Global Warming and Oregon Wildfire History

Interview with Dr. Bob Zybach by Lars Larson on the Lars Larson Radio Show, Monday, July 28, 2014, 1:00 PM.

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LL: Welcome back to the Lars Larson Show. You know that we talk about global warming issues on this show on a pretty regular basis and we love to have people on both sides of the question on. So this weekend I'm actually one of the people who a long time ago, a few years ago, was added to a list, Global Warming Realists List and it's great. I don't know who added me to it, but I enjoy reading what's there. A lot of it goes beyond my technical level of understanding. But this weekend I saw an interesting piece with responses from several people, including a man who has been on the program before, Dr. Bob Zybach. Bob, good to have you back on and thank you very much for taking the time today.

BZ: Well thank you, Lars. I enjoy it.

LL: So the story talked about the fact that Mr., it's Tidwell, isn't it, isn't that the way you pronounce his name?

BZ: Yes.

LL: Yeah, Tidwell, Tom Tidwell is the U.S. Forest Service Chief and it was mentioning that he had visited the High Desert Museum and he was interviewed by KTVZ, just so we get all the credit in and he said because of climate change and biomass, wildfires are different now than they were ten years ago. And a direct quote from Tidwell, 'Our fire seasons today are 60 to 80 days longer, which creates more energy in the system.' Tidwell told News Channel 21, 'We see more erratic fire behavior.' Let's start with the length of the fire season and I want to ask you first. You did your PhD thesis on this subject, right?

BZ: Yes, on the history of Coast Range wildfires, but I've also looked at the history of wildfires in the Pacific Northwest in general and specifically as well in the years since and before then, so the last 20 or 30 years, I've looked very closely at the history of wildfires in the Pacific Northwest.

LL: Are the fire seasons two to two and a half months longer than they used to be?

BZ: No, they are about exactly the same for the last 200 years.

LL: [Laughs] That's quite a statement. So for 200 years, we've had fire seasons about the same length. Why do you suppose the U.S. Forest Service Chief, Tom Tidwell, is saying then that they are two to two and a half months longer?

BZ: Well maybe because he is following lead of President Obama, who said last week up in Washington that the wildfires are due to "climate change. " I think they have agendas to support. I think it's political. It's not scientific and that's what bothers me.

LL: Is it fair to say and in fact I had somebody email me, saying 2014, according to the National Interagency Fire Center, is actually the quietest fire season of the decade so far this year. Is that fair to say?

BZ: That's probably pretty true.

LL: They say outside of the west coast, fires in the rest of the United States are at historic lows so far. Burn acreage so far this year in the United States is the lowest in a decade, less than half of normal and one of the lowest on record.

BZ: Well I don't know if it is one of the lowest on record, and I don't know how they are measuring "normal," but the last ten years have been terrible and the last 20 years have been terrible. Actually going back to about 1987. But these fires were predicted more than 20 years ago by Chad Oliver up at University of Washington; he's at Yale now. By myself, by Jim Peterson, who has Evergreen Magazine, which was nationally distributed that the build-up of fuels caused by passive management of our forests was going to result in massive forest fires and that's exactly what has occurred.

LL: And yet, you know, you turn on the news and they say, 'Look, it's hot, it's summer time, the sun is shining, the temperatures are high.' Is it warmer today than it was ten years ago or cooler or about the same temperature?

BZ: I think the records are showing that in the northwest we've got generally cooling temperatures for the last 15 or 17 years. As far as the seasonality of wildfires, they're pretty darn predictable. July and August are the big months. Have been since the 1820s. Sometimes it will start a little bit earlier in June or early July in eastern Oregon, because it dries out sooner. But western Oregon, about now until mid-August is when it gets its worst and then they usually taper off in September. There's some starts there, and then the rains hit them and that's been the same pattern as long as we've had historical records. It has not changed.

LL: I'm talking to Dr. Bob Zybach. Hey Doc, do you have a place online where people can go and see this data or places you would suggest they look at this, because I know we've got some people out there saying, 'Well this guy is full of it, it's obviously warmer. The news keeps telling us it's warmer, so it must be,' and I'd like to have them have a resource that they believe. I don't know if it would be the Climate . . . or the Atmospheric Science Center at U-Dub [University of

Washington] or someplace that is sort of unimpeachable that they can look at and say, 'Ok, there is the proof. I guess I have to believe it.'

