitoring in Rangelands project, which is focused on creating the Rangeland Carbon Tracking and Management Tool (RCTM) to assess the true greenhouse gas consequences of rangeland management.

"Most U.S. agricultural lands are extremely vulnerable to climate change. We need a comprehensive risk assessment and mitigation plan in place to safeguard our nation's food systems, while also restoring lands to protect and improve key ecosystem services such as carbon sequestration and biodiversity," Dr. Watts said.



Her portion of the presentation detailed how climate change and land mismanagement are undermining the significant carbon storage potential of rangelands. The development of a widespread monitoring platform, like RCTM, would provide a robust process for monitoring, reporting, and verifying carbon credits and would inform more effective management practices.

Our nation's policies must be informed by robust science to best harness the natural carbon storage potential of these ecosystems. Policymakers can help enable the successful implementation of natural climate solutions by incentivizing climate-smart land use, supporting the development of data-based carbon crediting systems, and investing in climate mitigation activities that leverage the potential carbon storage capacity of natural ecosystems.

A specialist in quantitative methods for large-scale forest inventories, Dr. Birdsey has pioneered the estimation of national carbon budgets for forest lands. His portion of the presentation highlighted the declining carbon storage potential of U.S. forests due to factors such as deforestation and increasing natural disturbances, underscoring the need for more effective forest management to mitigate climate change.

"There are significant opportunities to reduce emissions from forest disturbances and increase carbon stocks on the land,

According to Woodwell External Affairs Analyst Natalie Baillargeon, the 2023 Farm Bill represents a unique opportunity to implement some of these solutions, and reaching out to policymakers is an important step.

"The House Select Committee on the Climate Crisis effectively serves as a congressional think tank on climate solutions," Baillargeon said. "It is incredibly important to make sure they have all the science and research necessary to develop strong policy approaches to addressing the climate crisis."

Woodwell at COP27 *Daily Blog*

Woodwell sends its largest delegation yet to the U.N. climate talks, held this year in Sharm el-Sheikh, Egypt.

TUESDAY, NOVEMBER 8

The International Cryosphere Climate Initiative has released the 2022 State of the Cryosphere report, highlighting growing losses in the world's snow and ice—from Arctic sea ice, to Antarctic ice sheets, mountain glaciers, and of course, permafrost—and the need for deep reductions in greenhouse gas emissions to avoid catastrophic, global impacts. Woodwell's Drs. Sue Natali, Jen Francis, Rachael Treharne, and Christina Schädel, contributed to the report as reviewers, and Dr. Brendan Rogers took part in the press conference broadcast this morning from COP27.

WEDNESDAY, NOVEMBER 9

Intertwining Fates—and a climate clock

Today, Woodwell Climate partnered with Global Choices' Arctic Angels program to highlight the interconnectedness of our climate system in an official COP27 side event. The panel brought together the perspectives of leading experts on Arctic permafrost and tropical forests—Woodwell's Dr. Sue Natali and Dr. Glenn Bush—with youth women activists Xiye Bastide (Mexico) and Sharon Gakii (Kenya), as well as Global Choices president and co-founder Sally Ranney, for a global, intergenerational, and multifaceted call to cut greenhouse gas emissions and address rapid Arctic warming.



During the event, Bastide placed a Climate Clock in front of her on the table. These clocks count down the time we have left at current rates of greenhouse gas emissions before exhausting our carbon budget to cap warming at 1.5°C above pre-industrial levels. Dr. Natali pointed out that, while the current reading of 6 years 255 days is alarming, it is also an overestimate, as the reports the clock is based on don't include permafrost thaw emissions. All of the panelists joined in calling for more communication and collaboration between scientists, activists, Indigenous knowledge holders, and decision makers in order to create urgently needed changes.

THURSDAY, NOVEMBER 10



Thriving Forests, Thriving Communities

Understanding and preserving the full value of tropical forests has been at the heart of Woodwell Climate's work since our founding, and it was the focus of our activities today at COP27. The day started with a panel discussion at the Democratic Republic of Congo's pavilion, discussing commonalities and distinctions between Amazon and Congo basin forests—and what models and insights Woodwell's longstanding work in Brazil might contribute to efforts to develop community-based climate solutions in the DRC.



