- GrahamZimmerman: Hey, this is Graham. I'm recording this in May of 2019. Despite summer having not officially yet started, wildfire season has already kicked in. Or maybe it never stopped. We had been working on this show over the winter, which has honestly felt like a strange time to be producing a podcast on wildfire, since winter is not what I would have considered fire season. But just in case, I set up an alert to keep track of news about wildfires, both within the United States and outside of it. I was not expecting to see much, but boy, was I wrong.
- GrahamZimmerman: In April, there were major fires in both Korea and China. In China's Sichuan Province, that borders Tibet, 30 people, including more than two dozen firefighters, were killed in one blaze. Other fires were also reported, including a burn in the mountainous area on the outskirts of Beijing, and another in the northern province of Shanxi, that forced at least 9,000 people to evacuate. In Korea, a fire in Gangwon Province prompted a full military response as strong winds moved the flames from city to city. President Moon Jae-in declared a national emergency, and it was considered to be, quote, "The worst wildfire to hit South Korea in years."
- GrahamZimmerman: Also in April, in Northern Europe, fires cropped up in Norway, Scotland, and West Yorkshire, prompting officials to share that fires, quote, "Are way above the average," and, quote, "This season is drastically worse than those of the last decade. This is due in part to a very dry winter." And at the time of reporting, things were only looking worse. Meanwhile, on the East Coast of the US, an area not generally associated with wildfires, New Jersey was dealt a fire that burned over 11,000 acres.
- GrahamZimmerman: These are all areas not generally considered part of the wildfire conversation being dealt fires outside of what is generally considered the wildfire season. This is a sign to me that this conversation about the importance of wildfires and how we deal with them extends far beyond the American West, which we have primarily been discussing in this show. This is clearly a worldwide issue.
- GrahamZimmerman: And back out West, California, a state that in the last two years have been dealt fires that have killed 100 people and burned nearly two million acres, has preemptively declared a state of emergency to deal with the terrifying prospect of another deadly season. Governor Newsom shared that, quote, "The increasing wildfire risks we face as a state means we simply cannot wait until a fire starts in order to start deploying emergency resources."
- GrahamZimmerman: And in the Pacific Northwest, the place that I call home, a record-setting fire season is already kicking in. In a May 10th report, the state public lands commissioner, Hilary Franz, called it unprecedented. Quote, "So far to date we've had 270 fires in Washington State, 53% of them west of the Cascades." I have to stress that this is a new phenomenon. We're not used to having that many fires west of the Cascades, and we're not used to having that many fires early in the season.

E6-The Language Of Wildfire-REI Wildfire-Final M... (Completed 07/01/19) Transcript by Rev.com GrahamZimmerman: Similarly, the Predictive Services National Interagency Fire Center is forecasting for the west side of Oregon to have a higher-than-average fire season. This has already started off, with a fire south of Eugene that has closed roads and destroyed a home.

GrahamZimmerman: As I read this, it is May 24th. All this has already taken place this year, and we still have months and months of fire season on its way? What do we do?

- GrahamZimmerman: This is Wildfire, a podcast about the past, present, and future of wildfire in North America. I'm your host, Graham Zimmerman. I teamed up with my dear friend and business partner, Jim Aikman, to help tell the story of a massive fire in Oregon's Columbia River Gorge, just outside Portland, as we all learn about the natural phenomenon of wildfire. This is episode six, The Language of Wildfire.
- GrahamZimmerman: This is a bonus episode. For this one, you only have me, Graham. Our goal with this show has been to provide you with the tools that you need to understand wildfire, so that you can be a more informed citizen of the world, and have a stronger relationship with our wild spaces. We covered the science, the methods, the history, and took a look at what we can do in the future. All of this was provided with the intention of giving you a view of wildfire outside of the 30 to 90 seconds of doom-and-gloom that are so often featured on the news.
- GrahamZimmerman: But now that you're wrapping up the show, you're about to dive back into the media bath of forests burning and threatening communities while engulfing others in smoke. Clearly, from the headlines I shared a moment ago, this is already happening as the show comes out, and we can expect that it will only get worse as the summer continues. So in this final bonus episode, now that we're done with the story in Eagle Creek, we're going to take a little bit of time to arm you with the tools that you need to disseminate the information that you see on the news, be more prepared personally, and if you like, where you can go to learn more.
- GrahamZimmerman: As we worked on the podcast and built our own knowledgeable around the subject of wildfire in North America, we pulled from a lot of sources to make sure that we were providing you, the listener, with the best and most comprehensive set of information that we could. But as is often the case with a project like this, there are a few primary individuals that really acted as our guides through this complex and sometimes confusing world of forestry and fire.
- GrahamZimmerman: You've heard from many of these folks, but there is one we saved for the end. His name is Ralph Bloemers. Ralph is a co-founder and senior staff attorney at the Crag Law Center in Portland, whose byline is, quote, "Legal aid for the environment." Through this position, he has become more and more interested in the role of fire in our forests, and has become a community leader focused on

