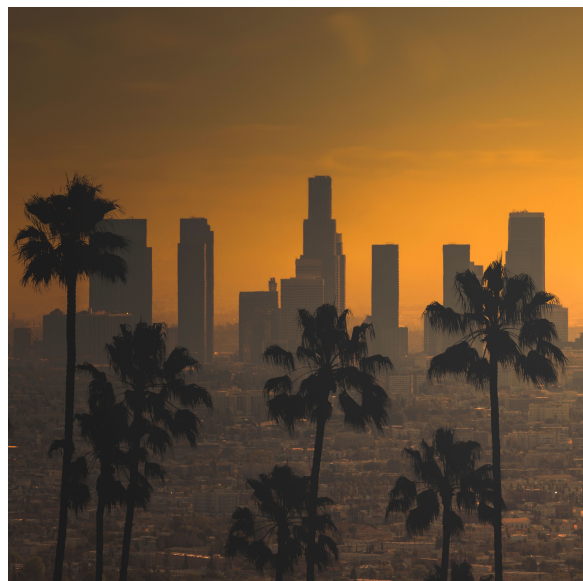


# LA Wildfires: Loss, Recovery and Resilience

<https://www.climateone.org/audio/la-wildfires-loss-recovery-and-resilience>

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**Greg Dalton:** I'm Greg Dalton.

**Ariana Brocious:** And I'm Ariana Brocious.

**Greg Dalton:** And this is Climate One.

[music change]

**Ariana Brocious:** Before we get into today's show, let's take a second for the news of the day - President Trump has officially started his second term. And from day one, he's got a real anti-climate agenda in the works.

**Greg Dalton:** He's coming out big and strong for fossil fuels. He's already signed an order withdrawing the US from the Paris Agreement - the global pact to reduce emissions. He moved to halt leases for large wind farms and rollback EPA rules on tailpipe emissions.

**Ariana Brocious:** His executive orders also include eliminating environmental justice programs, leasing more Alaska wilderness to oil and gas drilling and declaring a national energy emergency, which would be a first. That could let him suspend environmental rules to expedite fossil fuel development - and he used a similar strategy during his first term to build the wall on the southern border.

**Greg Dalton:** We'll be covering the actions of the Trump administration over the next four years, like next week's episode focused on the new climate landscape. But today's show is about the impacts of our warmer atmosphere when it comes to wildfires.

**Ariana Brocious:** It's been more than two weeks since massive infernos started in Los Angeles. New fires just broke out near San Diego. And as we tape this, Greg, you're actually in Los Angeles visiting your daughter. So tell us a bit what it feels like there, what you've seen, what you've been

experiencing.

**Greg Dalton:** There's visible and invisible impacts. I have seen people wearing masks on the street, not for COVID, but because the winds are spreading toxic soot and ash from these wildfires, there's massive amounts of lead and paint and other toxins in the air still, and then there's. The less visible impacts, people are traumatized, sleeping next to their phones, wondering when the next fire will start. Should I move? Should I stay? We tend to focus on the visible impacts of people who lost their homes and charred buildings. There's a lot of invisible mental and other kinds of harms going on.

**Ariana Brocious:** And I understand you guys have taken in a family that was displaced.

**Greg Dalton:** Right. We took in three generations of a family from the historically black community of Altadena.

Uh, the nine year old grandson lost his custom skateboard and electric scooter, but that's already been replaced by the community rallying around. They saved part of their house by hosing it down, but the garage where some of the family lives is gone. So it's really sad, but people are coming together and moving forward.

**Ariana Brocious:** And we really want to express our collective grief and sadness for what Los Angeles and its residents are going through right now. It's a really significant disaster. As of this taping, the Palisades and Eaton fires have killed at least 27 people and destroyed or damaged more than 17, 000 homes and buildings. And many, many, many people are displaced.

**Greg Dalton:** And seeing all this destruction and feeling the heartbreak of displaced people, it's making me wonder, what will this change? Will it change action? Will it change the national conversation? Will it change policy? And if past disasters are a guide, I'm sorry to say a lot of people will forget and move on and kind of shrug And go back to their lives.

**Greg Dalton:** Today on the show, we're going to talk about these LA fires and why they're somewhat different forest fires we often think of.

**Ariana Brocious:** We'll talk with a forest ecologist about how climate is influencing disasters like these. And about ways to ensure an equitable recovery for everyone suffering in the wake of this scale of destruction. We'll also talk about ways you can harden your home against wildfire risk.

**Greg Dalton:** Yeah, even if you don't live in Southern California, you might want to listen to that. The fires on Maui in 2023 showed that areas once thought to be safe from fire are safe no longer.

[music change]

**Ariana Brocious:** Last week I talked with Moira Morel, a cinematographer who lives in Altadena, a city in northeast Los Angeles County, about losing her home to the fire.

**Moira Morel:** So we're about 25 to 30 minutes north of downtown Los Angeles. We are sort of tucked into the foothills of the Angeles National Forest. so you walked out our front door and it's just these like beautiful mountains and forest. There's a creek down by the Jet Propulsion Lab, which we are walking distance from, that everybody takes their kids to, especially in the summer. there's all sorts of wildlife that sort of like meanders and makes its way into the neighborhoods at times. so yeah, we're very close to a lot of nature, a lot of wilderness.

**Ariana Brocious:** And that beautiful natural setting was the backdrop of a rich life Morel and her wife cultivated together. They built a strong and vibrant community in Altadena and within their own

neighborhood.

**Moira Morel:** A really normal weekend for us is, friends and sometimes neighbors coming over for a meal, hanging out in the front yard with the kids. Our house was really small. It was just shy of 1100 square feet. But it was really cozy. And we'd host everything from small dinners with two other friends to giant birthday parties in the backyard. And we, we really knew so many of our immediate neighbors surrounding and then even some neighbors further down the street.

**Ariana Brocious:** All that changed a couple weeks ago. When the winds began to reach hurricane strength, Morel and her family grew worried about falling tree limbs or flying debris. They decided to leave home and spend the night in a hotel in nearby Pasadena.

**Moira Morel:** We have two small children. I have a seven year old and I have an 11 month old and at the time we had my in-laws staying with us too and so you know we decided not to risk it. So we really just got some overnight bags together, just toiletries, PJs, and left to a hotel just a few miles away. And, um, when we got to the hotel is when the fire started.

