The importance of standing up for truth

Dr. Philip B. Duffy
President & Executive Director

Last week the Environmental Protection Agency (EPA) prevented three of its scientists from speaking at an event in Providence that dealt extensively with climate change. EPA refused to explain this action, which was widely interpreted as an act of scientific censorship. This lack of justification deepens suspicion, since if there were a benign explanation EPA had every reason to offer it.

This step fits a wider pattern in EPA and other federal agencies of trying to pretend that climate change is not happening. Web pages at EPA, Interior, and other agencies that deal with climate change have been modified, removed entirely, or “archived” in difficult to find locations. The Washington Post reported that in EPA a political operative now reviews all funding decisions, with the specific intent of eliminating grants related to climate change (among other taboo subjects). The Atlantic magazine reports that Interior’s draft strategic plan not only makes no mention of climate change, but seeks to “achieve and maintain America’s ‘energy dominance’” by tapping into the ‘vast amounts of untapped domestic energy reserves on public lands.” I am beginning to see a pattern here.

All of this makes our national government one of very few that questions the obvious reality of human-caused climate change, and, if we withdraw as planned from the Paris climate agreement, one of only two countries that will not be party to humanity’s road-map for addressing the challenge. Instead of propping up a doomed fossil fuel industry, our government should be helping US companies to develop and profit from solutions to climate change. By failing to do this, we are needlessly ceding these opportunities to others, notably China.

The head-in-the-sand approach to climate change is distressing because it will slow progress on this critical issue, in the United States at least. More than that, though, it is a repudiation of a world-view that believes that progress and problem-solving must be based upon evidence, understanding, and rational thought, i.e. on a scientific process. An approach that puts politics above policy by reinventing truth invites – if not guarantees – an ugly collision with reality. Facts do not cease to exist because they are ignored.

Sadly, this clash of world-views extends to areas well beyond climate change. The recent resurgence of climate change denial is part of a pervasive pattern by this administration of obscuring, denying, and manufacturing truth. Taken together, the falsehoods emanating from the White House, untrue accusations of fake news, and attacks on journalists, scientists, and other agents of truth, amount to an attempt to distort, obscure, or deny reality, and ultimately to misinform voters. This is the tactic of totalitarian states: to create their own “reality” by denying some facts, making up others, and rewriting history.

Luckily, we have institutions that can stand up for truth. These include journalists, the Congress, courts, advocacy groups, and independent scientific institutions like WHRC. These institutions need our support, though, because they are vulnerable to a hostile executive branch and in some cases to the corrupting influence of dark money. If these institutions are badly damaged, and if the federal government becomes a purveyor of party-line propaganda, it will become very difficult to reestablish a truth-based policy paradigm. The next few years will be a severe test, which for the sake of our children and their children, I hope that we pass.

Thanks as always for your interest and support.
WHRC paper in Science shows widespread tropical forest loss now outweighs tropical carbon sequestration

A paper published this month in the journal Science has established a new and cutting-edge approach to measuring changes in forest carbon density and will help researchers and policymakers track deforestation, degradation, disturbance, and regrowth with unprecedented precision.

The paper, which appeared in the October issue of Science, also showed that the loss of tropical forests is now causing more emissions than those forests capture, countering their role as a net carbon sink.

The study was authored by WHRC's Alessandro Baccini, Wayne Walker, Mary Farina, and Richard Houghton, as well as Boston University’s Luis Carvalho and Damien Sulla-Menashe.

Previous measurements of forest carbon loss focused largely on areas subject to deforestation, or complete forest removal. This is the first time, however, that scientists have been able to account for changes from subtle natural and human-caused losses, known as disturbance and degradation respectively. The new methodology also allows for close monitoring and measuring of gains from forest growth.

“It can be a challenge to map the forests that have been completely lost,” Walker said. “However, it’s even more difficult to measure small and more subtle losses of forest. In many cases throughout the tropics you have selective logging, or smallholder farmers removing individual trees for fuel wood. These losses can be relatively small in any one place, but added up across large areas they become considerable.”

The study quantified changes in aboveground forest carbon across tropical America, Africa and Asia — the most threatened forests in the world — and those with the greatest ability to act as significant carbon stores as well as globally recognized hotspots of biodiversity and essential ecosystem services including food, fiber, and fuel for millions worldwide. Using this new capability, the researchers discovered that tropical forest regions are a net source of carbon to the atmosphere — about 425 teragrams of carbon annually, which is more than the emissions from all cars and trucks in the United States.

“These findings provide the world with a wakeup call on forests,” said Baccini, the report’s lead author. “If we’re to keep global temperatures from rising to dangerous levels, we need to drastically reduce emissions and greatly increase forests’ ability to absorb and store carbon. Forests are the only carbon capture and storage ‘technology’ we have in our grasp that is safe, proven, inexpensive, and immediately available at scale.”

Leonardo DiCaprio Foundation awards grant to WHRC

The foundation of Academy Award-winning actor Leonardo DiCaprio announced its support last month for the Woods Hole Research Center’s forest monitoring research. The announcement came as part of the Foundation’s announcement on a round of environmental grants that focused on everything from species conservation to climate change.

“These grantees are active on the ground, protecting our oceans, forests and endangered species for future generations – and tackling the urgent, existential challenges of climate change,” DiCaprio said in a statement. “We must demand that politicians accept climate science and make bold commitments before it is too late.”

