

STUDY: Media Avoid Climate Context In Wildfire Coverage

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While numerous factors determine the frequency, severity and cost of wildfires, scientific research indicates that human-induced climate change increases fire risks in parts of the Western U.S. by promoting warmer and drier conditions. Seven of nine fire experts contacted by *Media Matters* agreed journalists should explain the relationship between climate change and wildfires. But an analysis of recent coverage suggests mainstream media outlets are not up to the task -- only 3 percent of news reports on wildfires in the West mentioned climate change.

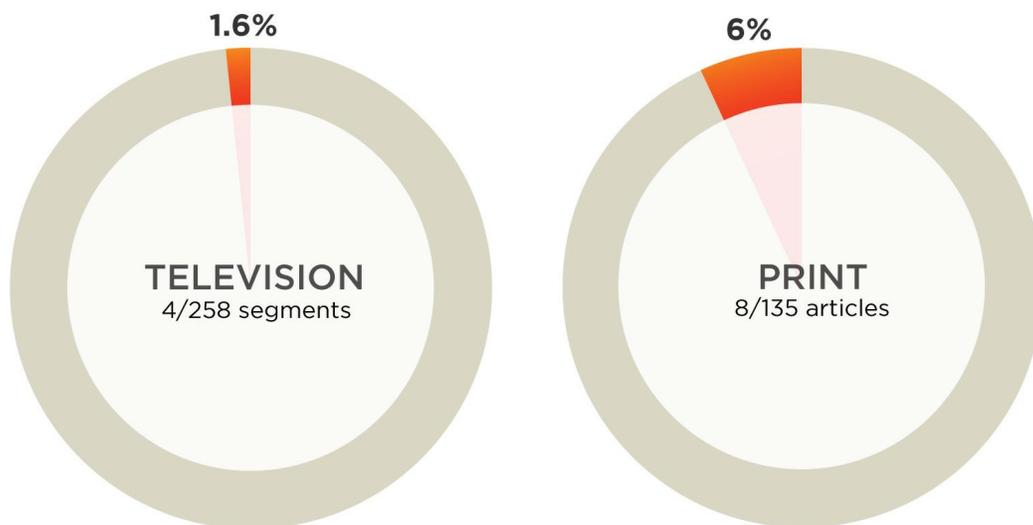


News Outlets Avoid Topic Of Climate Change In Wildfire Stories

Only 3 Percent Of Wildfire Coverage Mentioned Long-Term Climate Change Or Global Warming. The major television and print outlets largely ignored climate change in their coverage of wildfires in Colorado, New Mexico and other Western states. All together, only 3 percent of the reports mentioned climate change, including 1.6 percent of television segments and 6 percent of text articles.

THE MISSING CLIMATE CONTEXT

Percentage of Wildfire Stories Mentioning Climate Change, April 1 - June 30, 2012



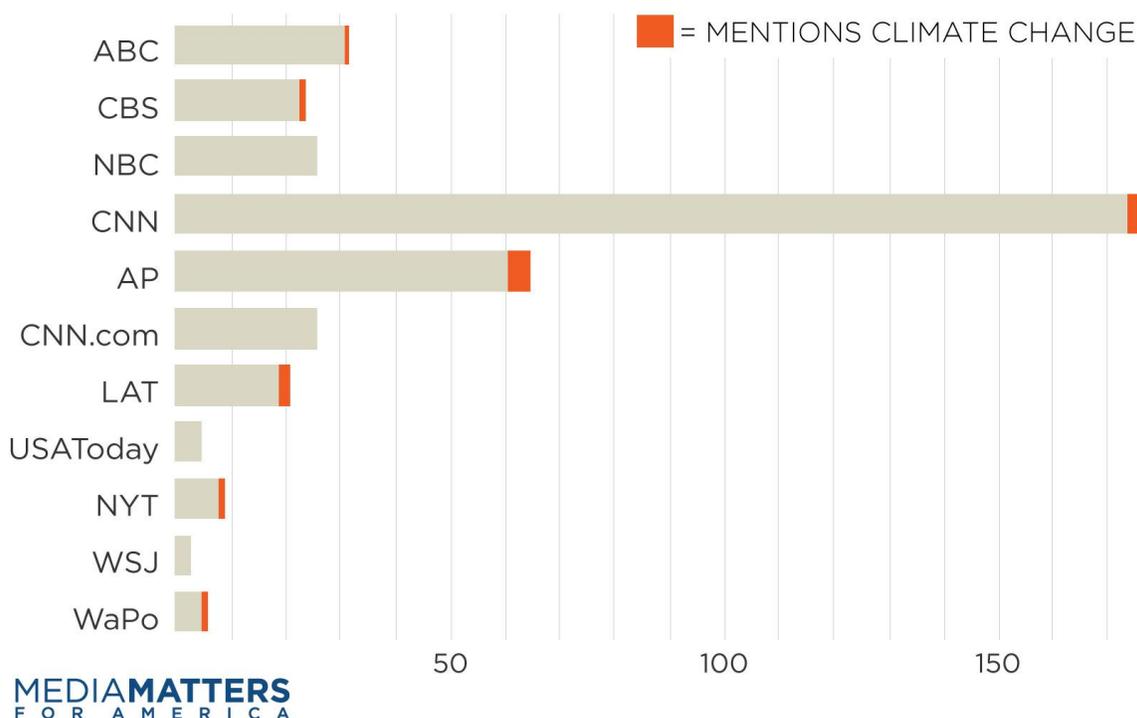
Based on Nexis search of: ABC, CBS, NBC, CNN, NYT, WaPo, USA Today, WSJ, CNN.com, AP, LA Times

