

Golden Gate Climate Update Transcript

Interview with Dr. Anthony Westerling

Professor, UC Merced

Interviewed on July 6, 2010

James Osborne interviewer

Part 2

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James - Hi, I'm Ranger James Osborne, and welcome to Golden Gate Climate Update, your source for information on climate change and sustainability.

This episode is a continuation of our interview with Dr. Anthony Westerling, a professor at UC Merced who studies how climate change will affect wildfires in California. But before we get back to the interview, here is the answer to our climate update challenge. According to the National Interagency Fire Center, 3,677 forest fires were started by humans in Northern California in 2009. The same year, lightning ignited 890 fires in Northern California, meaning humans caused four times more wildfires than lightning did.

Now back to Tony. I know most of your research does involve, say, the forests of the Sierras. Could you make generalizations in how the projected changes would differ for forests versus chaparral or grasslands?

Tony - Somewhat, and even within forests there are different types. California has a lot of forest areas that are things like ponderosa pine, and they're areas where you have enough moisture to grow trees but they can burn as well. And we have gone in and suppressed fires in those systems, and we've also managed the land in ways that suppress fire – for example, grazing and other activities. So the long-term consequences of that have been that instead of getting a system where climate and fire and ecosystems together keep a dynamic system that maintains an open canopy, you get the forest growing in very thickly in some areas, and that has produced much more severe fires that burn much hotter and up in the canopy. So those areas have become much more vulnerable to changes in climate than they would have been before.

James - So I can tell my son that a job for the future is firefighter – the opportunities are not going down, they are going up.

Tony - I don't think that that job is going to go away anytime soon. A lot of our vulnerability is manmade because we've put those houses out there in the way of fire and at the same time we've increased the severity of fire by

managing those ecosystems in such a way that they've become denser and burn more hotly and with a more severe fire. And so a lot of what we could do to reduce our vulnerability to fire in general and not just fire under a climate change scenario in the future would be to try to restore the fuels in these ecosystems to a more natural state, or at least to a state more like what it was 100 years ago, 150 years ago in sense that we could allow more mechanical removal of trees of the right sizes and then reintroduce fire into those ecosystems so they burn much more frequently than we've allowed them to do in the recent past. And then pay a lot more attention to where we put our homes and how we construct them and how we manage the landscape around them so that fire could be something more like a thunderstorm or something where you stay out of the way of it but you let it happen.

James - So how might our listening audience sort of help with this effort to manage the fire threats over a long period of time?

Tony - Well, in order for it to work, really, we're all going to have to be more accepting of the side effects. It means that there will be air pollution from fires on a more regular basis, where we'd be allowing it to happen rather than just when our resources are overwhelmed and we can't prevent it. There would be a higher level of risk because there would be fires burning more often around peoples' homes, and we would have to take more proactive measures to protect our homes in advance, make them more resilient to fire. You know, there have been a lot of changes in the building code in California in recent years in response to some of the big fire sieges that we've had to deal with in southern California in 2003 and 2007, for example. But those only apply to new homes – and as things are going forward, most of the houses that will be at risk in the future to wildfire under any sort of reasonable climate change scenario are already built, and so we have to think about how to make our existing housing stock more resilient to fire.

James - Well Tony, this has been really interesting. Thank you very much for talking with our audience for this climate change update.

Tony - Oh, it's my pleasure!

James - Please join our next podcast, when we will be interviewing Dr. Patrick Barnard, research geologist with United States Geological Survey coastal and marine geology program. Until our next podcast, this is James Osborne. Thanks for listening.

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Male voice - Golden Gate Climate Update is produced by Will Elder and is a product of the Earth to Sky Program, an innovative partnership between the National Park Service and NASA.

Music from *A Walk in the Desert* by Electronic Symphonic