**Ariana Brocious:** Morel and her family stayed at the hotel that night. By the next morning, the hotel itself was in an evacuation zone. And the next day there was no house to go back to. The fires moved really fast. They just tore through the neighborhood. You know, it was like there was a point where I was just thinking there's so much neighborhood. There's so many houses. There's three miles of densely populated neighborhoods between us and the fire. There's no way it's gonna get to us and it was just so wrong about that.

**Ariana Brocious:** In addition to processing their own grief and trauma, Morel and her wife had to tell their 7 year old son that their home was gone.

**Moira Morel:** You know, my wife sat down with him and in the gentlest terms possible explained to him that the house had burned down in the fire and that a lot of our neighbors homes also burned down in the fire. But that everyone we know is safe and healthy and had gotten out in time and that we're just gonna have to figure out a new place to live for a while. you know, like most seven year olds at first I think his main concern was his toys, but um, you know as days passed and the reality of the situation settled in with him, it's really been hitting him hard and he has these moments where he just gets really emotional and talks about wanting to go home and wanting to go back to the old house.

Um, he has ideas like, well, if I make a playdate, no one's gonna know where to find me because my house is gone. One thing I'm really so proud of about our house and our community is that we really had created a community. We had created a space where we were trying to welcome everybody into it. And having it gone, I think, has been, you know, it's not just a house that burned down it, it was a home.

**Ariana Brocious:** For now Morel and her family are staying at an Airbnb in the desert east of LA. For more than a week they shared that spot with several other families with young kids who also needed to get out of the city because the air quality was so unhealthy. And she's starting to think about what will come next.

**Moira Morel:** It's such a conflicting situation, right? Because on one hand, all we want to do is rebuild and, and help the community get back on its feet. And, help Altadena just get back on his feet and help it, you know, restore it to the beautiful, thriving community it was before, Even though that might seem to a lot of people, so you're responsible, right? Like you already had a fire. Why would you build a house where a fire already came through? Aren't you just asking for trouble? And

the fact of the matter is that the insurance companies don't really make it that easy to just, you know, abandon your land, and abandon your house and start over somewhere else.

So I mean, For me, it feels a little bit early days to think about, Okay, What's, What are we going to do? What are we going to put there? What's the house going to be? But I'd love for there to be an effort to rebuild in a way that not only mitigates a potential, you know, another potential fire of this size, but in a way that really has, the climate and the community at the forefront, Altadena. It's a traditionally black neighborhood, black working class neighborhood, especially West Altadena, which is where we live. And over the years, it's become more like Latino. And now, you know, you have people like us moving in. but the diversity has always been one of its greatest strengths. And the biggest fear is that you're gonna have all these developers and contractors coming in, scooping up plots of land and building, you know, giant, you know, giant condos and apartments and it would just be really great if there was a big push to keep housing affordable, available, and also responsible in the area. And I just think that this is such a great opportunity to rebuild in a way that keeps not only, the climate around us in mind, but also our neighbors and the communities that built this city.

**Ariana Brocious:** Yeah, well, you mentioned having a really tight community pre fire, um, and we know that when some of these disasters happen, as horrific and devastating as they can be, they can also sometimes bring out The best in us as humans and caring for one another, um, neighbors tend to really help each other, even if you don't have those deep ties. So what have you experienced in the last, you know, week and a half as this has been happening as these fires continue?

**Moira Morel:** Well, um, I'm on like five different WhatsApp groups who are responding to the crisis, you know, there's, there's mutual aid groups. There's people who have lost their homes who are coming together and sharing resources. There's moms groups that are coming together to, you know, help in any way they can and to share resources.

And, and that's, that's really what I'm seeing right now is just like this real willingness and desire to, to help people who's, who've lost their homes and people who have lost their community, no matter who they are. And, you know, the people who didn't lost their homes are there helping in any way they can. And it's just really, it's, it's just really heartening.

**Ariana Brocious:** I'm so glad to hear that, that's really good. We are seeing increased frequency of storms, hurricanes, wildfires, floods, torrential rain, all these things. We know they have climate ties. We know they're being driven by a warmer atmosphere. Does it make you reconsider living in Los Angeles and California altogether? Does it make you think about moving somewhere else?

**Moira Morel:** I mean, yeah, I think it would be insane for me to be like, Oh, this is fine. We're just gonna live here. I was gonna like wait it out. yeah, I mean, of course, there's always like, I grew up in Michigan. And so I still have a lot of friends there, family friends, and I actually do have a few friends here that have bought property in Michigan with that exact thought in mind. But um, I don't know, I just feel like having kids gives you a different lens on things and while, yeah, I mean if it became an imminent threat to continue living here. I mean, it would be my responsibility as a parent to probably go somewhere safer. But until then, it's my responsibility as a parent to help foster and create a world that is safe for them, in spite of the challenges and because of the challenges.

I mean, I think it's all of our responsibilities to leave this world better than we found it. And, you know, we're a generation that has that opportunity or the maybe the last generation to really that has that opportunity. And, I'd like to be able to be a model for my kids. You know, this is the way you do it. This is the way you rebuild. This is the way you build community. This is the way you help build an equitable world where no matter who you are, you have access to clean water. You have access to

conscious housing, housing that is built for you and your community that is also responsible for the environment around you So, I mean, that's where I'm at right now. You know, it's it's important for my my son to see us rebuilding in a way that keeps not only the environment around us healthy, but also our neighbors.

**Ariana Brocious:** Yeah. Moira, thank you so much for talking with us and sharing your story.

**Moira Morel:** Yeah, so happy to be here and just, uh, very thankful for everything you guys do on the show.

**Ariana Brocious:** Moira Morel is a cinematographer and resident of Altadena who lost her home in the Eaton fire. You can find a link to organizations to help support people on the ground in the show notes on our website.

**Greg Dalton:** Coming up, exploring the fossil fuel fingerprints on the Los Angeles fires:

**Hugh Safford:** No question that climate warming is certainly deepening droughts. It's also making wet years wetter. So it's taking what is already an incredibly variable climate in California and making it even more variable.

