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Climate Change May Feed Even Worse Wildfires in U.S. West

Over the past several weeks, firefighters have been battling wildfires in the western U.S., including the over 200,000-acre Rim Fire burning near Yosemite National Park. A new study by scientists at the Harvard School of Engineering and Applied Sciences suggests these blazes unfortunately may not be the worst western states will ever see due to climate change. The Harvard team's research suggests wildfire seasons by 2050 will be about three weeks longer, up to twice as smoky, and will burn a wider area in the western states. **Loretta J. Mickley**, co-author of the study, spoke with Bloomberg New Energy Finance's Siobhan Wagner.



Q: How exactly do wildfires start and what typically influences how big they get?

A: Wildfires are generally started either by lightning or by human activity – a careless camper, for example, but the extent of the spread of the fires depends a lot on what we call the fire weather: How dry is the atmosphere? How hot is the atmosphere?

Q: So what inspired you to do this research?

A: We were curious if climate change could have an effect on wildfires. A lot of work has been done looking at how greenhouse gases can affect global temperatures, but we were interested in looking at, what we call, one of the climate penalties: that is a consequence of climate on something like human health or forest fires or vegetation. Our group has a long history of investigating fire activity, its impact on smoke and air pollution, so this seemed like an interesting direction to pursue.

Q: Your findings were based on a set of climate scenarios, historical meteorological data, and records of past fire activity. Did you think you had a pretty good idea on what the results of the research would be at the start?

A: I was unsure. So, the spread of fires depends on hot weather because hot weather can dry out fuels that the fire feeds on. But if we have, together with increasing temperatures, a big increase in precipitation, we might see fires being extinguished more readily and the spread of these fires might be decreased. We didn't know how those two competing factors – temperature and precipitation – would play out. More specifically, we didn't know whether precipitation would change in a changing climate in the U.S. Temperature is a pretty easy variable to predict but precipitation is a little harder. We weren't sure how precipitation in the U.S. would respond to a changing climate.

The models that we used didn't project any large change in precipitation – positive or negative – for the West in the future.

Q: So you all were able to determine that for the western U.S., the biggest driver for fires in the future is temperature. How unique are these findings to the western states?

A: We are following up looking at what's going to happen in Canada where in the present day you get enormous fires, but we see in our climate model projections big increases in precipitation in some regions there. So we are currently exploring what these increases will mean for fires.

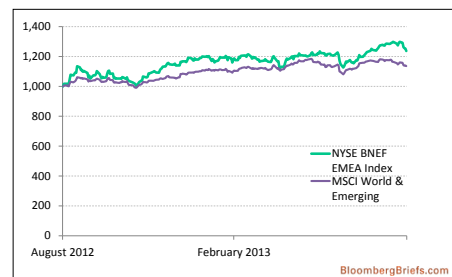
Q: What would you like to see happen on the back of this research? Who do you hope will read the results when they are published in Atmospheric Environment in October?

A: I think it would be useful for policymakers to understand that climate change brings about an array of effects that can be devastating for human beings and wildlife. Climate change consists not just of tiny temperature increases averaged over the year, each year, but really large events. Climate change can feed the fires in the western U.S.

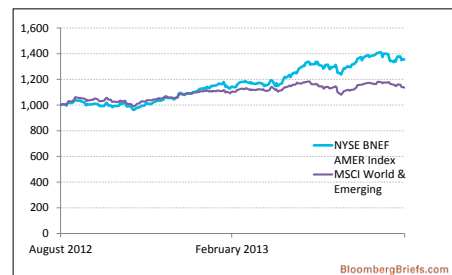
NYSE EURONEXT AND BLOOMBERG NEW ENERGY FINANCE REGIONAL CLEAN ENERGY STOCK INDEXES

The three indexes, covering respectively Europe, Middle East and Africa, the Americas, and Asia and Oceania, currently follow a basket of between 125 and 325 companies with a moderate, or greater, exposure to renewable energy and energy-smart technologies. The following indexes track shares over the past year. They are indexed to 1,000.

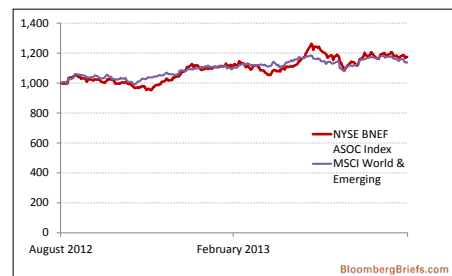
NYSE-BNEF Europe, Middle East and Africa Clean Energy Index



NYSE-BNEF Americas Clean Energy Index



NYSE-BNEF Asia Oceania Clean Energy Index



Source: Bloomberg New Energy Finance

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