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METHODOLOGY: We searched Nexis and Factiva databases for articles and segments on (wildfire or wild fire or forest fire) between April 1, 2012, and June 30, 2012. News outlets included in this study are ABC, CBS, NBC, CNN, *The New York Times*, *The Washington Post*, The Associated Press, *The Los Angeles Times*, CNN.com, *USA Today* and *The Wall Street Journal*. MSNBC and Fox News were not included in this analysis because transcripts of their daytime coverage are not available in the Nexis database.

MEDIA COVERAGE OF WILDFIRES

Articles/Segments On Western Wildfires, April 1 - June 30, 2012



Evidence Suggests Climate Change Worsens Fire Risk In Parts Of Western U.S.

Climate Central: "Wildfires Require Several Factors To Come Together." A Climate Central article about the 2011 fire season noted that "major wildfires require several factors to come together," and that wildfires are strongly influenced by regional climate conditions, which in turn are influenced by global warming driven by greenhouse gas emissions:

As with most extreme weather and climate events, and their related impacts, major wildfires require several factors to come together in order [to] occur -- typically some combination of dry and windy weather, abundant and dry vegetation, and a spark, which can range from a carelessly tossed cigarette to a lightning strike.

Wildfires are a naturally occurring phenomenon closely tied to climate conditions, and as the world warms in response to rising amounts of greenhouse gases in the air, many studies show that wildfire frequency and severity will likely shift as well.

[...]

Historical variations in climate can explain much of the large year-to-year and decade-to-decade variations in Western US fire activity. Thus, climate change is already increasing wildfire activity in the Western US. This may seem surprising, given the number of other factors (including forest management practices) that are known to affect fire activity. [Climate Central, 6/21/11]

Major Climate Report: "Wildfires in the United States Are Already Increasing Due To Warming." In a

comprehensive report commissioned by the Bush administration and released in June 2009, the U.S. Global Change Research Program said earlier snowmelt and drying of soils and plants have worsened wildfires in Western states:

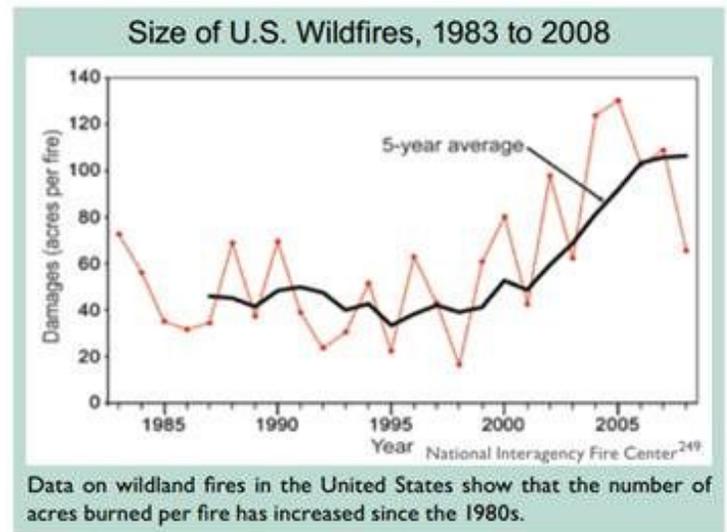
Wildfires in the United States are already increasing due to warming. In the West, there has been a nearly fourfold increase in large wildfires in recent decades, with greater fire frequency, longer fire durations, and longer wildfire seasons. This increase is strongly associated with increased spring and summer temperatures and earlier spring snowmelt, which have caused drying of soils and vegetation. [U.S. Global Change Research Program, 6/16/09]