**Greg Dalton:** That's ahead when Climate One continues.

**Ariana Brocious:** Please help us get people talking more about climate by sharing this episode with a friend. And we'd love to know what you think of the show. Please give us a rating or review. You can do it right now on your device - and it really helps people find the show. Thanks!

**Ariana Brocious:** This is Climate One, I'm Ariana Brocious. Before we get further into the show, I want to welcome a new voice: Kousha Navidar. He's worked for WYNC and PBS, and he'll be joining us on the air for the next few months as a host. Welcome Kousha!

**Kousha Navidar:** Thanks! Excited to be here.

**Ariana Brocious:** Well, we're lucky to have you. So let's introduce people to you a bit. You're based in Brooklyn, right? And you've lived lots of places.

**Kousha Navidar:** That's right. Uh, downtown Brooklyn is where I call home and I've lived all over Miami, Durham, DC, Boston, and California. In fact, so this was back in 2018. Ariana, I'm sure you remember the huge Camp fire.

**Ariana Brocious:** Yeah. So tell me a bit about that. What's been your personal experience with wildfires?

**Kousha Navidar:** Uh, I remember living there. In San Francisco and seeing the haze that those fires set on the city as they came down. Years later, my wife and I moved to New York City, which is where I live now. And I kind of thought we were leaving that experience behind us. But then just last year, uh, I woke up one morning and I smelled smoke in my apartment and I took a look outside and I saw the same haze and Ariana was the the wildfires in Canada migrating down so I actually ended up having a similar experience on the opposite side of the country.

**Ariana Brocious:** Yeah, it's been remarkable how far the smoke has spread from some of these fires, and I think it's brought the issue of wildfires and that risk home to a lot of people who haven't experienced it before.

And honestly, when I think about climate chaos, I picture what's happening in LA right now. Part of what's so surprising and terrifying about these fires is that they're happening in the city. A lot of them are really close to people's homes and businesses

**Ariana Brocious:** Yeah. When I imagine climate chaos, it looks like what's been happening in LA with these recent fires. And part of what's so surprising and terrifying is that those fires are happening in a city.

**Kousha Navidar:** What we see a lot more of, frankly, are largely rural areas where huge fires can burn for days or weeks.

**Ariana Brocious:** And actually, there's been a slow shift in recent decades to appreciating the value of so-called "good fire" - which helps landscapes function and keeps the fuel load down, reducing the risk of huge out of control fires. We spent a whole episode on that last summer, you can find it in our pod feed. It's called "Rekindling our Relationship with Wildfire."

**Kousha Navidar:** These recent wildfires in Los Angeles are not "good" fire. Still, fire **is** a very common part of life in California, southern California in particular. I learned a lot about this by talking with Hugh Safford. He worked as a regional ecologist for the Forest Service in California for more than two decades, and now does research on fire, forest management, and climate change at the University of California Davis.

Has anything surprised you about the fires happening right now in LA?

**Hugh Safford:** Yeah, so, so what I would say is that what really surprises me is how surprised people seem to be by the events, number one, and, then I'll also say that, I'm a little surprised that these kinds of events don't happen more often, to be honest, I mean, this is a cyclical event in Southern California. I mean, particularly in the Malibu coast. You can look at the record and every five to ten years there's a destructive fire that burns hundreds to thousands of homes and kills people. And so these are the kinds of things that they need to be ready for.

And I will also note that the Pacific Palisades event and the Altadena event, really were primarily urban fires, whereas, most of these other fires I'm referring to were largely wildland fires that then found their way to the coast. And the, the point is, is that the fuels and the situation in Southern California are such that there's a high propensity for very big fires, particularly this time of year, you know, when you get, into the fall and the early winter, when you get these Santa Ana wind events, when the fuels are absolutely bone dry after six, seven or eight months of drying. In Southern California, this has always been a part of that canvas.

**Kousha Navidar:** I read recently that from 1990 to 2020, the number of homes in fire prone parts of California grew by 40%. That's from the USDA. We're talking about the challenges of actually fighting these fires. What makes it so hard to fight the fires in urban contexts compared to big forest wildfires.

**Hugh Safford:** Well, think this analogy probably gets tired at some point, but I think you can think about it a little bit like a battle. And if you think about battles between humans, the absolute scariest kind of fighting is urban fighting. It's complex and there's a lot of hiding spots and all sorts. It's just a really, really scary place to be and it's the same thing for fighting fires. I mean the variety and abundance of highly flammable and maybe even explosive fuels is a huge issue for firefighters. The flammability of the landscape is just mind blowing. They're very tight, often very compact, these towns that are kind of up, you know, up against the mountains, and you're trying to protect people's homes. This is felt viscerally by firefighters and they are much more likely to put themselves at much

higher risk to protect human assets. And that's another part of it is the psychological thing. There are people living there. And there are a lot of people living there. 9 to 10 percent of the U.S. land area is in WUI, but a third of all homes are in WUI.

**Kousha Navidar:** When you say WUI, for listeners who aren't familiar, can you say what WUI is?

**Hugh Safford:** Yeah, it's an acronym. It's W-U-I for Wildland Urban Interface, and this is essentially that transition zone between urban areas with a lot of asphalt and concrete and homes into homes that are built in more rural situations.

**Kousha Navidar:** You know, for this interview, prepping for it, I learned a new term. Uh, it was chaparral and it was a new kind of vegetation that I wasn't familiar with. You know, you've got the coasts and you've got the canyons that burn frequently with this chaparral. And it's easy for an average person to assume that they're the same as like a landscape-scale forest and those kinds of wildfires are apples to apples but kind of seems to me to be a bit like apples and oranges can you explain the differences in those kinds of fires in terms of fuel we've got grasses and trees versus the scrub that we're talking about in SoCal.

**Hugh Safford:** So, in general, the quote unquote Western fire problem writ large is largely a forest fire problem, except in coastal and Southern California where a lot of these blazes are happening in, in shrublands, largely or in vegetation around shrublands. And the big difference between chaparral and say a forest type is the distribution of fuels on the landscape. Most of the fuels, in a forest, although there'll be plenty of dead fuels on the forest floor, and of course there are more and more of those dead fuels as we continue to suppress Western fires. The issue in forests is if you get a fire up into the canopy, right, and if you get it into the canopy of the trees, and that usually only happens in wind events, then all bets are off and you're not, probably not going to be able to have much impact on that fire's progression.

