Accelerating progress under the Paris agreement

Dr. Philip B. Duffy
President & Executive Director

The Paris climate agreement is humanity's process for controlling global climate change. Reaching the agreement was an unprecedented diplomatic achievement, but as I (and others) have said ad nauseum, the ultimate success of the agreement will depend on how effectively we all work to implement it.

Unfortunately, right now we’re not getting the job done. Specifically, the initial emissions-reduction commitments made under the Paris agreement do not put humanity on course to meet the main goal of that agreement: limiting global warming to 1.5° or 2° C. These commitments allow enough CO₂ to be added to the atmosphere before 2030 that no conceivable future emissions reductions would be enough to prevent unacceptable harms from climate change. The designers of the agreement wisely anticipated this eventuality, and built in a mechanism for governments to periodically make new and more ambitious commitments. It’s critically important to do everything possible to use this vehicle for “increased ambition” to get global greenhouse gas emissions on the right track.

For this reason, WHRC is increasingly focusing on work that contributes directly to meeting Paris goals. This refocusing took a big step forward last month with the signing of an agreement between WHRC and the Fletcher School of Law and Diplomacy at Tufts University. The main focus of the new partnership will be to work with national country governments to accelerate Paris progress. Specifically, we will help governments to implement commitments they have already made, to design new and more ambitious commitments, and to measure progress towards meeting their commitments. Our work will have an important academic aspect as well, which is to assess which policies work best in the real world at reducing greenhouse gas emissions and at supporting economic progress. This understanding will directly facilitate the design of better policies - by us and others.

Successful partnerships are often based on strong personal relationships, and in this respect WHRC’s new partnership with Fletcher’s Center for International Environment and Resource Policy (CIERP) has great promise. CIERPs director, Kelly Gallagher, is a protégé of two senior leaders at WHRC, John Holdren and Bill Moomaw (who is WHRC’s chair and who founded CIERP and ran it until 2013). Kelly is also a former colleague of mine at the White House, and is a true unsung hero of climate action, who led secret discussions with China that were pivotal in making the Paris agreement possible. I loved working with Kelly in Washington and look forward to working with her and colleagues here.

My enthusiasm about this partnership comes down to one word: impact. At WHRC we seek to have an outsized impact on the trajectory of climate change, and this new relationship is a chance to do exactly that. It’s exciting to have this partnership in place, but now comes the hard part.

Thanks as always for your interest and support.

WHRC is an independent research institute where scientists investigate the causes and effects of climate change to identify and implement opportunities for conservation, restoration and economic development around the globe. In June 2016, WHRC was ranked as the top independent climate change think tank in the world for the third year in a row. Learn more at www.whrc.org.
This week, dozens of the world’s leading climate scientists are gathering in Christchurch, New Zealand, to discuss and move forward on the next Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), which is expected to be released as early as 2019.

The IPCC is perhaps the most visible representation of where science meets policy in global efforts to understand, and then to mitigate, ongoing and future climate change. Progress in global climate policy is driven in large part by scientific evidence reviewed and updated every six years by the IPCC. Since its establishment in 1988, the IPCC has prepared five comprehensive assessment reports about the “state of scientific, technical and socio-economic knowledge on climate change, its causes, potential impacts and response strategies.”

With thousands of contributing scientists, these assessment reports provide an objective, scientific view of climate change and are an essential resource for policymakers. According to WHRC Senior Scientist Dr. Richard Houghton, who serves as an IPCC lead author, policymakers would be overwhelmed by the volume of new scientific findings without this methodical review process.

At the request of member countries, the IPCC also produces Special Reports, which are designed to provide a robust assessment on a particular issue of concern. The three Special Reports currently underway are focused on the impacts of global warming of 1.5°C above pre-industrial levels (whose ‘leaked’ draft recently sparked widespread media alarm - http://bit.ly/2Ceviij), another on climate change and oceans and the cryosphere, and a third one on climate change and land.

Houghton is a lead author for the Special Report on climate change and land and is in New Zealand this week with the report’s 80 other convening, lead, and contributing authors. This particular report will address climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas emissions and sinks in land-based ecosystems.

“It’s a bit like making sausage,” said Houghton, but the group aims to use this meeting to produce a draft ready for expert and governmental review. Ultimately, their work will be condensed down into a summary for policy makers, whose every sentence must be unanimously approved by the United Nations.

Despite what might seem like an onerous and herculean task to synthesize and condense six years of scientific research on climate change, Houghton remains positive about the IPCC’s role.

“It’s a good idea and we should continue it. The IPCC takes great lengths to review the science with a balance of international and gender contribution among the authors, so that the process is not just run by western Europeans, for example,” he said.