The report included the following chart showing that the number of acres burned per fire has increased significantly since the 1980s:

[U.S. Global Change Research Program, 6/16/09]

A 2010 National Research Council report summarizing the state of climate science also stated that "the length of the fire season has expanded by 2.5 months":

[L]arge and long-duration forest fires have increased fourfold over the past 30 years in the American West; the length of the fire season has expanded by 2.5 months; and the size of wildfires has increased several-fold. Recent research indicates that earlier snowmelt, temperature changes, and drought associated with climate change are important contributors to this increase in forest fire. [National Research Council, 5/19/10]



Recent Study Found Western U.S. Particularly Vulnerable To Global Warming's Impact On Fires.
From the *New York Times*' DotEarth blog:

*Researchers using a decade of satellite data on fires and a suite of climate models have produced the first thorough global estimate of changes in the frequency of fires in [the world's forests](#) under greenhouse-driven global warming. There's ample uncertainty but the study, published today in the peer-reviewed online journal *Ecosphere*, points to a variety of outcomes, with fires likely becoming more frequent in zones you might expect -- like temperate North America and particularly the western United States -- but rarer in the tropics. [New York Times, 6/12/12]*

National Research Council: Warming Expected To Expand Area Burned By Wildfires In Western North America. In a 2010 report, the National Research Council said that "for warming levels of 1°C to 2°C, the area burned by wildfire in parts of western North America is expected to increase by 2 to 4 times for each degree (°C) of global warming." Particularly vulnerable areas "include the Pacific Northwest and forested regions of the Rockies and the Sierra," according to the report, which also included the following map showing projected increases in "area burned for a 1°C increase in global average temperature" relative to the median annual area burned from 1950-2003:

[National Research Council, 6/16/10]

Warming Has Boosted Tree-Killing Beetles, Adding Fuel For Fires. A National Academies website notes that the warming trend has boosted the population of bark beetles that kill trees in western forests:

This increase in wildfire is a legacy of both a changing climate and decades of total fire suppression that has resulted in a buildup of dead fuels. One important factor is drought. Wintertime precipitation is increasingly falling as rain instead of snow, and the snow that does accumulate is melting earlier in the spring--decreasing the amount of water available in the late summer months and contributing to longer and more intense droughts. Compounding the effects of these droughts is the increased susceptibility of drought-stressed trees to attacking insects. In the last decade, a bark beetle epidemic has exploded across 18,000 square miles of western mountain forests. Milder winter temperatures kill fewer beetles in their budworm phase than the colder winters of the past, helping to increase the bark beetle population, with devastating effects. As the beetles kill vast areas of forest, they leave standing dead wood, fueling even larger wildfires. [National Academies, accessed 6/28/12]

