Wildfires are a climate issue and shouldn't be a political one

Dr. Philip B. Duffy
President & Executive Director

There is no better example of an immediate and dangerous impact of climate change than wildfire. The area burned by wildfire in the western United States has increased by somewhere between 600 percent and 1500 percent in recent decades (depending on exactly which region and time period is considered). Any way you look at it, that's a lot. Common sense suggests that warmer, drier weather and a longer summer would increase fire activity, and scientific studies confirm this is happening, driven in large part by climate change. Furthermore, projections indicate that fire activity will continue to increase for the next few decades and beyond.

The consequences of today’s fires include immediate loss of life, destruction of property, erosion and degraded water quality, emissions of greenhouse gases to the atmosphere, and poor air quality. The last is an important and under-appreciated threat, producing major health consequences (e.g. lung and heart disease), which are often not realized until long after the fire event. Air quality in parts of California has been dangerously poor: “It’s been like a reasonably decent day in Beijing,” said Anthony Wexler, director of the Air Quality Research Center at the University of California, Davis. Smoke from California fires has been detected as far away as New York.

The story is similar in Alaska, with the added element that climate change is causing increases in lightning, which increases fire through more ignitions. Research at WHRC has helped to illuminate this, showing also that fires in the northern regions have become more intense such that the fires burn deeper and deeper into the soil, which adds even more greenhouse gases to the atmosphere.

Instead of acknowledging these inconvenient truths and offering constructive policy solutions, Trump and Interior Secretary Ryan Zinke have proffered bizarre (and untrue) explanations for recent wildfires, putting the blame on California officials and on unnamed “environmental terrorists.”

This is doubly unhelpful. First, it misses an opportunity to remind people that climate change has consequences now. The myth that climate change is a problem only of the future persists, and probably limits public support for strong climate policies. Second, promoting fictitious explanations for increases in wildfire makes bad management policies more likely. For example, Trump tweeted (incorrectly) that water needed to fight wildfires was instead being diverted to flow into the Pacific Ocean. Commerce secretary Wilbur Ross reacted by directing NOAA to prioritize water for firefighting rather than endangered species, even though California officials had already declared that their firefighting efforts are not water-limited.

As with other aspects of climate change, science can help to motivate and inform policies for wildfire management. WHRC’s research on wildfire focuses on understanding causes and consequences, with an eye towards informing fire-suppression and climate mitigation policies. Limiting harm from wildfire is difficult enough at best. Nonsensical, head-in-the-sand rhetoric from supposed leaders makes it even more challenging.

Thanks as always for your interest and support.
Interview with Rafe Pomerance: An inside look at the NYT Magazine climate issue
by Dave McGlinchey

In August, the New York Times Magazine dedicated an entire issue to one article focusing on climate change as an emerging political issue between 1979 and 1989. “Losing Earth” was launched with a panel in New York City, featuring author Nathaniel Rich and climate scientist Dr. James Hansen. At the center of the article and the panel, however, was Rafe Pomerance. nyt.ms/2vwsgAj

Pomerance was one of the first people to sound the alarm over climate change on Capitol Hill. He continues his work today as a senior policy fellow at the Woods Hole Research Center. WHRC interviewed Rafe about his starring role in the New York Times magazine article, and about his career fighting climate change.

This interview has been edited for length. A complete version of the interview will be available in the Fall issue of our Canopy magazine.

WHRC: What has the reaction been to the article?

RAFE POMERANCE: I have received a good deal of very positive feedback and congratulations for the good work. Friends and colleagues weighing in, saying it was a good piece.

A lot of people were moved by this retrospective. They didn’t know that we knew so much in 1979. They were moved. That had a big effect.

WHRC: As you read it, what do you think were the most important points of the article?

POMERANCE: At the time I began, no one knew anything about the problem. They hadn’t heard of it. There was no knowledge except for a small corner of the scientific community. The entire policy establishment was getting familiar with the problem.

But the most important point was the failure of institutions to respond.

The second thing is that climate change is a big job. We know that we need to shift from a carbon-based economy to renewable energy based economy and that’s the largest task we have every taken on.