Later in the day, Dr. Wayne Walker participated in a We Don't Have Time livestream with Health in Harmony and the Rainforest Exchange. The panelists highlighted success stories in forest protection stemming from projects that put Indigenous communities in the lead and have science to back them up.

FRIDAY, NOVEMBER 11



Permafrost Day

Woodwell's Permafrost Pathways team co-sponsored Permafrost Day at the International Cryosphere Climate Initiative's Cryosphere Pavilion. More than six hours of events featured a diverse array of expertise and perspectives on the local to global ramifications of permafrost thaw. In addition to presentations of the latest science on abrupt thaw, tipping points, and projected emissions, a mid-day panel of Indigenous and youth activists called for more inclusive decision-making processes and the final panel of the day—which explored the possibility of

treating permafrost as its own country in emissions accounting and climate negotiations—evoked emotional responses from some attendees. The day concluded with a short documentary produced by residents of Newtok, an Alaska Native community facing relocation due to the impacts of permafrost thaw.

SATURDAY, NOVEMBER 12



On Saturday evening, Dr. Ludmila Rattis explained the inextricable link between healthy forests and productive agriculture in the Brazilian Amazon during the final session of Global Landscapes Forum Climate 2022, a two-day conference held here in Sharm el-Sheikh in parallel with COP27.

MONDAY, NOVEMBER 14

Tropical Forests Days

Tropical forests play a critical role in our climate system, cooling and making rain both globally and in areas immediately surrounding them. One of Woodwell Climate's top priorities at COP27 is ensuring this is understood and valued in our policies and financial systems.



Dr. Mike Coe spoke on the opening panel of Tropical Forest Days at the Brazil Climate Action Hub—a discussion of whether the Amazon is a villain, victim, or hero in our climate story.

TUESDAY, NOVEMBER 15

Tropical Forests Days continue, along with key conversations

Brazil, Indonesia, and the Democratic Republic of Congo (DRC) signed a Joint Statement yesterday which launched a formal partnership to work together on conserving, sustainably managing, and restoring their tropical forests. The three nations collectively hold more than half of the world's standing tropical forests, so increased collaboration between them has the potential to lead to significant gains in protection for these carbon sinks and critical ecosystems threatened by logging, agriculture, and mining.

The agreement also calls for the three countries to be compensated for reducing deforestation, and they will be working to negotiate a new international funding mechanism as well as seeking increased funding through existing UN programs.

Woodwell Board member and former Brazilian Minister of the Environment under Lula da Silva, Izabella Teixeira, told Reuters that “forests matter, nature matters. And I do believe that without Amazon protection, we cannot have climate security.”

Woodwell Climate science could play an important role in advancing the goals of the announced alliance. With longstanding work in both Brazil and DRC, Woodwell is working with our in-country partners to see the full value of their critically important forests recognized in policy and financial frameworks that benefit their communities.

COP27 has also provided valuable opportunities to advance our existing relationships and identify potential new partners in this endeavor. Assistant Scientist Dr. Ludmila Rattis, Postdoctoral Researcher Dr. Manoela Machado, and Tropics Program Director Dr. Mike Coe met up with Teixeira for an impromptu conversation about how best to work with companies on their plans to reduce deforestation in their supply chains.



“The companies are actually open to change,” said Dr. Rattis. “We just need to lead the way.”

A panel discussion event at the Brazil Climate Action Hub was well-attended. Dr. Izabela Teixeira (to speaker's right), Woodwell board member and former Brazil Minister of Environment, participated in the event.



WEDNESDAY, NOVEMBER 16

Ambition raised for melting ice

Today, 17 countries signed the Declaration for Ambition on Melting Ice, which affirms their commitment to keeping the goal of 1.5 degrees of warming alive in order to limit losses in the cryosphere. Led by representatives from Iceland and Chile, the declaration emphasizes the fact that melting sea ice, glaciers, and thawing permafrost are already causing devastating impacts for Arctic communities and the globe, and that ice has very little wiggle room past 1.5 degrees of warming.

As Deputy Environment Minister from the Czech Republic, Jan Dusik, said during the ceremony, “You cannot negotiate with the melting point of ice.”

Notably, this declaration expands beyond just polar ice, to encompass mountain countries with significant glaciers as well as low-lying and island countries that stand to be impacted by rising seas and the greater impacts of climate change. Representatives were present from Monaco, Samoa, Vanuatu among others.