But when the wind, when the wind dies. Uh, the flames tend to fall out of the canopy. And then it's a lot easier to directly attack. In chaparral, the issue is that although it's not nearly as high as forest, I mean, you're talking about, you know, four to eight foot tall typically vegetation. In this case, the canopy is directly connected to the ground. So there is no gap between the canopy and the ground. And hence, every fire in chaparral is what we call a stand replacing fire. They're always high intensity.

**Kousha Navidar:** Just to kind of put a fine point on that, the fires that we're experiencing in LA right now, the relationship between the scrub and the canopy is, is quite different than in forest fires. I grew up talking about Smokey the Bear with forest fires and saying only you can prevent forest fires. Is that kind of messaging even applicable here?

**Hugh Safford:** Well, actually, Smokey Bear is directly applicable to the issue in coastal and southern California. That is, the only reasonable response on the part of the firefighting agencies and organizations is to try to put out every ignition as quickly as they possibly can because there is an absolute overabundance of ignitions on that landscape and that vegetation is just getting its butt kicked by a lot of fire, whereas in western forests, the issue is the reverse. Smokey Bear and all of the politics and management regulations around that whole campaign stopped fire as a regular ecological force in western forests. And so now those things have filled with fuels and they're acting like tall chaparral. But Smokey Bear's message for Southern California is, absolutely on point, we need to put out every ignition that we can because we've got way too many of them.

**Kousha Navidar:** Let's switch now to the climate context. Climate skeptics would point to LA's long history with fire as evidence, actually, that this is nothing new, that it's not climate change. And I

understand that, that you kind of find yourself in the middle of that. Is that fair to say?

**Hugh Safford:** Yeah, I mean, I think the middle is usually the right place to be. If you're being attacked by people on both extremes, then you're in the right place. I mean, I think that's generally something to live by. So, so here's what I want to say first is that there's absolutely no question, that climate change is going to be one of the defining catastrophes. And this is a slow rolling catastrophe. Although it's not so slow rolling when it's affecting things like hurricanes and fires. That said, climate change did not cause these events, all right? What caused these events were human ignitions on extremely windy days in bone dry vegetation and dead fuels on mountainsides above and windward, right, of highly flammable and very poorly planned communities. That's it. You know, this, this kind of scenario plays out nearly every year somewhere in Southern or Coastal California and sometimes periodically, at really large scale with major infrastructure loss and major human mortality.

**Kousha Navidar:** So if you're, if you're saying that climate change did not cause this specific event, the next question I immediately go to then is, well, are there fingerprints of climate change on these fires in any other way?

**Hugh Safford:** Sure. Oh yeah, absolutely. I mean, just the distribution of living things on the planet is basically driven by climate. Don't forget that. You know what I mean? That's what's driving, you know, precipitation regimes, where you get droughts, where you get rain, when you get those things, how much of that comes, which species can live in a place, you know, that sort of stuff.

**Kousha Navidar:** Yeah, you know, I am thinking about that kind of whiplash trend between heavy precipitation followed by extreme drought. So kind of you're saying ton more vegetation, but then it all dries out and it basically becomes a tinderbox kind of like loaded dice on any given year. You are going to have a higher chance. Is that fair to say?

**Hugh Safford:** It is fair to say, but again, remember that that's typical for California. Right. I mean, it's, it's really, really important that people know that, in California, you've got this constant cycle of drought years and wet years, right? I mean, it's a feature of the climate. I mean, it's really typical to have two to five year droughts, you know, every once in a while. You just have to look at the climate record, but no question that climate warming is certainly deepening droughts. It's also making wet years wetter. So it's taking what is already an incredibly variable climate in California and making it even more variable.

So you think about what drives fire behavior, okay, there are three major factors. One of them is the topography. Right. Can funnel winds. Higher elevations are cooler and moister than lower elevations. South slopes are warmer and drier than north slopes and all that kind of stuff. Fuels, which is what you actually need to have a fire. And those vary greatly on landscapes, including by topography. And then weather, right, is the other thing that drives fire behavior. And weather is obviously inextricably linked to climate. Well, we are changing the climate. It's a big long term experiment. It's kind of, that's the scary part of it, but what we can change in the short term is we can change fuels.

And in western forests that is clearly the answer. In western forests, there needs to be a major effort to restore forests, to remove a huge portion of all of this fuel that's grown into these systems since we've been putting fires out for the last hundred years.

But in chaparral, those kinds of modifications can have effects on fires during the easy part of the fire season. You know, May till about, you know, August or September, but that's not when fires burn down homes and kill people in Southern California in general. When that happens is in the fall



and the winter, and that happens under extreme winds, incredibly dry fuels conditions, really low moistures relative humidities in the air because the wind's coming out of the desert. And in those cases, those fuel modifications essentially have no impact whatsoever.

**Kousha Navidar:** I see.

**Hugh Safford:** So, so when people talk about, you know, we need to get out and be, you know, reducing the fuels on landscapes because they're going to stop these Santa Ana fires from burning into towns. That's hoey. That's ridiculous. Under these winds, it doesn't matter what your fuels are in the landscape, because a fire under Santa Ana conditions is moving through the air, it's not moving on the ground.

**Kousha Navidar:** What else do you think is super valuable then? Are there other lessons that we should put or that we have put into action that have made a difference?

**Hugh Safford:** Probably the biggest issue for me. is the city and the county planning issue, I mean, you've got, so the huge numbers of human ignitions, okay. Education's going to deal with that more fire prevention, you know, more patrolling, uh, that kind of stuff. Homes are built out of wood, largely in most of California, that's partly due to the earthquake threat, right? Homes are a lot more flexible with wood and bricks tend to fall on people. But that's a problem, you know. Yards are full of flammable materials. I mean, people who don't live within a block or two of the wildlands, even in Southern California, tend not to pay attention to, you know, what's in their yard or whether their vents are ember safe or whether their gutters are full of leaves, you know, whether that kind of stuff. And then, you know, and then there are all these towns in coastal and Southern California that are built into just the craziest places because they're cool places to be. Steep, heavily vegetated canyons with one road in and one row road out. And when I see, when I drive through towns like that. Man, my hair just, it just stands up on my neck if it's in October and November, because I don't think people understood until maybe the last five or 10 years, the outrageous level of risk that they live under because they, they, they felt that they were being told by the fire management agencies that, Hey, we got this, you know, we can protect you. Well, I think at this point people are understanding that that's not as true as it used to be.