We could have been on our way but you had this disinformation campaign that was designed to seed doubt - to undermine the scientific consensus. That has had a deleterious result. I call it the denialist disease.

WHRC: You had numerous conversations with the writer, Nathaniel Rich, to share your story. Tell us about the process of developing this article?

POMERANCE: The conversations took place over a year and a half – something on that order. I didn’t know how the piece was going to shape up. I talked to Nathaniel many, many times. Sometimes about the same conversation or event. He was trying to get the sequence right. And then the way he put it together was excellent.

I was so impressed by his research. We would talk, and he would come back having turned up transcripts and events that I had forgotten about. I didn’t remember every detail, and he would remind me based on the transcript.

He had over 100 interviews. In the end, he did something that hadn’t been done before. He told a story that hadn’t been told before.

His depiction of the Charney Committee in Woods Hole, that was amazing.

There are two schools of thought about the article. The first is, they are impressed. Amazed by how much we knew back then. They’re taken in by the story, and they could read the whole thing because Nathaniel is such a good writer.

The second school of thought is that he downplayed the campaign of disinformation. Ignored that warming was already well underway. These are critiques around the edges. The dominant feeling was that this piece really generated an enormous amount of attention and interest.

WHRC: George Woodwell, who founded WHRC, was mentioned several times in the article. Rich wrote that he “had been calling for major climate policy as early as the mid-1970s, and an international effort coordinated by the United Nations.”

POMERANCE: I was really glad to see that George was mentioned and his insights were mentioned. He played an absolutely crucial role in identifying the role of forests and natural systems in the carbon cycle. He was THE voice for that issue.

He was on the second panel in the (Sen. John) Chafee hearing. We fought to get him on that panel and he did a great job.

WHRC: Looking back, reading the article, and seeing where we are today, was it all worth it?

POMERANCE: Oh, absolutely. Every bit of effort was worth it. I knew very early that this would become a dominating issue on the planet. We started out and nobody knew anything about it and now everybody knows. Was it worth it? Absolutely.

Thousands gather for Woods Hole Science Stroll
by Connor Murphy

On August 11, thousands of locals and tourists took part in the Woods Hole Science Stroll, an annual event to celebrate and showcase the scientific community in Falmouth, MA.

The locally-headquartered science organizations—including Woods Hole Research Center, Marine Biological Laboratory, Woods Hole Oceanographic Institution, and SEA Education—had science displays and demonstrations. Local NPR radio station WCAI highlighted their extensive science reporting, and federal agencies with a Falmouth presence, such as USGS and NOAA fisheries, also displayed their research.

WHRC scientists had a tent that presented the Center’s research on rivers, locally and internationally.

“People were excited,” said WHRC scientist Justin Fleming, who studies the chemistry and ecosystems of local rivers. “They had lots of questions about what we do on Cape Cod, and there isn’t always a scientist around to answer them.”

WHRC staff used a demonstration of herring tracking technology, along with maps of local and global rivers to discuss the Center’s work.

WHRC scientist Linda Deegan said that the Science Stroll has evolved to become a more interactive way for people to learn.

“Talking about local work in a hands-on way is a good starter for conversation,” Deegan said.

Attendees learned about local monitoring of river herring populations, and the Center’s role in informing towns on markers of ecosystem health, several of which having led to notable changes in the area.

In collaboration with the Coonamessett River Trust, WHRC scientists are restoring Falmouth’s Coonamessett River. The recent changes have been visually striking – enough to invoke curiosity from the public.

“People are interested in the science,” Fleming said. “And, by engaging with the local community, we’re helping people understand not just what we do but also what’s going on in their backyards.” continued on next page
Woods Hole Research Center and the Niskanen Center signed an memorandum of understanding on August 11, during WHRC's Science Under the Stars gala, agreeing to work together toward a shared goal of informed and effective climate policy.

Based in Washington, D.C., the Niskanen Center advocates for conservative climate change solutions. Niskanen Center President Jerry Taylor was featured as the keynote speaker for the gala, and he spoke about the organization's unique role encouraging politicians in Congress to accept climate science and adopt climate policies.

Niskanen Center experts worked closely with Rep. Carlos Curbelo (R-Florida) to develop his recently introduced carbon pricing legislation, according to Taylor.