“It was really nice to see many of the countries highlighting the fact that not only is this already really important for

communities within cryosphere regions... particularly Indigenous peoples, but also this is something that is globally important with some very direct impacts for local communities worldwide as well,” said Woodwell Research Scientist Dr. Rachael Treharne.

THURSDAY, NOVEMBER 17

COP27 negotiations are in their final stretch, with just one day remaining. Progress has been, for many, disappointingly and frustratingly lacking.

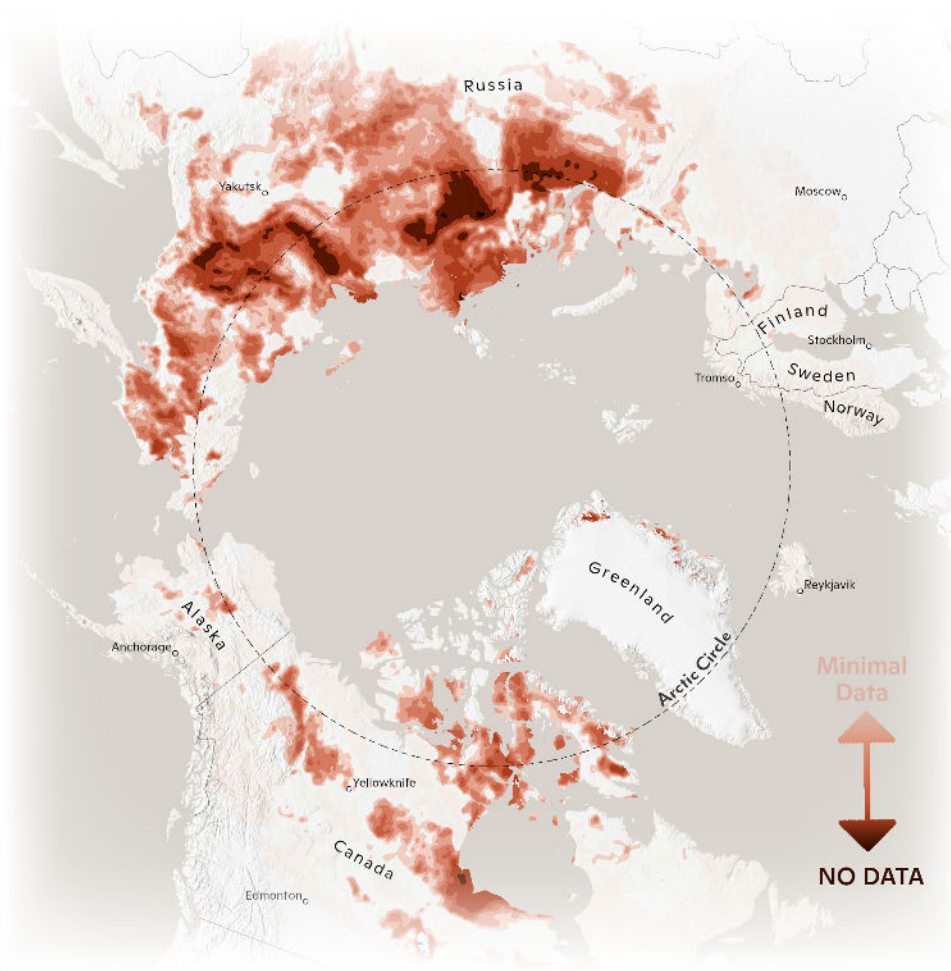
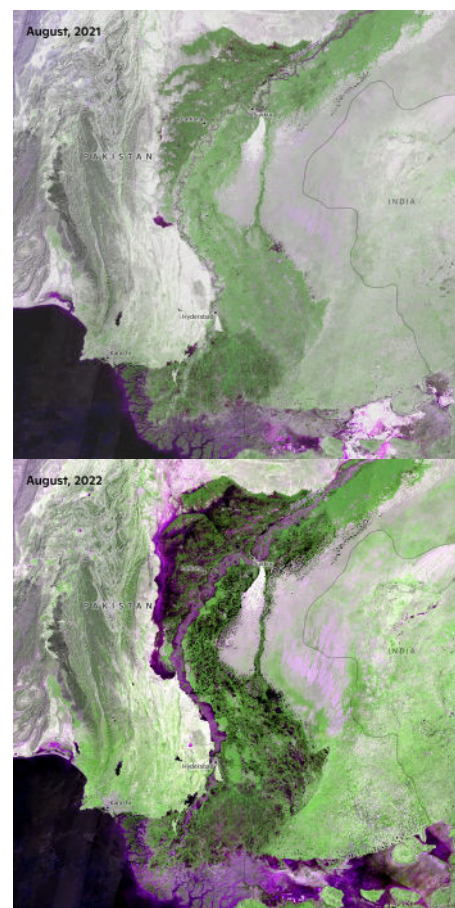
Today, the COP27 Egyptian presidency and UN Secretary-General António Guterres held a “stakeout” and called on negotiators to “stand and deliver” action and finance, rather than words.