E6-The Language Of Wildfire-REI Wildfire-Final M... (Completed Page 2 of 8 07/01/19) Transcript by Rev.com educating communities on how they can be better stewards of these spaces. He is deeply invested in understanding the language that is used around wildfire, ranging from the news to politicians to the general public, a sort of theory of knowledge, if you will.

GrahamZimmerman: When he and I got on the phone to talk about this, quote, "Language of wildfire," it was not the first time we had chatted. Far from it. So we were able to cut to the chase, and started talking about some of the most important terms to understand when reading or listening to reports on forest fires and forestry management. We started with the term, quote, "Healthy forests."

- Ralph Bloemers: You know, there's a lot of terms that are out there, and some of them just kind of sound and mean just like what they say. But if you dig into a term like, let's say, you want a healthy forest, which I think most of us want, it is often used to describe a forest that's greening and vibrant. So for a wilderness or a wild place, it's a disjointed, it's a disturbed forest. It's thrown akimbo, you know? It's not a bunch of right angles like a city. It's got dead trees, it's got insects, it's got fire moving through it, it's got a lot of different things. So healthy forest is also used for a variety of different agendas.
- GrahamZimmerman: Next, we talked about the terms catastrophic and destroyed, terms that have in fact been used a lot in this show.
- Ralph Bloemers: I think the other terms that we hear in the media are catastrophic and destroyed, and these kinds of things that are very negative about fire. Typically, a fire does not destroy a forest. These ecosystems, these landscapes are adopted to fire effects, and are resilient to them and quickly come back after they're burned.
- GrahamZimmerman: Percent contained was next on the list. You've heard it on the show, and you've most likely heard it on the news as well. It is a metric that sounds clear and concise, but it turns out it is anything but that.
- Ralph Bloemers: When a fire starts to burn, they assess the landscape and they set a perimeter. The percent contained is a function of the perimeter they set. Right? That's a perimeter based on the landscape, not based on where the fire's going to burn, because they don't know that. That's determined by the wind and the weather and the topography. It is somewhat of an arbitrary number, and not always terribly helpful. [inaudible 00:09:21] like to use it because it is what is published by the Fire Command on the Incident website.
- GrahamZimmerman: What this means is that oftentimes when you hear it on the news, it represents somewhat lazy reporting, without the proper context to make the information useful. We then talked about the term active forest management, which we hear thrown around a lot in politics.