**Kousha Navidar:** So it really for you comes down to, in one respect, not completely, the ways we are choosing to develop these communities, the materials that we're using to build, how we're choosing to, live and grow these cities, right?

**Hugh Safford:** Yeah, Yeah. I mean the huge expansion of homes. I mean a third of American homes are in the WUI, good golly. And, I mean, you just think about how many millions and millions and millions of Americans are in extremely risky places. And you know, there are, so if you're talking about like rural areas, okay, people can afford land there. I mean, people can't afford to live in American cities anymore. So they're trying to get out. They want to be in the woods if they can be, it's nice and green. Maybe they don't see their neighbors because their vegetation is nice and dense. So that's one thing. But then in areas like Southern California, where there's just rampant development going on everywhere, you know, you know, mind you, there are massive economics at work here. I mean, development in real estate is an absolutely massive industry in Southern California as it is around any urban area. And it just overwhelms the ability of anyone, whether it be locals or NGOs or agencies to try to restrict where and how new development is built. And there have been a couple of examples in Northern California of developments that were stopped or stalled. Because they basically hadn't taken into account the fact that the entire development was in an extremely high fire risk area.

I think most of the people are sensitized now, I will say that. I live up at Lake Tahoe for a lot of the

year, and, and our house is in a relatively high risk area, but we've done a lot of work with our neighbors to reduce that risk, and man, we've had to evacuate a number of times due to fires, and we're very sensitized to the weather and what it means and when fire danger is very high. We don't do silly things like, you know, building fires outside or igniting things or sending fireworks off into the vegetation on windy days.

**Kousha Navidar:** But for you, you're saying we've got to get increasingly real.

**Hugh Safford:** Yeah, yeah, but I think, I think most people in the woods are now starting to get there and of course they don't like the feeling because it's scary. But, what's going to probably drive, I would guess, if I had a crystal ball, I'd say what's going to drive this are economic concerns and at this point it looks to me like it's probably going to be insurance. Many people who live in, in, in really risky communities or WUI around these communities in the Western U.S., they are losing their insurance or they're seeing their rates go up by two, three, four times, which means they're going to have a lot of trouble passing that property on if they decide to flee the risk. and I think that you're going to see that in the next 10, 15, 20 years, I think there's going to be a fundamental restructuring of the way insurance works in this country.

**Kousha Navidar:** Yeah. Well, Dr. Safford, you've given us so much to think about. Hugh Safford is a member of the research faculty at the Department of Environmental Science and Policy at UC Davis. Thanks for joining us on Climate One.

**Hugh Safford:** You're welcome. Thanks for having me.

**Ariana Brocious:** Wildfires can be a massively destructive force – and in a climate-primed landscape with dry soil and hot temperatures, it's a force that can get out of control very quickly. But as Hugh Safford mentioned, there are ways to help reduce the risk of losing your home in a wildfire. Nick Mott is a multimedia journalist and author of “This is Wildfire: How to Protect Yourself, Your Home and Your Community in the Age of Heat.” I talked with him last summer about ways individuals and communities can help make their homes more fire-safe.

**Ariana Brocious:** There are a lot more people now who are at risk for wildfire and they may or may not know it.

**Nick Mott:** Absolutely. I mean, the area where people live that is fire prone, that is at risk of burning is called a very clunky acronym, the WUI or wildland urban interface. You know, more than a third of the country is in the WUI and, you know, tens of millions of homes and families are there and it's an area that's growing both because of cost of living, people are pushed out of city centers into more sprawling areas, because of demand for aesthetics, you know, it's these beautiful forested places at times and. It's where so much new construction is happening. And at the same time we have a changing climate, meaning more areas of the country are hotter and drier and more prone to burn. So we're really making things a lot worse for ourselves by where we're choosing to build.

**Ariana Brocious:** I'd like you to read us a quote from your book that I found especially resonant.

**Nick Mott:** “Many homeowners simply expect the Forest Service or local fire department to come to the rescue whenever they need it. A century of fire suppression built this expectation. People think managing wildfires is someone else's job. A service the government provides.”

**Ariana Brocious:** So, how do we need to rethink the balance of responsibility in this current moment in terms of who will protect your home, who should protect your home?

**Nick Mott:** We need to think about ourselves as protecting our homes, and not just ourselves as

individuals, but ourselves as community members. So think about you and where you live, but also your neighbors and your larger community outside of, you know, your block. When I say think about yourselves, the great place to start is at your own home. And that can mean all kinds of work that can get done. Everything from cleaning out your gutters of leaves and pine needles to working on fire resistant gardening practices that can help keep fire from coming up against your house if it comes from far away. And then if you look bigger, you know, I live in a fairly dense place. Like, my neighbor's not very far away on either side. So if I have a fire resistant yard, my neighbor doesn't, you know, their house is pretty dense. 20 yards or less away, that's not going to make a huge difference if their house goes up in flames because that residual heat and all those embers can still just, would easily ignite mine. So, it's not just this problem that's purely individual, it's a problem that, where we have to look a little bigger and connect with our neighbors and offer, offer a helping hand at times, offer tools, offer ideas. And, you know, sort of build those links that I think we're missing in a lot of ways from, from the individual to the more collective.

**Ariana Brocious:** What's the role of zoning here, particularly when we're seeing insurance companies dropping policies left and right for fire risk? I mean, how do we encourage people to build safely in the, in the right places?

**Nick Mott:** Yeah, zoning is a really complicated and controversial topic pretty much everywhere in the West. So zoning can make a massive difference in our risk. There's almost nowhere we can say in the U. S. has said, don't build here because of fire risk. Maybe that's something that communities need to start legislating. But there are a lot of examples of places that say new developments must have done this work or, uh, do not build on this steep slope or policies that encourage preserving agricultural space that can serve as a buffer. There's a lot of things that can be done zoning wise. And that can be a really good thing in terms of decreasing overall risk, but also it's hard to make work without also providing incentives because not everybody has the resources to do the work that's necessary. So I think when we think about these sort of more policy level solutions, zoning and codes are one of them, and there's a big uphill battle there to change mindsets around those things. But also we need to find funding structures to help everybody get on board and help everybody do this work, not just those that already have the resources to do it.