BZ: Well I think as far as climate data, that's already been covered several times on your program. As far as the seasonality of fires, I have my PhD dissertation online. I also have articles I wrote two years ago that accurately predicted the time and place of the 2012 fires in Oregon. And so those links can be found fairly easily, probably on Google, just by using my name and *wildfire*.

LL: Z-Y-B-A-C-H. So Doc, tell me this, you say that Oregon's meteorological summer, which is June through August, those temperatures have trended downward 1.2 degrees Fahrenheit, per decade over the last ten summers, correct?

BZ: I believe that is correct. I've seen that information from people I really trust and they are using data that the government supplies. So it's getting cooler in the Northwest over the last ten years and I think for a period a little bit longer than that. Getting back to the fire season though, it's static; it's been the same.

LL: I mean here is the thing I think about, too. When Tidwell says something like that and says the fire seasons are longer today than they used to be. If I think about the temperature data, let's say you said, 'Well, ten years ago, the average summer would have been say 88 degrees at a particular period of time or maybe that's an average in the day time. If it had dropped down to 86 and a half, that's not going to make a gigantic difference in the combustibility of the forests anyway. Even if it had gone up by 1.2 degrees, it wouldn't have made a big difference in the combustibility or the ignition sources or the amount of fire you would end up having in a particular year, would it? Because if it's 85 degrees and dry, like it is in central Oregon, the forest is going to be just about as dry as it would be if it was a degree or two higher or a degree or two lower. You know, small, relatively small changes in temperature are not going to make the difference between say the Coast Range where it's wet and damp and central Oregon where it's bone dry all summer, is it?

BZ: Not even ten or 20 degrees. We had the wildfires here in February and March. It depends on humidity and the wind. You get an east wind and low humidity and the fuels dry out. So fuel build-ups are a result, in Oregon, of spring rains. That's where you get your vegetation build up; or management policies that say don't salvage dead material; or let things grow and don't log, say, in forests; or don't graze on the prairies. So it's not a matter of temperature at all. It's humidity and wind and it's fuel. And then it's a source of ignition; and since we have lightning strikes -- not on the Coast range, but southwest Oregon, eastern Oregon and along the Cascades -- at this time of year, it's predictable that when they strike fuels, they will burn. If we have an east wind and low humidity they get out of control really quickly. But it doesn't, the temperature doesn't, have anything to do with the length of fire season and the main thing that controls the

annual fuels, the ones that are particularly combustible, are the spring rains, so you get big heavy grass build ups and a lot of growth.

LL: So I want to talk to you about that, but I want to talk to you about fuel load in a moment. Would it be fair to say that you and Chuck Wiese are for the most part on the same page on this subject?

BZ: Yes, in fact both of us just recently combined: he predicted some weather and I predicted we would have fire and we were both right.

LL: [Laughs] Well that's pretty good. But let me ask you about this, if we are gonna talk about fuel load, we got to talk about forest policy, would you mind taking some phone calls after we go to a break for a second?

BZ: Oh that would be fine and I think forest policy is what we are looking at here.

LL: Absolutely right. I'm talking to Dr. Bob Zybach. He has joined me for a couple of segments. I am glad to get your calls as well. It's a beautiful Monday in the Pacific Northwest and yes; it's dry, generally. And it's sunny generally, but is it warmer or colder? The head of the U.S. Forest Service says we have a longer fire season and that does not match with the historical data and you are hearing from a lot of people that it's hotter these days, because of global warming and that again, does not match with the historical data. I'll be back in just a moment. Your calls are welcome at 866 HEY LARS. That's 866-439-5277. Locally 503-417-9595 and the Suburban Ford email box is open, talk@larslarson.com.

Welcome back to the program. Glad to have you on board on a Monday. Live on the radio Northwest. Now we are serving both Oregon and Washington. I think we do a pretty good job of serving them. Bob Zybach is with me. Dr. Bob Zybach who did his PhD thesis, which those things take a couple of years to write, don't they?

BZ: Yes, they do [laughs].

LL: On the subject of fire seasons, so we have the head of the U.S. Forest Service saying that we have a longer fire season by 60 to 80 days. I mean that would be a gigantic increase in the length of the fire season, if it was true, but you say we've had basically the same for the last 200 years. Let's talk about the fuel load, which might be the explanation for why today's fires last longer and go further into, say, into the end of fire season where they burn more fiercely or they destroy more land. Give me your take on that first, if you don't mind, Doc?

