

Commentary...

Climate change, forest fires, and our health

By Judah Slavkovsky, MD
Guest Columnist

The persistent smoky haze blanketing Sisters along with most of the Pacific Northwest over recent weeks is a concrete, nagging reminder of the growing impact of climate change on human health.

With 2016 recorded as the hottest year on record worldwide and 2017 on course to become the second hottest since modern record keeping began, doctors are increasingly recognizing that human health will suffer with the heat. One example of this is the exacerbation of respiratory and heart diseases by wildfire smoke made worse by increased temperature.

The major air pollutant in wildfire smoke is particulate matter. Particles produce the annoying haze obscuring mountain vistas. They are also biologically irritating, generating sore throats and burning eyes. The smallest form is known as PM2.5, meaning particulate matter 2.5 micrometers or smaller. Each is so minuscule it would take 25 or so to span the width of single human hair. A single particle is only slightly larger than an average E. coli bacterium. And it is this minuteness that makes them so damaging.

PM2.5 passes by the hairs and mucus lining the upper airways that normally keep particles at bay, traveling deep into the lungs with some amounts crossing into the blood stream. There they can exacerbate asthma and COPD. Significant exposure over time increases lung cancer risk in non-smokers. Chest pain and heart attack risk also increases as the heart's vessels become inflamed during and after periods of high concentration.

As a result of air pollution from the Milli, Nash, Chetco

Bar, and dozens of other regional fires local health providers have seen an uptick in patient visits. Emergency medicine physician Dr. Gillian Salton has seen a significant rise particularly in COPD exacerbations presenting to St. Charles Medical Center in Bend. Sisters family physician Dr. May Fan has seen increased need for asthma inhalers and visits for smoke-related coughs and sore throats. She notes many patients with the chronic challenges of diabetes, high cholesterol, and obesity are having difficulty maintaining important exercise programs due to hazardous air.

Sisters' daily air quality index over the last two weeks ranged from 151 to 351 related to PM2.5. This is well above the concerning threshold of 50. Peak hourly levels reached as high as 453 over the holiday weekend.

The source of all of this is of course burning forests, something humans in the Northwest have coped with for millennia. However there is good evidence that climate change is increasing the frequency and severity of wildfires across the West.

Since the mid 1980s, fire activity has increased markedly due to a host of factors

including historic fire suppression, forest regrowth after large-scale logging, drought and rising global temperatures. The single largest driver appears to be climate change — nearly doubling the amount of forest burned between 1984 and 2015 than would have been the case in the absence of human-caused warming.

The equation is relatively straightforward: Increased heat leads to drier fire-prone forests. Warmer spring and summer temperatures melt away protective winter snowpack earlier, adding to the overall length of the fire season and leaving the forest floor drier and more combustible by late summer.

Kirk Metzger, former assistant fire manager with Sisters Ranger District, describes current fire conditions as a "perfect storm" of both increased vegetation and heat. Trees and brush in local areas now ablaze have been building up for an unusually long period of time. The historically normal interval of lower-intensity fire cycles hasn't occurred. Without past fires, fuels are more abundant.

In addition, within the wildfire-fighting community it is pretty obvious to

folks there is a climate effect. Energy release components (ERCs) are a measure of the amount of potential thermal energy per square foot of forest floor. They increase as living and dead plants dry out. ERCs are reaching well into the 90th percentile earlier in the year and lasting longer.


While it is statistically improper to pin an individual fire or its acreage burned on climate change, it does load the dice — making the overall size and numbers of fires across our region greater. And humans downwind increasingly feel the repercussions.

Central Oregon this summer is breathing the effects of climate change. These are no longer hard-to-imagine consequences in the remote future. They are literally in

our lungs now.

Short, medium, and long-term solutions exist. Staying indoors and limiting activity during periods of poor air quality is beneficial. Visiting a gym to exercise and breath safe air at the same time is a good strategy. Supporting efforts to reduce forest fuels with controlled burning cuts PM2.5 levels down the road from large-scale fires. Ultimately though, to escape the very real health consequences of climate change we must earnestly continue the switch to renewable energy, following the example of cities like Greensburg, Kansas who already have.

Dr. Judah Slavkovsky was raised in Sisters. he is the son of Rick and Theresa Slavkovsky.



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CITY OF SISTERS NOTICE OF SUPPLEMENTAL BUDGET HEARING

* For supplemental budgets proposing a change in any fund's expenditures by more than 10 percent.

A public hearing on a proposed supplemental budget for CITY OF SISTERS (District Name) for the current fiscal year will be held at 520 E. Cascade Ave., Sisters, OR 97759 (Location)

The hearing will take place on September 13, 2017 at 6:30 AM PM (Date) (Time)

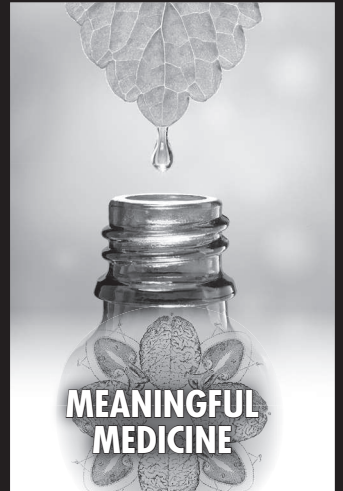
The purpose of the hearing is to discuss the supplemental budget with interested persons.

A copy of the supplemental budget document may be inspected or obtained on or after September 6, 2017 at 520 E. Cascade Ave. between the hours of 8:00 AM PM and 5:00 AM PM (Location) (Time) (Time)

SUMMARY OF PROPOSED BUDGET CHANGES

AMOUNTS SHOWN ARE REVISED TOTALS IN THOSE FUNDS BEING MODIFIED

FUND:	Resource	Amount	Requirement	Amount
GENERAL FUND			1 Parks - Contracted Services	32,000
			2 Operating Contingency	(32,000)
	Revised Total Fund Resources	3,463,446	Revised Total Fund Requirements	3,463,446
Comments: Increase in Contracted Services for park restroom cleaning services				
SEWER FUND			1 Transfers to City Hall Fund	(700)
			2 Reserve for Future Expenditures	700
	Revised Total Fund Resources	2,116,668	Revised Total Fund Requirements	2,116,668
Comments: Decrease in Transfers to City Hall fund to realign fund transfers to net zero				
WATER SDC FUND			1 Capital Outlay	250,000
			2 Reserve for Future Expenditures	(250,000)
	Revised Total Fund Resources	1,886,307	Revised Total Fund Requirements	1,886,307
Comments: Increase in Capital Outlay for water rights procurement				



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