**Ariana Brocious:** So in the book you have some really great resources that detail what are the things people can do to protect their home? And I'd like to just walk through a few of those now. So the home ignition zone, let's talk about what that is and what people can do in that area.

**Nick Mott:** Basically think about both your house and then your whole yard. Everything surrounding your house. And take that together. And think about how fire might start somewhere, even if not on your house, and travel to your house. So it could be an ember lofts into a tree a hundred yards away, and then there's what's called ladder fuel, uh, you know, on this tree, ladder fuel meaning like smaller branches and limbs going up from the ground, and then there's tall grass or shrubs or whatever down below it that could then carry that fire into more trees, into more shrubs, and carry it to your home. The idea is, you know, when we talk about the home ignition zone is to make it so there's not this clear path for fire to burn from farther out to your house and on the sort of envelope of your home itself to make sure that your own home is pretty secure from things like lofting embers that could set it ablaze. Some of the bigger things are, you know, don't have a wood roof that can ignite, so you might need a new roof.

**Ariana Brocious:** This is what's called home hardening, right? There's sort of like another layer. So there's the stuff you can do in your yard, clearing brush and then there's, this next step of like, actually changing the materials on your house.

**Nick Mott:** Exactly. So on the home itself, you know, you can change out your roof. That's really

important. And I think I should also say a lot of these changes also have other benefits. So like a new roof isn't a bad idea for all kinds of reasons in a lot of older homes, you know, other changes like new windows can be good for energy efficiency. New siding can be beneficial as well. but other things to think about are the sort of openings into your house. So like soffits and vents that are often open in these places that could kind of suck in embers, put a 1/8th inch screen on those pretty simple, pretty cheap fix, but it goes a long way and sort of sealing up the exterior of your house. Other things to think about is your deck. If you have a wooden deck, there's a lot of vulnerability there. So you could rebuild with fire resistant material. make sure there's not fire prone stuff underneath your deck either. Also think about the area five to 10 feet away from your house. So if there's wood mulch there, if there's trees like hanging over your roof, you might have to part ways with those trees or at least those limbs. You might have to replace that wood mulch with gravel. A wooden fence can sort of act like a snake and just whip fire right to the side of your house. So think about, you know, that sort of five, ten feet of fence going up to your house, maybe replace that with something metal or something that's not wood and going to burn right away. As you move farther away, the things to do are less intensive, but it means, you know, spacing out your trees. You might have to change the way you think about your landscape. We might have to cut down some trees, certainly thin trees, space things out more. And think about fuel breaks, so even things like building a little walking path in your yard, for example, could be a great way of just having a little barrier that keeps flames away.

**Ariana Brocious:** That's great. There's, there's a lot, actually. I do want to say this isn't about making your home impervious to fire, right? Because that's pretty difficult, but it's about giving it a better chance of withstanding fire and helping the people that might be coming to defend your property if you're, you know, in the case of having wildland firefighters do that, right?

**Nick Mott:** That's absolutely right. It just gives your home a better shot of surviving. There's an image from Lahaina that went kind of viral after it happened of a home. The sole home that was surviving. And if you look at that house, a lot of the things I just spoke about had been done there, whether or not that was consciously for wildfire, but it sort of speaks to the real impact those practices can make. But also, you know, we shouldn't rely on firefighters and expect firefighters to defend our property, but if a fire does come and firefighters are coming through the area and are trying to keep fires away from homes, there are lots of cases where firefighters will just pass up a home if it's clearly dangerous, if there's clearly no hope of stopping the flame.

**Ariana Brocious:** Mm hmm.

**Nick Mott:** BUT, if you give them a chance and even, or even give them a safe space, that can make a huge difference in, in what is done for your property when, when disaster does occur.

**Ariana Brocious:** Nick Mott is a multimedia journalist and author of "This is Wildfire: How to protect yourself, your home and your community in the age of heat." Thank you so much for joining us on Climate One.

**Nick Mott:** Thanks for having me.

**Kousha Navidar:** Coming up, how lessons learned from past disasters can help in LA:

**Andrew Rumbach:** We have been through this before. None of them are the same, but they rhyme with each other, as we say. And so there are lessons that are hard learned lessons that we try to help bring forward.

**Kousha Navidar:** That's up next, when Climate One continues.

This is Climate One, I'm Kousha Navidar. In the wake of ANY disaster, communities scramble to care for the wounded and displaced, to stabilize support services and to find a path to recovery. And they've got to do all of it, all at once.

**Kousha Navidar:** Andrew Rumbach is a senior fellow at the Urban Institute. He has been studying disaster recoveries for decades.

**Andrew Rumbach:** My whole career has been focused on these disasters and trying to make good decisions afterwards so that we're less vulnerable in the future. And unfortunately with climate change, we are seeing an increase in the number and severity of these events. And so, you know, there's a lot of different lessons, disasters are incredibly complex. You know, the first lesson that we always talk about is just how complex they are. It's really all parts of everyday life squeezed into a small period of time. So everything we normally do on an everyday basis, we build roads, we build schools, we build housing, we collect taxes, we move around, all of those things happen on an accelerated pace after a disaster. And so that makes not only the recovery really challenging, but it also makes the decision making process around recovery really challenging. And so, the lessons we can bring forward from other disasters are really helpful and instructive because we have been through this before. None of them are the same, but they rhyme with each other, as we say.

**Kousha Navidar:** Are you thinking of specific incidents from the past? Are there some that are fresh on your mind right now?

**Andrew Rumbach:** Sure. I always refer to the ones that I've seen up close and worked up, uh, up close with. So Hurricane Katrina, the 2013 floods in Colorado, the tsunami in American Samoa in 2009, Hurricane Harvey in Houston, and quite a few other events. But those are the ones that I refer to because I went through and, and interviewed the folks involved, collected data that was important for recovery and in general, tried to learn those lessons and then to make those lessons available. I think the complexity is about the empathy of understanding just how difficult a situation the city is in, and that's really the same whether you're Los Angeles, this enormous city with a lot of resources, a lot of expertise, but also a large disaster. But if you're a small town that's gone through a flood, it's no less catastrophic to you, and it's no less of a complex challenge for you. And so no one person knows what to do in these situations. And it takes an incredible number of people with different life experiences, different expertise, different resources to help these recoveries happen. And it's really, uh, it's a miracle they do as well as they do. Even in these awful circumstances, we tend to do pretty well in recovery and supporting one another.