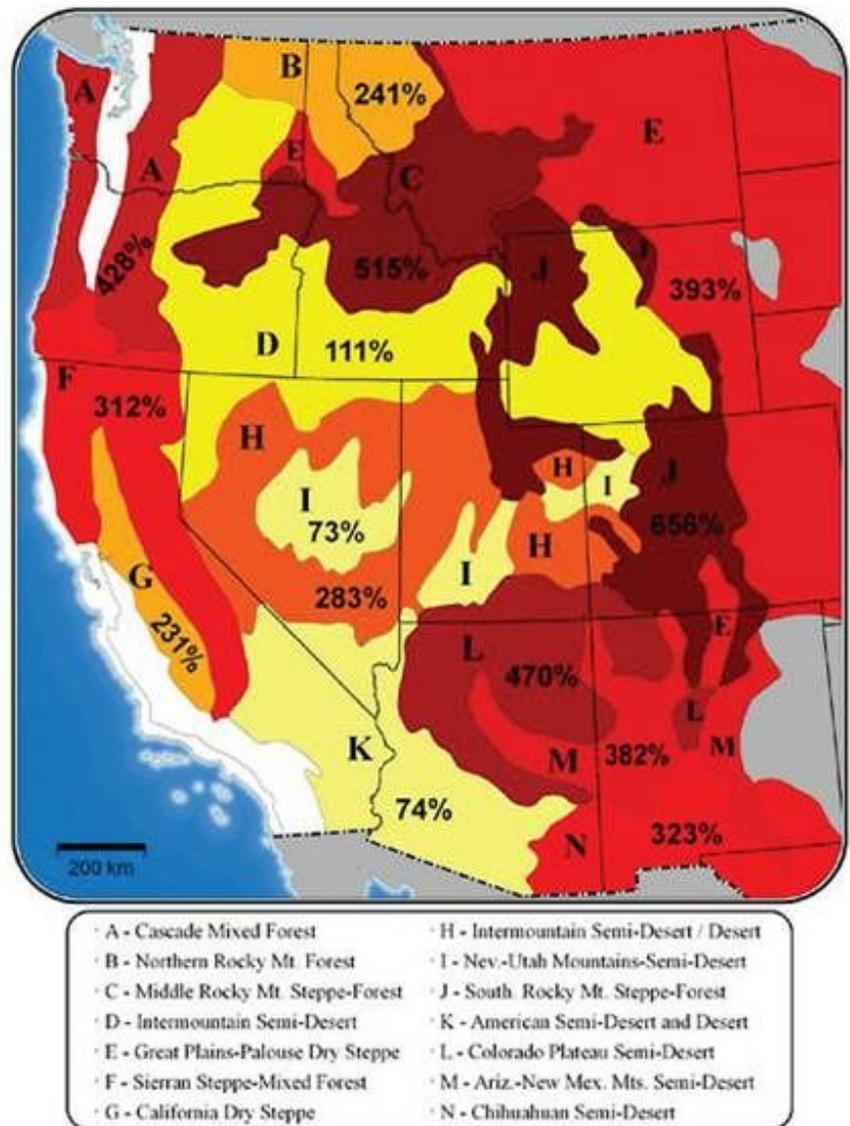


FIGURE 5.8 Map of changes in area burned for a 1°C increase in global average temperature, shown as the percentage change relative to the median annual area burned during 1950-2003. Results are aggregated to ecoprovinces (Bailey, 1995) of the West. Changes in temperature and precipitation were aggregated to the ecoprovince level. Climate-fire models were derived from NCDC climate division records and observed area burned data following methods described in Littell et al. (2009). Source: Figure from Rob Norheim.

Responding To Increased Fire Risk Requires Policy Change, Vigilance Regarding Latest Science. The U.S. Global Change Research Program recommended that policymakers become versed in "what the latest climate science implies for changes in types, locations, timing, and potential severity of fire risks over seasons to decades and beyond" and change policy accordingly:

Living with present-day levels of fire risk, along with projected increases in risk, involves

actions by residents along the urban-forest interface as well as fire and land management officials. Some basic strategies for reducing damage to structures due to fires are being encouraged by groups like National Firewise Communities, an interagency program that encourages wildfire preparedness measures such as creating defensible space around residential structures by thinning trees and brush, choosing fire-resistant plants, selecting ignition-resistant building materials and design features, positioning structures away from slopes, and working with firefighters to develop emergency plans.

Additional strategies for responding to the increased risk of fire as climate continues to change could include adding firefighting resources and improving evacuation procedures and communications infrastructure. Also important would be regularly updated insights into what the latest climate science implies for changes in types, locations, timing, and potential severity of fire risks over seasons to decades and beyond; implications for related political, legal, economic, and social institutions; and improving predictions for regeneration of burnt-over areas and the implications for subsequent fire risks. Reconsideration of policies that encourage growth of residential developments in or near forests is another potential avenue for adaptive strategies. [U.S. Global Change Research Program, 6/16/09]

Wildfire Experts Urge Journalists To Write Climate Change Into Their Stories

Seven Out Of Nine Fire Experts Agreed Reporters Should Include Climate Change In Wildfire Stories. Of nine fire scientists who responded to email inquiries, seven agreed that journalists should explain how manmade climate change could worsen wildfire risk in certain parts of the western U.S. The other two emphasized other major factors that determine the extent of fire damage, or highlighted the regional and subregional variations that make it difficult to draw broad conclusions.

