

Behind the wildfires

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As several of Southern California's wind-whipped wildfires still burned on Thursday, we called conservation biologist and forest researcher Dr. Reese Halter to find out more about the 20 fires that had destroyed 2,000 homes, forced the evacuation of more than 500,000 people and left at least eight dead. Halter, the author of "Wild Weather: The Truth Behind Global Warming," is the founder and president of Global Forest Science (globalforestscience.org), a forest conservation and research institute that helps private landholders, governments and corporations around the world "make better ecological decisions." He was in Rancho Mirage, near Palm Springs.

Q: Are these fires unprecedented?

A: In modern times, yes. There are at least five things that have collided here to make this all happen:

No. 1, a warmer Earth is a drier Earth. In the West and Southwest, a drier Earth translates to more fires. Since 1877, the inception of record-keeping, we've not seen it this dry. How dry is it? June 30 to June 30 is our moisture year. We normally get 16.25 inches of rainfall every year. Last year we had a hair over 3.5 inches of precipitation. We've had trace amounts since the 30th of June. So now were into -- what's that, 16 coming into 17 months? -- and it's buck dry.

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The second thing is, with the drought we've got a water situation. The Los Angeles basin -- 16 million people, industry and a little bit of agriculture -- draws the brunt of its drinking water from the eastern Sierras. We call it the snowpack. Last year was the second-lowest recording of snowfall since we've been keeping records. We've got a water problem.

Thirdly, we've got a forest mismanagement problem. Over the last 80 years, a "Smokey the Bear" fire-suppression policy has stopped Mother Nature's natural fire cycle. At varying intervals, because the forest types vary from valley bottom to mountain, we'd be safe to say on average fire shows itself every 20 years or so. So that is at least four fire cycles we've suppressed. Think of fire like this: Fire is Mother Nature's cleansing broom along the forest floor and in her forests. When we stop that agent of change, the first thing that she has done is carpeted the forest floor with hundreds of millions of white fir and incense-cedar seedlings and

saplings. They are highly combustible.

We've also got another factor: hundreds and hundreds of thousands of homeowners backed into canyons at what we call this "urban-wildland interface."

The last ingredient is the Santa Ana winds. We've got Nevada, Utah, Colorado, Arizona and New Mexico -- the red rock country -- that heats up for four, maybe five months. The earth gets so warm, high pressure forms over top of them and you get these massive, exceedingly dry, outflow winds. Where do they go? Through the Santa Ana Mountains -- the Santa Ana winds. The coast is usually 80 percent relative humidity. When this thing starts, it gets down to 11 or 12 percent relative humidity. In other words, these winds infuse this dry air that sucks out the moisture. There's an outpouring from the canyons that is phenomenal.

Lastly, of course, is the ignition. With the ignition, there is absolutely nothing you can do when these firestorms with their cyclonic winds start except get the hell out of here.

Q: What's actually burning and why does it burn so fiercely?

A: What's burning is our overstocked forest with white fir and incense-cedar. Their foliage is highly combustible. The underbrush and all the other plants are snap-crackle-pop dry. When these fires start, it's almost as though the forest is willing itself to burn because it is so hurt from the drought. The other ingredient we didn't mention is, when we told Mother Nature she couldn't burn she sent in her other emissaries of change -- bark beetles. They are native to our lands. There are tens of millions of dead trees in Southern California. There are conservatively in the Lower 48 states in the west of our nation a billion dead trees from bark beetles and drought. So we have this combustible stuff on the forest floor that normally the fire cycle would clear out; we've got a massive amount of dead wood from drought-starved and beetle-killed trees; and we've got homes butted up right against them.

Q: So what do we do?

A: That's the \$64,000 question. What we can do -- what we must do -- is mimic Mother Nature. If we're not going to allow fire, we've got to get in there and we've got to thin the underbrush out. Now the \$65,000 question is, "So, Dr. Reese, are you saying Gov. Schwarzenegger and other governors should increase taxes?" No. We fight fires in California, in part, using prison inmates on the fire lines. What we have asked -- and I think they are finally getting this -- is to substitute the chain saw for a brush saw and get these prison inmates at this urban-wildland interface thinning out the forest. At a buck an hour, we can handle that. There are millions of acres. Can they do it overnight? No. Should they start as soon as these ashes and embers cool down? Yes. Will it take years? Probably.