The grant will support the Woods Hole Carbon Monitoring System, a satellite-based tool that is poised to transform how the world tracks changes in the carbon stored aboveground in forest biomass. The ability to accurately track deforestation, degradation, and forest regrowth is critical to achieving the national emissions goals of the Paris climate agreement – many of which rely on forests.

“This round of grants comes at a critical time,” said Leonardo DiCaprio Foundation CEO Terry Tamminen. “With a lack of political leadership, and continued evidence that climate change is growing worse with record-breaking heatwaves and storms, we believe we need to do as much as we can now, before it is too late.”

WHRC scientists contribute to major climate solutions study

More than a quarter of the climate change goals set out in the Paris climate agreement can be achieved by capturing carbon emissions in the world’s forests, grasslands and wetlands, according to a recent Nature Conservancy study that was co-authored by two WHRC scientists.

The research was published in PNAS. WHRC’s Dr. Richard Houghton and Dr. Jonathan Sanderman were co-authors on the paper.

“This paper estimates the potential for land management to remove carbon from the atmosphere – not just the maximum potential, but the potential achievable under different costs of carbon,” Dr. Houghton said. “It is difficult to imagine staying below a 2°C warming without using land, particularly reforestation, to remove carbon from the atmosphere as we transition from a fossil-based to a renewably based energy system.”
**WHRC in the news**

*CBS News* reported on WHRC scientist Sue Natali’s work on permafrost in Alaska’s thawing permafrost puts huge portions of state’s foundation at risk. 19 October (http://cbsn.ws/2zoow8).


Countries Move Forward on Climate Despite U.S. Withdrawal was a WCAI (NPR Cape & Islands) interview with WHRC president Phil Duffy. 15 October. (http://bit.ly/2A7z7la)

*Living Lab Radio* of WGBH-Boston interviewed WHRC president Phil Duffy about the EPA’s four-year plan. Optimism About Tough Problems. 13 October. (http://bit.ly/21D6o4m)


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**John Holdren speaks to Arctic leaders in Reykjavik**

In early October, WHRC’s Dr. John Holdren sought to raise the alarm on climate change during a keynote speech at the Arctic Circle Assembly (www.arcticcircle.org), an annual meeting of dignitaries from Arctic nations in Reykjavik, Iceland. Holdren told the gathering that temperatures in the Arctic have risen two to five times faster than the global average.

Dr. Holdren, who is a former director of WHRC and served eight years as science advisor to President Obama and director of the White House Office of Science and Technology, presented “Arctic Climate Science and Policy: Regional and Global Dimensions.”

The audience included Alaska Sen. Lisa Murkowski, members of the parliaments of every other Arctic nation, former Iceland President Olafur Grimsson, US Arctic Research Commission Chair Fran Ulmer, former Alaska Dispatch News publisher Alice Rogoff, and the heads of arctic programs from universities across the northern hemisphere. Dr. Holdren is currently senior advisor to WHRC president Phil Duffy and a professor at the Harvard Kennedy School and the Belfer Center for Science and International Affairs.

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**Brendan Rogers talks about wildfire at the Union of Concerned Scientists**

WHRC’s Brendan Rogers recently spoke about the relationship between climate change and wildfire during an appearance at the Union of Concerned Scientists in Cambridge, MA. His talk, “In the line of fire: Our northern forests under threat,” considered the potential for increased and smarter investments in fire management as a means to mitigate climate change.

Dr. Rogers’ research focuses on the impact of climate change on boreal forests and their influence on the climate system. Boreal forests are threatened by the rapid pace of warming, and in particular from intensifying fire regimes. Among other things at risk is the immense amount of carbon stored in organic soils.

Dr. Rogers discussed the areas across Alaska and Canada, where fires release a large amount of carbon, noting that limiting intensifying fire regimes could pay substantial dividends in the upcoming decades.

The US presently spends $1-2 billion a year on fire management, and even more in extreme years such as occurring now across the western states. Climate change is making these extreme years the ‘new normal.’ Alaska contains over half the land carbon in the US, and emits roughly half of all fire carbon emissions. Projections suggest a major threat to any serious goals of greenhouse emissions reductions by mid-century. Yet Alaska receives about 5 percent of all fire management funding.

Dr. Rogers is working with the Union of Concerned Scientists to understand how, where, and when land management can help keep these massive stores of carbon in the ground.
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Upcoming Events

**Artist’s Talk with Justin Brice Guariglia**

*Thursday, November 2, 5:30-7 pm
Harbourton Auditorium, WHRC, 149 Woods Hole Road, Falmouth, MA*

Justin Brice Guariglia has developed a unique collaborative transdisciplinary art practice and doing so, his art has become a research practice to investigate the world, and forge a deeper understanding of important ecological issues of our time. For more information and reservations, visit [whrc.org/artists-talk-with-justin-brice-guariglia](http://whrc.org/artists-talk-with-justin-brice-guariglia).

**Extreme Events and Climate Change Boston Area and Cape Cod: What We Know and What We Can Do**

*Saturday, November 4, 1:00-2:30pm
Falmouth Public Library, 300 Main Street, Falmouth, MA*

The League of Women Voters of Falmouth and the League of Women Voters of Massachusetts present “Extreme Events and Climate Change - Boston Area and Cape Cod: What We Know and What We Can Do” with speakers Dr. Ellen Marie Douglas (School for the Environment, University of Massachusetts Boston), Stephanie Madsen (Woods Hole Oceanographic Institution), and Dr. Robert Max Holmes (Woods Hole Research Center). For more information, visit [whrc.org/extreme-events-and-climate-change](http://whrc.org/extreme-events-and-climate-change).