Steven Running: Media Should Communicate That Fires "Are a Glimpse Into A More Common Future If Carbon Emissions Continue To Rise." From Dr. Steven W. Running, director of the Numerical Terradynamic Simulation Group at the University of Montana:

Absolutely, journalists who care to look at the bigger picture should be stating that we already are seeing an acceleration of western wildfire activity in the last 30yr, and some of that acceleration is tied to the trend of earlier snowmelt and hotter drier summers. And climate models project longer, hotter, and drier summers in the future which will continue to accelerate wildfire activity in the West.

If the media do not connect these dots, the public probably assumes these latest events are only natural variability and "bad luck", when in reality they are a glimpse into a more common future if carbon emissions continue to rise. [Email exchange, 6/28/12]

Mark Cochrane: Failing To Draw Connections Encourages "View That Each Disaster Is An Independent Event Due To Random Chance." From Dr. Mark A. Cochrane of the Geographic Information Science Center of Excellence at South Dakota State University:

In my opinion, yes this would be a valid topic for discussion. I would not necessarily blame the current ongoing events on anthropogenic climate change but it is clear that the climate conditions for events such as this are likely to increase in frequency as we move through the century due to anthropogenic climate change. In the last 40 years the mountain west has experienced some of the most rapid warming in the United States. In particular, the southwestern states are expected to experience a net decrease in annual precipitation over

the coming decades. Hotter, drier conditions, combined with increased expansion of housing into flammable landscapes means incidents like High Park and Colorado Springs are inevitably going to become more common. Conditions will continue to be variable from year to year but more and more years will have high fire risk in this region.

The consequences of failing to connect the dots between naturally flammable ecosystems, expanding construction and changing climatic conditions will be the continued view that each disaster is an independent event due to random chance, meaning nothing needs to be done. [Email exchange, 6/29/12]

Thomas Swetnam: Neglecting To Mention Climate Change Is "Bad Journalism." From Dr. Thomas W. Swetnam of the University of Arizona's Laboratory of Tree-Ring Research:

Most scientists have concluded that anthropogenic greenhouse gases are a primary cause of recent hemispheric and global warming trends. Although there is lower certainty about the causes of regional climate patterns, the warming trends in the western US are consistent with expected/predicted patterns. Some top climate scientists have strongly argued that the current drought and trends in the western US can be linked to AGW [anthropogenic global warming].

Given the facts that year after year we are breaking century (or longer) records in wildfire area burned in the western US, and the warming trends are clear and as expected, the lack of any mention of anthropogenic climate change even with caveats is, in my view, irresponsible and bad journalism. [Email exchange, 6/28/12]

Anthony Westerling: "The Media Should Connect The Dots." From Dr. Anthony Westerling of the Sierra Nevada Research Institute at the University of California, Merced:

Yes, I think the media should connect the dots. Climate change has driven dramatic changes in wildfire in western US forests, and these and other changes will continue to accelerate with warming.

I think the consequences are potentially severe. People's perceptions of 'normal' adapt quickly... it makes it harder (in the short run) to communicate that climate change is affecting people's lives in real, tangible ways.

Ultimately, however, the changes will be so significant, that the conclusion that climate change has been responsible for dramatic, negative impacts on our environment and quality of life will be inescapable. The public will want to know why they were not told of the consequences in advance. They will not blame themselves for ignoring the science, they will blame public institutions like the media and government. [Email exchange, 6/28/12]

Meg Krawchuk: "It Is Critical That Media Coverage Of Wildfires Brings The Topic Of Climate Change To The Fore." From Dr. Meg Krawchuk of the Landscape and Conservation Science Research Group at Simon Fraser University in British Columbia:

Fire and climate are inherently linked. Overwhelming evidence from research in pyrogeography shows that weather and climate underpin patterns of fire activity. Of course human factors also play a role in where and when we see fire, but the availability of fuels to burn, and their proclivity for burning as a function of fuel dryness and fire weather, are coupled

with climate. Increased temperatures are likely to lead to more fire in many parts of the world through warmer-drier conditions, at least in the near term. This is particularly true for temperate and boreal regions where forests provide vast amounts of fuels for fire. As warming lifts the constraint of warmer-drier fire weather events, more fires are likely to occur. Accordingly, it is critical that media coverage of wildfires brings the topic of climate change to the fore.