BZ: Sure. This probably started -- the fuel load problem that has led into the wildfires -- probably started with the Wilderness Act. A lot of Wilderness areas included timber. The Kalmiopsis in southern Oregon is a good example. In 1987 it burnt, there was no salvage because it was a Wilderness area. The Jefferson Wilderness area had beetle-kill in the early 90s. In both those instances, myself and other people said these are going to burn up catastrophically if

something isn't done to remove these now dry fuels. Anybody that has used wood heat knows that dry wood burns better than green wood. And then point of fact, they both did. The B&B Complex burned up almost the exact perimeter of the beetle-kill on the crest of the Cascades in 2002. The following year, the Biscuit fire burned up the Kalmiopsis again, took out the entire Silver Complex fire that had burned there in 1987, and expanded the boundaries to about 500 thousand acres [Note: these dates are reversed; the Biscuit Fire was in 2002 and the B&B Complex was in 2003]. So those things were predicted before we had a global warming problem, or about the same time. People, and myself included, were saying these are time bombs; these fuels are going to go out of control. Since then, we've exacerbated the problem by two things. [1] We've created a wildlife habitat for spotted owls, which is burning up for the same reason. The fuels are building up and there's nothing to control them. And [2] the other reason is lack of salvage. We are not salvaging the areas that have been killed and so we are piling up the dry firewood in those areas and as a result the fires are, as predicted 20 years ago, becoming larger and more destructive.

LL: And when they talk about trying to ameliorate this through thinning projects, you know where the federal government pays large amounts of money to states like Oregon and Washington to send people out into the woods and knock down some of the smaller trees and perhaps even remove some of them, but in most cases, you know, just cut them and let them lay on the ground. That doesn't actually solve the problem, or probably even reduce it, does it?

BZ: Not a bit. Those, I've seen a lot of those projects and they are pretty irritating. They are just busy work. Before I went back to college, I worked for 20 years in reforestation, so we did lots of reforestation work throughout the Pacific Northwest and by removing fuels, by putting in road systems, by using aerial surveillance and so on, we were able to keep wildfires at bay from the end of World War II say, until the 1980s and until the Federal government started putting in passive management policies. The thinning projects they put in are silly, almost. They almost encourage the remaining trees to grow [greater amounts of fuel]. They are more like precommercial thins or leaf-raking, almost literally, than they are anything that needs to be done. We need to go in and be very aggressive and actively manage the major fuels, which are logs, which also create jobs, which also create income, which also create safer conditions for fish and wildlife and less air pollution and less water pollution. So…

LL: And if you do that, and you, you know in the process of logging, you are knocking off the limbs, you take the limbs and grind them up, I don't know how much commercial value that grind is, but there are markets for some of that stuff and if you take the rest of it and burn it, but leave enough there that there is some food on the forest floor, you know to rot back into the floor and keep the soil in good shape, you should be able to do all that and actually improve the forest, rather than just let it build up, until it's feet thick and then a fire starts and the fire sits there and burns through this fuel from now till the rains hit.

BZ: And chars the soils and sterilizes it and it sloughs off in the rivers and the whole bit; and creates a lot of carbon dioxide in the process for the people that are worried about that. The way the Indians did it for ten thousand years or so is to have regular prescribed burns and so the fuels never built up and the nutrients that go into the soil or the ash from the plants that, the burnt flash fuels mostly, and those are the forests that are uniformly described as Eden-like by the first explorers and settlers that came to Oregon. The forests were safe. They were beautiful. They were highly productive. Wildlife was productive. So a combination of logging to get rid of all the fuel build ups of the last 30 and 50 years -- but done along the watershed boundaries and on a landscape scale -- combined with prescribed fires as the Indians did, would pretty much resolve the problem as well as rejuvenating our rural economies and our wildlife populations.

LL: So and see Doc, every time anyone suggest, even my conservative friends, that we take these federal lands and put them under the management of the counties or the state, I don't trust those agencies either.

BZ: [Laughs].

LL: Right now the state of Oregon severely under-logs its own forests, the Tillamook and Clatsop forests being one of them where they log half of their sustained yield level, meaning that their fuel load is building up as well as though we are trying to recreate the conditions for the Tillamook burn. Dr. Zybach, I appreciate you coming on. We are going to have some links up to some of the material that you have and you always bring a lot of intelligence to the show. Thanks very much.

BZ: Thank you Lars.

LL: You bet you. Dr. Bob Zybach with me. You've got the Lars Larson Show.

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