- Ralph Bloemers: That term is, in practice, used to describe logging. Logging can take a variety of forms. Thinning, clear-cutting. Then it's also used to describe prescribed fire and logging after a fire, which is called salvage logging. Tree planting. It can even be used to describe road building, or spraying of herbicide.
- GrahamZimmerman: So active management is not always the same as good management, which begs the question, how do we know? And maybe more importantly, when we are buying wood products, how do we know if they came from a company with good practices or not?
- Ralph Bloemers: There is plenty of companies out there that are leading the way, and they use Forest Stewardship Council certification to look at their land and their impact on the soils and the forests, and that there's still trees left for wildlife, and that the water systems are protected.
- GrahamZimmerman: I think that the best analog for this is purchasing meat or eggs. As a consumer, when we buy these products, there's a lot of information available about whether these products are cage-free, organic, free-range, grass-fed, or any of the myriad of terms. These certifications and labels allow us to have more knowledge about where our food came from, and they are the result of us asking for that knowledge. We need to do the same with our wood products. And of course ...
- Ralph Bloemers:There is our own role in conservation, and how much we use, and how much we<br/>feel that we need for what we're trying to do, our work, or whatever other<br/>reason we might use paper and wood products for our homes.
- GrahamZimmerman: With that, we started to talk about all the chatter in the media about breaking records, like, quote, "Hottest season on record," or, quote, "Worst wildfire season," and how much credence we should give these numbers.
- Ralph Bloemers: It is definitely worth digging into the numbers. The data matters, the science matters.
- GrahamZimmerman: My educational background is in science, and I remember a lot of discussion about the importance of statistics. Ralph was sharing this same sentiment, that if you see a statistic that matters to you, verify it, and contextualize it by looking at how much information it incorporates, whether that be time scale, geography, or number of incidents.
- Ralph Bloemers: I think that the key point for the listener here is, look at the reference period that the reporting is referring to. Are they saying we're breaking more records than compared to the 1980s, or are they saying we're breaking more records than ever? I call it shifting baseline that can make those data say different things.

- GrahamZimmerman: But Ralph did share that we are in fact breaking many important records, records that we do not want to be breaking.
- Ralph Bloemers: A lot more loss of life, a lot more loss of homes, longer fire seasons, hotter temperatures, and a lot more carbon. So you know, we are breaking some other records and headed into uncharted territory. But in terms of things we're not breaking, people still start most of the fires, and most of all those fires are started on the 4th of July.
- GrahamZimmerman: Next up, we dove into the topic of what we as individuals can do.
- Ralph Bloemers: There's a lot of things we can do at a personal level. Harden our homes is the number one. Advocate for our leaders at the state, local, and federal levels to send money to retrofit our buildings, and really get some of that support also in a way that addresses the disproportionate impact from an equity perspective on people that don't have the money to leave their community when it's heavily impacted by smoke.
- GrahamZimmerman: I wanted to dig a little deeper on a few of these. Firstly, hardening our homes.
- Ralph Bloemers: I remove all of the wood, earth from around the building. I make sure the gutters are empty and there's no needles on the roof. I hardscape around the perimeter of the home. I put on ember-proof vents. I either put on rain gutter guards if I have rain gutters, or I get rid of the gutters. I have a metal roof. Those things are the most effective thing you can do. They give your home a 95 to 99% chance of survival.
- GrahamZimmerman: I think it's important to note that some of these major structural changes we can make to buildings, like installing metal roofs, can be prohibitively expensive. But these smaller, less expensive options, like creating defensive space and cleaning out our gutters, are just as important. We also talked a lot about smoke.
- Ralph Bloemers: Most of that smoke is water vapor, but that smoke also contains particulates that are really harmful to human health, particularly to more vulnerable populations, young and old, and people with breathing ailments like emphysema or cardiopulmonary disease or something like that. We need to treat that like a human health issue, and have smoke shelters just like we have warming shelters. We need to retrofit public buildings to have a filtration system, and if we can figure out how to have people have those in their homes also to provide a safe haven.
- Ralph Bloemers: Now, for folks that have to work outside, it's really tough. People have asked me about face masks in the past. But the Health Authority here in Oregon and other states, they don't recommend them, because you need a particular kind of

mask, and those masks also are not designed to be worn for long periods of time because of their effects on the reduction in the oxygen that they produce.