Elsewhere around the conference grounds, the theme of the day was solutions. Woodwell science writer Sarah Ruiz made the rounds and shared highlights—and some insights into what it’s like to be at COP—on Woodwell Climate’s Twitter feed.

30 Day Map Challenge 2022

The #30DayMapChallenge is a social media based mapmaking challenge open to everyone. Each November, participants from all over the world create a new and original map for 30 days, where each day has a unique theme. In 2022, Woodwell Climate Research Center participated as an organization, including as much of our work as possible, while still adhering to the map categories.

VIEW ALL THE MAPS: woodwellclimate.org/30-day-map-challenge-2022

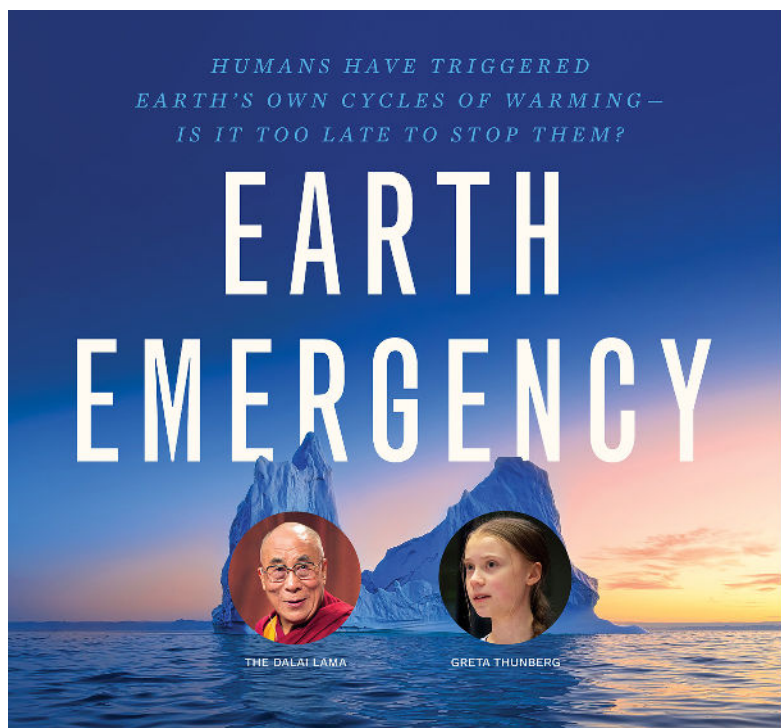


ABOVE Day 7: Raster

Before and after images of the recent, devastating floods in Pakistan. / maps by Christina Shintani

LEFT Day 22: Null

Currently, severe permafrost monitoring gaps persist across the Arctic because data collection in these environments is challenging. Woodwell’s Permafrost Pathways aims to fill these gaps over the next several years by installing new carbon flux towers and monitoring equipment. / map by Greg Fiske



HUMANS HAVE TRIGGERED
EARTH'S OWN CYCLES OF WARMING—
IS IT TOO LATE TO STOP THEM?

EARTH EMERGENCY

THE DALAI LAMA GRETA THUNBERG

CAPE COD
CLIMATE
CHANGE
COLLABORATIVE

Woodwell
Climate
Research
Center

Chatham Orpheum Theater
December 8, 2022
7:00 PM

Reception
6:30 PM

Purchase Tickets
capecodclimate.org/earth-emergency

In the news: highlights

CNN published an article discussing how the climate crisis is transforming Arctic permafrost, quoting Dr. Brendan Rogers and Morris Alexie, Permafrost Pathways' Tribal liaison from Nunapitchuk.