**Kousha Navidar:** It's interesting to, to think about a fire going on and saying, well, we see similar melodies to, to borrow your phrase in, for instance, a hurricane Katrina or floods in Colorado. What are some of the most important parallels that you're thinking of right now?

**Andrew Rumbach:** There's a few things that I emphasize really early on in the recovery as they start to think about what they should be prioritizing. So, the first is really just thinking about equity as a, as a key underlying theme. And when I say equity, what I mean is every person who's gone through this event, whether their home has burned down or whether they've suffered a health event because of the smoke inhalation or whether their rent goes up because the housing market just got tighter, that everyone who's experienced this disaster has a chance to recover fully. That's equity and recovery. It doesn't mean that we're prioritizing some people over others, but it's recognizing that people have different needs and filling those needs with resources is what it takes for everyone to recover together. And so past disasters teach us a lot about who tends to recover fastest and most completely and who tends to get left behind and what kind of resources are needed at different points in time in order to have that, that equitable recovery. The first thing we start to worry about is people who are very vulnerable in this moment. Those who have very limited housing options. Yes,

they're able to go into some of the emergency shelters and other places, but, you know, people with more financial resources right now have many more options. They can rent a hotel room. They can fly out of town and go stay somewhere else for a while. They can grab one of the very few rentals available in Los Angeles. They may have a second home, right? And you start to go down the income ladder and you start to realize that folks who may not have insurance or may not have a lot of savings or may work an hourly job where they can't just leave town for a few days while they sort things out, you see them as being potentially more vulnerable.

And then over time, you know, as the recovery starts to play out, people's needs will change over time. And the needs that are important today are not necessarily the same that will be important six months from now or a year from now.

So as some people recover, we're able to check them off the list and say, they're good now. They have stable housing, they have permanent housing, but other groups will take longer. And it's really about staying in touch. So that some groups don't fall out or become less visible.

**Kousha Navidar:** When you're thinking about reaching out to folks who may fall through the institutional cracks who may be invisible to decision makers, how do you go about on such a complex accelerated timescale, even just recognizing who those populations might be?

**Andrew Rumbach:** It's one of the biggest challenges early on and this is where I think that Los Angeles has a lot of advantages because they do have so many resources and they do have such a strong number of organizations and groups that are able to step in. A lot of this is going to happen, not from the government, but it's going to happen from advocacy groups, survivors groups, groups that are able to come in and start to represent the people on the ground and communicate their needs back to the government. So you would hope right now, um, FEMA has a pretty good idea of everyone who went through the disaster and because they're delivering them some aid right now, whether it's the \$770 checks or individual assistance. And so FEMA is the first place where you start to understand on a household by household basis, um, who is impacted, but you also have these organizations that can then take the baton and start to think about, um, whether it's holistically everyone in this neighborhood is in their responsibility or some of these specialty organizations that might say, Hey, we know that seniors become very vulnerable post disaster, we're going to really think about and advocate for the seniors who are impacted here. Or maybe it's folks who have disabilities. I'll give you another example from a fire in Colorado, the Marshall Fire. You know, it became pretty clear early on that a lot of the folks who were impacted were homeowners. And, you know, You might say just from looking at data that, Oh, they're fairly well off, right? These are a lot of folks who work at the university. They're professionals. They make a lot more money than the average person in Colorado. But when you started to actually talk to individual households, you realize that because of the inflation that was happening, many of them were underinsured. Their insurance payouts were not nearly going to meet the cost of recovery. That became a crisis very quickly. And the ability for the long term recovery groups there to recognize that and start to advocate to the state government and to the local government to help fill that gap between what people had in their hands and what they actually needed to rebuild their homes became a policy priority number one. And the state was able to create some really unique policies. So that was a great example of understanding the problem, communicating the problem, creating solutions to the problem.

**Kousha Navidar:** When I was prepping for this interview, I, I saw some media coverage of Marshall Fire victims being totally outraged that their their local governments were considering to add new building policies that would reduce future fire risk as they were rebuilding and a lot of folks said that it was going to cost them, you know, more money and time when all they wanted to do was just go home and I guess I kind of see that it's like two totally conflicting priorities there. Like what is

immediately in front of you that you need right now and what is preventative and takes longer to enact that you need to start on right now. Is that a fair way of framing that tension? How do you, how do you balance that tension?

**Andrew Rumbach:** No, that's a great point, and I'll make that my sort of second theme that I really emphasize to elected officials, and that's this, this pull between what we say is speed versus deliberation. Every recovery, no matter where it is, if you've suffered a lot of housing loss, there's going to be two instincts at the exact same time that are opposite of one another. One is to recover as fast as possible so people can return home and get back to their lives. The second is to slow down and to think carefully and to make good decisions so that we're not as at risk in the future.

The argument after the Marshall Fire was a little bit less about being safer from future disasters. It was about rebuilding to really high energy efficiency standards, which is extremely important to people who live in that community. It's one of the most climate progressive communities in the United States. But the cost of rebuilding became the number one issue because every dollar you added to the cost of recovery was an incremental chance that that family wouldn't be able to return home. And so from a political perspective, the elected officials made the decision that we should roll back some of these recently adopted energy codes because they add either too much cost or I think even more important, they added too much uncertainty to the process.

**Kousha Navidar:** So there is this push pull in the Marshall Fire case, for instance. Are you seeing that push pull right now with the conversations you're having in LA?