“It’s extremely exciting to be involved with Woods Hole Research Center and the work that you do,” Taylor said.

The agreement calls for the two organizations to collaborate on delivering science to new audiences on Capitol Hill, with joint communications materials and events. The agreement says that WHRC and Niskanen will “bring together their science and policy expertise to reach influential audiences in Washington, D.C.”

For years, Taylor worked at the libertarian Cato Institute, serving as a prominent climate science skeptic. He told gala attendees about his long standing doubts about climate change, and how over time he examined his beliefs and came to accept the scientific consensus.

“I changed my mind,” Taylor said. “I debated smart people, which meant I had to read what they had to say. I began to ask, ‘what am I missing here?”

Taylor said there are significant barriers for a conservative public figure to publicly endorse climate action. Making a switch like that could cost Republicans their supporters and friends, he argued. But Taylor also said that he believes the climate change gap across political lines can be bridged, that there is a strong conservative case to be made for climate action, and that it could become an important political platform for Republican politicians in the future.

“The fact that this is an ideological issue is absolutely stunning,” Taylor said. “It doesn’t have to be that way.”

Suburban yards in New England contain more than twice as many plant species as natural areas, according to preliminary results from an ecology study being conducted by Woods Hole Research Center scientists.

The project is part of a nationwide survey of suburban ecology researching how humans are managing the landscape and how that is impacting the environment. The study is taking place in suburban areas around Phoenix, Miami, Baltimore, St. Paul, Los Angeles, and Boston.

This summer, WHRC researchers conducted the second of two field seasons for the project. The team surveyed 12 yards throughout the summer, split into three categories: intensively managed, passively managed, and managed for wildlife. The researchers also studied 10 natural areas as a comparison.

They found that suburban yards average more than 120 plant species, including 45 native species and 76 non-native species. Natural areas, however, contain an average of 43 plant species in the same sized area. That mix includes an average of 38 native species and 5 non-native species.

“People with yards are creating high plant diversity and quite different mixes of species,” said Dr. Chris Neill, who leads WHRC’s work on the project. “That doesn’t mean this is necessarily good or bad.”

The difference between the types of yards was also distinct. Intensively managed yards contained an average of 107 plant species. Low maintenance yards and yards managed for wildlife averaged 138 and 129 plants species, respectively.

This summer marked the second and final field season of the project. The team also studied soil nutrients, and evapotranspiration from leaves. They are now processing data from the first two field seasons collaborating on the analysis with the other regions.

“We really want to look at how the way people manage their yards changes the structure of those ecosystems,” Neill said. “What it does to the diversity, what it does to the trees, what it does to the carbon?”
WHRC in the news

**Cape Cod Rivers Getting Much Needed Attention.** WHRC Scientist Dr. Max Holmes was quoted in a WCAI Living Lab Radio story on the environmental interest in Cape Cod’s rivers and founding of the Cape Cod Rivers Observatory. July 30. bit.ly/2nZI7DR

**Losing Earth.** Senior Arctic Policy Adviser Rafe Pomerance and WHRC Founder George Woodwell were mentioned as pioneers in climate policy in New York Times Magazine’s “Losing Earth,” a story on “the decade we almost stopped climate change,” and the New York Times’ longest story ever. August 1. nyti.ms/2vwsgAj

**See the Scars that Oil Exploration Cuts Across Alaskan Wilderness.** WHRC Scientist Dr. Sue Natali was quoted in the New York Times this month, in a story on the environmental impact of a large grid of tire tracks left by heavy trucks seeking oil in the Arctic landscape. August 7. nyti.ms/2wk8o3p

**Climate Has a Role in Wildfires? No. Wait, Yes.** WHRC President Dr. Phil Duffy was quoted in the New York Times, with his response to President Trump and Interior Secretary Ryan Zinke’s comments on causes for California’s wildfire season. August 17. nyti.ms/2LbSXzn

**Some Arctic Ground No Longer Freezing In Winter.** WHRC Scientists Dr. Max Holmes and Dr. Sue Natali were both quoted in National Geographic’s recent story on the implications of rising temperatures on Arctic permafrost. August 20. on.natgeo.com/2welqiV