Two weeks later, in Cairns, Australia, Houghton will contribute as a lead author in the IPCC’s “Refinement of the 2006 Guidelines for National Greenhouse Gas Inventories,” which is an additional component of the Sixth Assessment Report and is meant to support countries in the use of satellites to measure and monitor their forests.

Under the 2015 Paris Climate Agreement, many countries submitted plans to protect and conserve their forests as a strategy to meet their emission reduction commitments. Without a verified satellite-based approach to measure the amount of carbon stored in forests, and to monitor that carbon over time, it would prove difficult for countries to ensure the amount of carbon sequestration they said would take place in their forests is actually happening.

This Sixth Assessment Report, including the three Special Reports and the methodological ‘Refinement,’ is poised as the next major opportunity for climate science to influence climate policy. Houghton speculates, however, whether this newest iteration will be any more successful than the previous five assessments in 1990, 1996, 2001, 2007, and 2013.

“We’ve had 30 years in which the U.N. has been working on this and temperatures and emissions have continued to climb,” he said. “Within the framework of the U.N., countries are sovereign to behave as they please, in almost every instance except for maybe genocide. So with respect to penalties on emissions in a carbon-constrained world, I worry that the U.N. approach is limited, so I’m always thinking about what else we can do to address climate change.”

According to Houghton, it is notable that cities, states and other non-national entities don’t have to go through the U.N. to carve their own path. California and New York, for example, have some of the most aggressive emission reduction targets and strategies in the United States, while the Trump Administration has said it would renege on America’s climate commitments to the Paris Agreement.

Nevertheless, Houghton recommends that the IPCC stay its course.

“The U.N. approach, to have countries come to agreement on the climate issue, and then have a scientific arm to guide how we act, that sounds like a rational way to go,” he said.

The Sixth Assessment Report will be finished before the Paris Agreement’s first global stocktake in 2023 of where the world stands and what more must be done to stay below catastrophic levels of warming.
According to Senator Sheldon Whitehouse (D-R.I.), there are a dozen Republican senators who are ready to support legislative efforts to address climate change with a price on carbon.

“And when they come forward, about a dozen more will join because they don’t want to be left behind,” he said, during a WHRC-hosted panel in Virginia earlier this month.

According to Whitehouse, Republicans who search for effective ways to address climate change nearly always arrive at a revenue-neutral, border-adjustable carbon tax. And if that’s what they are landing on, Whitehouse said, Democrats should meet them there.

The senator was speaking as part of a panel on “Meeting the Climate Change Challenge,” hosted in the crowded living room of a home in McLean, VA. Representative Don Beyer (D-V.A.) and Dr. John Holdren completed the panel, each taking their turn to answer questions from New York Times reporter and moderator Lisa Friedman.

This discussion, however, was no echo chamber. Jerry Taylor, the former climate denier and ex-vice president of the libertarian Cato Institute, was in attendance and spoke up in favor of conservative climate change solutions. Taylor is famous for eventually accepting the reality of human-caused climate change, and he formed the Niskanen Center, a think tank that argues for market fixes to the climate problem. He published the “Conservative Case for a Carbon Tax” in 2015.

When the conversation turned to Republican hesitation, and in many cases, all-out denial of human-caused climate change, Friedman invited Taylor up from the audience to join Whitehouse, Beyer, and Holdren. He did not waste any time, saying that in his role as president of the Niskanen Center, he pushes current Republican members of Congress to get behind a carbon tax. He said that he tells them, “Trust me, I used to write the script for climate deniers. Here’s why I changed my mind and here’s why you should too.”

As a current member of the House, Rep. Don Beyer has advanced his own climate policy, a “cap and dividend” bill that he co-sponsored with Senator Chris van Hollen (D-M.D.). He was noticeably hopeful about the opportunity for the issue of climate change to drive voter turnout at the polls in 2018.

Despite the optimism, Holdren pointed out that President Trump still refuses to listen to the basic facts of climate change. Because of that, the success of governmental efforts to address climate change, whether through a market-based approach like a carbon tax or through regulation, rest entirely on what common ground Congress can find.
WHRC signs agreement with Tufts to advance national climate policies
By Dave McGlinchey

Senior leaders from Tufts University and the Woods Hole Research Center (WHRC) gathered in late February to sign an agreement to work together on the design and study of national-level climate policies that will support the Paris climate agreement.

"Making the agreement succeed is at the heart of this partnership," said WHRC President Dr. Phil Duffy, during the signing ceremony at the Tufts Fletcher School of Law and Diplomacy in Medford, MA. "WHRC's scientific skills and the social science expertise of the Fletcher folks means that together we can do more than either of us could do alone. That's added value, and it's an essential ingredient in any successful partnership."