The consequences of glossing over the connection between warming temperatures and the increased likelihood of more, larger, and/or higher severity fires is a disservice to the public. Globally, we need to learn how to live with fire risk, alter our behaviour, our development practices, and our expectations for living undisturbed in fire's domain. The public is a creative force, and necessary changes will emerge bottom-up from that creativity/necessity if given sufficient information from which to make decisions. We need to recognize that our fossil fuel consumption is risky behaviour via the connection between greenhouse gases, temperature increases, and fire. But this point also requires a delicate dance -- the media must be careful not to attribute specific events to changes in climate. It is in the tendencies of an assemblage of fires, the fire regime, that we expect to see alteration with climate change. Long story short, we need to find a different way of living with fire, especially in the face of climate change. [Email exchange, 6/29/12]

Thomas Kolb: Journalists Should "Connect Society's Choices" To "Economic And Ecological Consequences." Dr. Thomas E. Kolb, a professor of Forest Ecophysiology at Northern Arizona University agreed that journalists covering wildfires should mention climate change, adding that otherwise, "an important opportunity will be lost to connect society's choices and actions regarding climate change mitigation to economic and ecological consequences." [Email exchange, 6/28/12]

Max Moritz: "Journalists Could Be More Careful About Linking Their Coverage To Science." From Dr. Max Moritz, a fire ecologist at the University of California, Berkeley:

In my view, journalists could be more careful about linking their coverage to science in general. This would include mentioning the possibility of fires being driven by anthropogenic climate change, what the uncertainties are, why it's important, etc. I also think it extends to other aspects of these fires... For example, how much of what we are seeing might also be due to people increasingly living in fire-prone ecosystems (ignition sources, home losses)... and which of these ecosystems are naturally adapted to infrequent high-intensity fires vs those that are not (and thus are more sensitive to fire suppression and subsequent fuel accumulation).

All of these are dots that need connecting for people to understand what is going on and why, and in a way that is less open to polarization. Without connecting the dots people are free to oversimplify and/or politicize the story, misunderstand and/or ignore the root causes of problems, and continue making the same mistakes. The media could play a very important role in helping the public learn to coexist with fire, similar to lessons associated with accommodating other natural hazards on the landscape. [Email exchange, 6/28/12]

Jon Keeley: "Climate Change Is Likely To Have Very Different Impacts On Fire Regimes In These Different Landscapes." Dr. Jon E. Keeley of the U.S. Geological Survey's Western Ecological Research Center was one of two fire experts out of the nine we contacted who did not say that journalists should cover the connection to climate change:

The number one issue the media need to understand is there is NO story common across the western U.S. Most attention is captured by forests but non-forested habitats dominate the western US and climate change is likely to have very different impacts on fire regimes in these

different landscapes. My personal evaluation of the situation is that we do not currently know enough to make reliable predictions about how global warming will impact future fires. Currently what we know is that future global changes will have multiple effects and single parameter models are insufficient to do anything more than speculate about the future.

[...]

I believe that climate change 'may' be a factor in some western US landscapes. It is not at all clear that it is important across the West in general now, or in the future it will be a major determinant of fire activity in all forested and non-forested ecosystems. [Email exchange, 6/28/12]

Steve Pyne: "Climate Change Will Likely Shrink Options. It Will Not Set Them." Dr. Stephen J. Pyne of Arizona State University was one of two fire experts out of the nine we contacted who did not say that journalists should cover the connection to climate change, which he said "deflects attention" from solutions to fire problems, but he agreed that "anthropogenic climate change is a contributing factor" to wildfires:

I think anthropogenic climate change is a contributing factor, but likely not a driver. Even the big fires currently blazing away are within the range of historic climates. And fires are not like melting glaciers, which are a simple physical process; climate still has to refract through vegetated landscapes and complex societies for fires to happen as they do. Those factors - land use patterns, settlement styles, fuel buildups, uncertain purposes of public lands, and fire policies and practices - explain most of what is occurring, and will continue to do so. Climate change will likely shrink options. It will not set them.

I regard this as good news because it means that there are many actions we can take to protect communities and make the public estate more ecologically resilient. An overemphasis on climate change simply leads to fatalism and deflects attention from what we can do now by way of remediation. In my experience much of the public simply regards the drumbeat of climate change as a political statement and react accordingly (it's all a conspiracy to force them out of their cars). Even if the climate was stable, we would still have our fire problems. Not attaching anthropogenic climate change to our wildfires, in this sense, may actually help address the fire problem. [Email exchange, 6/28/12]

Media Matters intern Ausan Al-Eryani contributed to this report.

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