Q: There's no other way to prevent these fires from recurring and recurring?

A: No. In a perfect world, I'd say let fire burn. But what person after 17 months of

a drought is going to say, "Oh yeah, drop a match"? That's just not going to happen. They've tried burning, and they (the Forest Service) do it when they can. We've got fire science going back 65 years. Fire ecologists get the importance of fire. It's now just dealing with the human footprint on the landscape. That's why I say the only thing we can do is manually thin out the underbrush. It's doable. In 2003, if you had interviewed us, people would have said, "Oh, well now we have a little breather." Four years later we are having these cataclysmic fires and we could have them again and again because of the dry conditions here.

Q: The fires that burned this last week --- how long will that terrain be safe from future fires?

A: They'll be all right for the next 10 or 15 years, but they'll green up. It'll likely be incense-cedar and white fir. It'll be pine and it'll be a mix but they aren't a concern for the next decade or so.

Q: So you're not saying people shouldn't be living on this terrain?

A: No. We live in a free country. That's one of the great things of this nation --- you can live anywhere you want as long as you have a permit. You can't stop people. We've got 37 million people and probably 5 million illegals. They've got to live somewhere.

Q: The terrain that is actually burning, is it state land, private land?

A: It's a combination. We've got it in national forests, state forests, Bureau of Land Management lands --- it's all over. This is that funky urban-wildland interface. It's a cocktail of everybody's stuff. But we've got to do something. Look, for goodness' sakes, you wouldn't want to be Schwarzenegger's folks because they are going to be on the hot seat. We've already lost at least \$1 billion in damage to property and businesses. We look for heads to roll here.

Q: Has the government -- federal or state -- changed their fire-suppression policies?

A: Sure they have. The landmark turning point was 1988 when Yellowstone caught on fire and the policy came down "Let it burn" and it was cataclysmic. But I'll tell you, if you want to bring a big-old smile to your face, if you ever get a chance to go to Yellowstone now, it's just so gorgeous in its restoration. In my latest book, "Wild Weather," we talk about this; fire has been here on Earth in these forests for at least 350 million years. So it's just people. It's a people-management thing.

Q: So you're not an anti-people person?

A: Nooooo. I'm a problem solver, like you. And a communicator. The Old Economy is us-versus-them -- like a win-lose. We've got to find a new economy where businesses win, communities win and the environment wins.

Q: What happens now to this land that has been burned so fiercely?

A: The biggest concern, of course, is mudslides. We are coming into a -- touch wood -- wetter period, a rainy period. Hillside "slumping" is a real problem. The second thing we are concerned with is some of these fires are burning with such intensity and ferocity that forests may not come back. In other words, Forest Ecology 101: Arguably the most important thing in the forest -- this is going to sound bizarre -- is the soil. If you hammer the soil -- if you beat up your soil, if you burn it so hard that it chars the soil -- and then it rains? The soil repels the water and doesn't absorb it. When that happens under these burned conditions, the only thing we can do is get prison people and others to get in there and rip the soil, open it up, so moisture can get in. That's a very serious problem. We've seen this throughout the West, the Southwest in particular, over the last 14 years. With fire suppression, global warming and the ferocity of the fire, it's scarring the soil.

Q: Are these fires the beginning of a run of more of these kinds of unstoppable fires?

A: Yeah. Here is a stat that will blow your mind: Since '87, the number of fires has quadrupled and the size of the fires has increased sixfold. Our fire-keeping records date to 1960. Last year we had the most amount of wildland forest ever burned, a hair under 10 million acres. This year we are in second place. I don't know how the chips will fall. The calendrical year is not over. We're either going to be a very close second or we're going to eclipse it. We've just seen filthy fire season after fire season. You know, the West is huge. We've got a lot more acres to go. We're very worried. I was in Idaho this summer and there were two epic fires there that both burned well over 300,000 acres each. We're coming into these mega-fires. It's a concern. Another concern you may wish to enter into the scenario in a warmer world is seeing less snowfall on the mountain ranges throughout western North America. It's way down. It's way down in the Pacific Cascades. You know, 90 percent of our water in Southern California, that drives the eighth mightiest economy on planet Earth, comes from the Sierra Nevadas. We're finger-crossed that we're not lambasted all at once, but the forecasts and models are for reduced snowfall. So we've got to become water-smart, we've got to become fire-smart in how we manage it.

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