**Andrew Rumbach:** I think they're starting to and you know, it's a little it's very early in Los Angeles. I think that's worth stating again and again. The city and the state have really made fast recovery their top priority, which I understand, but these conversations need to play out over time and for a lot of people who are very much still in the middle of the disaster, they don't want to think yet about issues like how are they going to rebuild. They're just trying to stabilize their housing situation. They're trying to stabilize their financial situation. They're trying to make sure their loved ones and their elders are taken care of, etc. So, but yes, I think whether it's the Marshall fire or any other disaster I've ever been a part of, there's going to be really tough questions that get debated about how we rebuild. And you might think that post disaster would be the number one time that you would make really forward-looking decisions and do things entirely differently, because we never want to go through that again, but paradoxically, it's actually the worst time to have those conversations, because people are traumatized, they've suffered a tremendous loss, and when you start to say, we're going to do things differently, what you're saying to them is, not only is where you were before the disaster never coming back, we're promising you something that you can't visualize, you can't think about, right, where we're adding uncertainty to your situation -

**Kousha Navidar:** In a situation where what you want is certainty. That is the number one thing you want.

**Andrew Rumbach:** Exactly. So we always say, and this is something we try to preach as much as possible to governments who are not in the middle of a disaster is make these decisions ahead of time. If you're going to rebuild a neighborhood with more housing or a different layout, or you're going to move some of the buildings from here over to there, the best time to make those decisions is before a crisis because during a crisis, after a crisis it makes it really difficult to introduce new ideas because people on the ground, oftentimes the way they interpret that is you're making my ability to recover less certain, um, and therefore you're, exploiting my loss, um, for this thing that you want, um, that I don't necessarily want. And I think the Marshall Fire is a great example of that. These are not people who are climate skeptics. These are people who are fully committed to fighting climate change, but they're saying it's more important that we're able to come home than it is that

we save a little bit of additional carbon.

Now that being said, it's not a doomed proposition, it's not a doomed scenario. Places do make good decisions and they're able to be creative and even to make significant changes post-disaster, but you shouldn't assume that ahead of time and you shouldn't try to do it without trying to bring the community along with you.

**Kousha Navidar:** What's a response when something went right?

**Andrew Rumbach:** Sure, so I you know I'll just use the Marshall Fire again since it's recent and it's also an urban fire that I think has a lot of lessons for Los Angeles, you know, you're right that the cities were not able to implement the latest net zero energy code, and they weren't able to adopt higher, you know, wild and urban interface codes for the reconstruction. They rebuilt the housing largely as it was before the fire, and therefore it's at the same risk of fire. But they were able to create some incentives, um, where they created a path for people to make those decisions on their own, and a lot of people have actually taken them up on that. Something like 70 percent of households in one of the municipalities have rebuilt with a really high energy standard. And so that's one path is to, you know, not always think that it has to be regulated. You know, if you offer people a few different paths, here's a path that you can recover that is largely the same. Here's another path you can recover where you can do some things differently and we're going to help manage the cost of that. People responded really well to that. Other examples I've seen where there was a really careful and thoughtful approach to engagement, where we bring around the table to have conversations about recovery, how we structure those conversations to make sure that voices are being heard, how do we come to decisions, about the resources we're getting and how to use them. Done well, community engagement starts to build up that trust where people are willing to take a larger and larger risk with new ideas. So, it's actually more time consuming and less efficient to move fast sometimes. Um, moving a little bit slower and a little more carefully and bringing people along with you, in the end, can actually be the faster recovery.

**Kousha Navidar:** So, you know, I heard you talk about incentives, but just multiple paths to encourage folks towards resilient behavior. And I heard about community engagement. Is that what you're suggesting to policymakers right now in LA?

**Andrew Rumbach:** Yeah, and then, you know, I think a third thing, and this is, this is really to say that there's no one size fits all, but also, you know, I call it a marathon sprint when I talk to people, who are about to go through this. It's gonna be a long process, it's gonna be very intense, but out of that comes oftentimes a new generation of leaders, often very locally, at the neighborhood level, at the street level, who are gonna rise up and who are gonna step into some of these public service roles and help guide what happens. And, you know, oftentimes the way that they learn best is to learn from other people who've gone through it, and who have been in very similar situations, and to talk to them about what worked, what didn't, because they know their community best. They're the ones who are going to know, you know, if you're in a primarily Latino neighborhood in a part of Los Angeles that you've lived in your whole life, and your, your parents live there too, you're going to have a much better idea about how your neighborhood would make a good community decisions about recovery than any expert like myself, but you may never have done this before, right? You may need to quickly become an expert on neighborhood planning community development, etc. Let's get those folks together with all of the other people, you know folks from Maui, folks from the Marshall Fire, folks from Hurricane Harvey, there is incredible leadership all over the country that have the scars to prove it, have learned a lot of lessons and are 100 percent willing to come to Los Angeles and help educate folks on how they did it and share what happened to them. And so that's another thing I'll be communicating as much as I can to philanthropies and other folks with resources is support and facilitate people coming together and



sharing and learning and listening to stories of loss and empathizing with one another. From that, the people who know best how to recover on the ground, they'll get the skills and tools that they need, and then they'll design the right recovery process for their neighborhoods.

**Kousha Navidar:** How does it feel for you when you see new leaders come to the stage and step up and then down the road, go serve other communities to help next generations or what those leaders look like in those situations?

**Andrew Rumbach:** Oh, it's fantastic. It's like the sun rising. It's so predictable, right? The goodwill that people develop through these events, as awful as they are, as terrible as they are, it's hard to be cynical about anything when you work in this space. As terrible as the events are, the way that people come together and collaborate is, is, can be truly remarkable. And there's a lot of tough fights ahead. There's a lot of forces that are going to push against equity. They're going to push against inclusion. But, at the end of the day, you will see, um, just a lot of strength come out of this as well. And it'll have all kinds of positive effects beyond the fire that we can't even predict yet.

**Kousha Navidar:** Well, thank you for all that you're doing to, to help those leaders and to help the community in LA right now and around the country. Dr. Andrew Rumbach is a senior fellow at the Urban Institute. Thanks so much for taking time out of your schedule to talk to us.

**Andrew Rumbach:** Thank you.

**Kousha Navidar:** And that's our show. Thanks for listening. You can see what our team is working on next week by subscribing to our newsletter — which also rounds up the biggest stories in the world of climate. Sign up at [climate one dot org](https://climateone.org).

**Greg Dalton:** Climate One is a production of the Commonwealth Club. Our team includes, Brad Marshland, Jenny Park, Ariana Brocious, Austin Colón, Megan Bisciegli, Wency Shaida, Ben Testani and Kousha Navidar. Our theme music is by George Young. I'm Greg Dalton.