Duffy was joined by Tufts University President Anthony Monaco, Fletcher School of Law and Diplomacy Dean James Stavridis, WHRC Board Chairman William Moomaw, and Professor Kelly Sims Gallagher, the director of the Climate Policy Lab at Fletcher. About 50 people, including Tufts faculty and students, WHRC scientists, and board members, were in attendance for the event.

During the Obama Administration, Gallagher led the U.S. delegation in behind-the-scenes climate talks with China. The eventual agreement between those two countries set the stage for the Paris agreement to be passed. In his remarks, Duffy called Gallagher an "unsung hero" of the Paris climate talks, who was "as responsible as anyone" for the breakthrough success.

"We will work together to assess climate mitigation as well as adaptation and resilience efforts to determine which policies work, which don't, and why," Gallagher said.

Tufts President Monaco noted the already strong relationships between the two organizations, and said this partnership was an "excellent opportunity" to take advantage of complementary strengths.

Dean Stavridis said that progress on the Paris Agreement is crucial for international security. Before becoming dean of the Fletcher School, Stavridis was a U.S. Navy Admiral, commander of the U.S. Southern Command and NATO Supreme Allied Commander.

"I am thrilled about this partnership," Stavridis said. "I know we'll be able to work together to address issues of climate change, which threatens global security."

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News Briefs

Dr. Alicia Peduzzi and Dr. Wayne Walker are finishing a two-year project in which they provided remote sensing capacity building and technical support to Nepal’s Department of Forest Research and Survey (DFRS). The project began in 2016 and consisted of a series of trainings on LiDAR data processing and forest biomass mapping for Nepal’s Terai Arc Landscape region. The DFRS is responsible for forest monitoring in the country, which includes forest biomass mapping and forest GHG emissions. The SilvaCarbon program, a U.S. government multi-agency initiative that helps to build capacity on forest monitoring in tropical countries, funded this project under the umbrella of the U.S. Forest Service.

This month, Dr. Brendan Rogers delivered a seminar at Stonehill College in Easton, MA, titled “Boreal forests and the Earth’s climate: past, present, and future.”

Dr. Rogers was also the lead author on “Detecting early warning signals of tree mortality in boreal North America using multiscale satellite data” in *Global Change Biology.*

Dr. Chris Neill was a co-author on “Homogenization of plant diversity, composition, and structure in North American urban yards” in the journal *Ecosphere.*
The most compelling argument against offshore drilling is simply physics, according to WHRC Senior Scientist Chris Neil. Writing in the *Falmouth Enterprise*, Neill sharply rebuked the Trump Administration for a proposal to open the vast majority of the nation’s coastlines to offshore drilling proposals. Neill said that apart from the threat that offshore drilling poses to coastal economies and ecosystems from potential disasters – searching for more carbon to burn is dangerous, spill or no spill. Neill’s reasoning hinged on the widely-held concept of a carbon budget: the amount of carbon we as society can burn and still keep the planet below 2°C of warming. Subtracting historical emissions since the industrial revolution, current estimates put the number how much carbon we have left at about 300 billion metric tons (gigatons). Humans dig up, burn, and pour about 10 billion metric tons of fossil fuel carbon into the atmosphere per year. At that rate, we have about 30 years left.

Now add in the estimated emissions of 150 billion metric tons of carbon from thawing permafrost, and you start to feel the squeeze. There are 1200 billion metric tons of carbon in known and recoverable fossil fuel reserves. Therefore, humanity must leave the majority of these reserves unburned, or we will blow through our carbon budget. “In other words,” Neil wrote, “it would be folly to spend money exploring for risky and environmentally damaging offshore oil that we would then have to—for the planet’s sake—leave untouched.”

In recognition of the danger offshore drilling poses to global climate, WHRC President Dr. Philip Duffy was outspoken at press conference in Boston on February 27. The event was held to coincide with the Bureau of Ocean Energy Management (BOEM) public comment hearing on the Trump Administration’s offshore drilling proposal. “Within a decade or two we need to drastically reduce emissions of greenhouse gases to the atmosphere, or face serious risk of some truly catastrophic outcomes - searching for new sources of fossil fuels is the last thing we should be doing,” Duffy said. MA State Rep. Dylan Fernandes, represents WHRC’s district and was also in attendance. He said, to resounding applause, that “we know what the future of energy is, and that future is renewable energy.” “We’re sending a message down to Washington DC,” Fernandes continued, “that a handful of climate deniers do not speak for the people in this room and do not speak for the people of Massachusetts.”
From far above, the Congo River weaves through pristine rainforest like a giant artery. The region is largely undisturbed, which presents a unique opportunity to establish a baseline of watershed health ahead of any future change. And so in we went. The Congo is part of our Global Rivers Observatory, a collaborative effort with Woods Hole Oceanographic Institution to monitor 23 major rivers and their watersheds around the world.

Satellite composite image of the Congo Basin rendered by Greg Fisk.