- GrahamZimmerman: So it comes down to a need for less exposure, particularly for at-risk populations, plus improved and better implementation of technology that better shields us from these particulates. It also struck me that knowing more about the ecology of the wildlands that surround us is an important component to having proper expectations about what we should expect fire season to hold for our communities.
- Ralph Bloemers: How does our relationship with wildfire change based on differences in local ecology and what the forest types or grasslands are around us? It can significantly change, but I hesitate to say these issues are complex, because oftentimes that's said by people overseas authority to keep people from questioning what they're doing, when in many cases it's fairly elemental, and there's broad things that we can pull from what we know to chart our path forward. But that said, there are differences, and it's important to be mindful of those differences, which include how we've treated that land in the past, and what forces have shaped that land.
- GrahamZimmerman: Lastly, we talked at length about the resources that you, the listener, can get at to be more informed about what is going on in your forests.
- Ralph Bloemers: I would recommend to folks who want to dig in deeper, is to check out Thriving with Fire or Forest Fire Facts. Those are good resources for information on different approaches and a deeper understanding of these issues that's not so fear-based, that's just practical and tries to both show the beauty in burned landscapes and what we can do to protect homes and communities.
- Ralph Bloemers: Another organization that I really appreciate the work that they're doing is Firefighters United for Safety and Environmental Ethics. They've been doing a lot to call the question on what firefighting strategies make sense, and which ones are doing more harm than good. There's a sort series of films about forest fire and climate with a stop-motion animated owl called Dotty Owl that you can find on Thriving with Fire, either on the website or on social media, which is really good for all ages. It shows the benefits of fire, how fire moves, fire and weather, climate and fire, the impacts of our responses after fire. I'm actually in the middle of working on a feature film about the home safety question. But there's pretty extensive resources from the National Fire Protection Association on Fire Wise and what you can do to create home safety.
- GrahamZimmerman: Lastly, I asked about how much we should pay attention to and rely on predictive resources, like the National Significant Wildland Fire Potential Outlook that's published by the National Interagency Fire Center.

- Ralph Bloemers: The challenge is, we cannot predict where fire will burn in any given year. It's totally random. We have 350 million acres of forest, and hundreds of millions of acres more of shrub lands and grasslands. We can't determine where a person will start a fire and how that fire will burn once it's started before it does. The thing that it does tell us is which homes we need to prepare, are more likely ... we need to prepare for fire. And it might tell us some areas that have been degraded or have a thick plantation forest that is more fire-prone that we might want to thin, that's on public lands, that's near a community, and so we might want to go into one that's been replanted and very dense and all even aged and do some work in there. It would tell us where our road network are and where our escape routes are.
- GrahamZimmerman: So I think we should pay attention to our fire risk and to predictions, but do so with the knowledge that they can be flawed, and that we should always be prepared, particularly if we are in a fire-prone area.
- GrahamZimmerman: This brings us back to why we decided to create this show about wildfire in the first place. We did it so that we can all be more informed and more prepared, because the wildfire phenomenon and the issues associated with it do not exist in a vacuum. It is intrinsically linked to everything else in our lives, and in the end, this is why it matters.
- GrahamZimmerman: Just as we saw with the communities affected by the Eagle Creek fire, when fire shows up at your door, you need to be ready. In the meantime, there's a lot that we can do to be better stewards of our wild spaces, and to help mitigate those risks and create a more symbiotic relationship between our societies and the forests on which we thrive and rely.
- GrahamZimmerman: We very much hope that you have found this show to be both informative and inspiring. If you want to learn more, the resources that Ralph shared are all linked in the show notes. We encourage you to check them out. With that, we bid you adieu, and thank you very much for listening.
- GrahamZimmerman: Wildfire has been a production of REI, Bedrock Film Works, and Pod Peak, and is part of the REI Podcast Network. The podcast was written by Jim Aikman and myself, Graham Zimmerman, and was produced by the two of us alongside Chelsea Davis and our editor and audio wizard, Evan Phillips. For more REI podcasts, feel free to check out Wild Ideas Worth Living and Take It From Me, both available wherever you listen to podcasts. Keep an eye out for more from this team in the coming months. Until then, we wish you beautiful days and wild places.
- GrahamZimmerman: You're at the end of this season of Wildfire, which probably means you're looking for a new show to binge. We recommend a recently released podcast called The Wild by the folks at KUOW in Seattle. It's hosted by Chris Morgan, an ecologist and filmmaker who gets up close to all kinds of animals that we know

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and love, including wolves, mountain lions, and bears. And when I say close, I mean really close. In one of the episodes, he talks about the first time that he interacted with a grizzly. The Wild uncovers the surprising connections that we share with animals and the wild around us. It does it in a way that highlights the resilient power of nature and the wonder of the outdoors. You can find The Wild anywhere that you listen to podcasts.