Dr. Jon Sanderman was quoted in an article from *Fast Company* on regenerative agriculture.

An article from *Notícias Agrícolas* discussed the first area within the Amazon biome to join CONSERV.

Portal Macaúba quoted Dr. Mike Coe on the importance of tropical forests as natural climate solutions in their coverage of the COP27 Brazil Hub panel: "Land use in Brazil: villain, victim or hero of the climate crisis?"

The New York Times quoted Dr. Brendan Rogers on changing wildfire regimes in the Siberian Arctic.

Dr. Wayne Walker was quoted in *The Washington Post* on why protecting old-growth forests will always be more "climate-smart" than trying to reforest a degraded landscape.

Dr. Jen Francis was quoted in an *AP News* article syndicated to over 300 outlets, including *CNBC*, *PBS*, and *HuffPost*, comparing the latest WMO report to a lab report for a critically ill patient Earth.

Dr. Manoela Machado was quoted in many articles this week about the significance of the Brazilian election for Amazon deforestation, including in *The Washington Post* and *Axios*.

A brief article in *Folha da Manhã* covers Dr. Ludmila Rattis' participation in COP27.

A *New York Times* article on wildfires in Siberia quoted Dr. Brendan Rogers on the implications of the large amounts of carbon being released from the fires.

An article from *The Globe and Mail* on permafrost thaw and the recent Yukon Permafrost Conference quoted Dr. Sue Natali on the need for urgent action despite uncertainty.

Cruising World published an article by Dr. Jen Francis about her experience seeing the effects of climate change firsthand while sailing with her family.

An article from *Times Union* covered the Hudson River Watershed Alliance annual regional conference on watershed science and policy and mentioned Dominick Dusseau's presentation on Woodwell's flood risk model for New Paltz.

Dr. Jen Francis was quoted in an article from Mongabay on the influence of arctic warming on global weather.

Yahoo Finance cited Dr. Zach Zobel's interview with *Grist* about drought and cranberries in an article on "what's really hurting the economy."

Dr. Wayne Walker was quoted on the importance of protecting existing forests in an article from *Earth Island Journal*, which was also published by *Truthout*.

Donations play an important role in securing the future of Woodwell Climate Research Center's work—and help safeguard the health of our planet for generations to come.

woodwellclimate.org/give

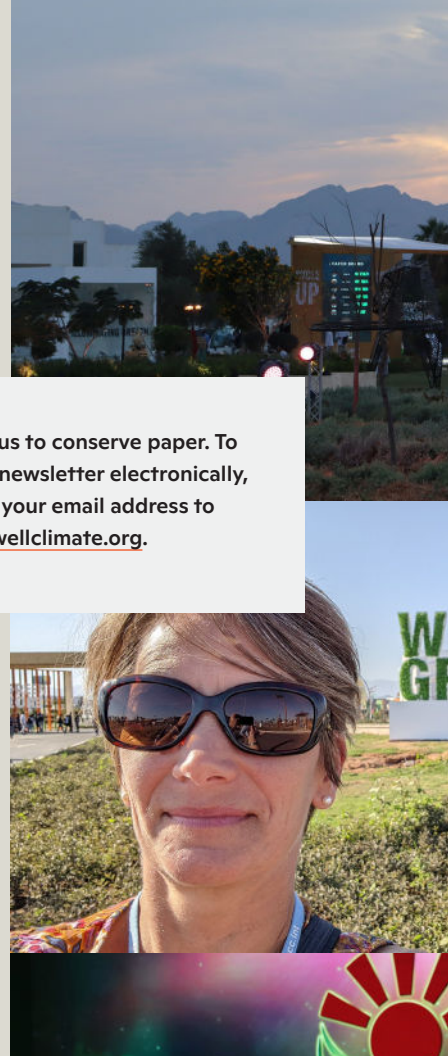
@woodwellclimate

#sciencefortheworld



149 Woods Hole Road
Falmouth, MA, 02540-1644

Please help us to conserve paper. To receive this newsletter electronically, please send your email address to info@woodwellclimate.org.



CLIMATE SCIENCE FOR CHANGE.