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Wildfire as part of the deep time Earth System and lessons for the interaction of fire and mankind.

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The fossil record of charcoal from the late Silurian (420 million years ago) onwards has provided data on wildfire through the deep time geological record before the evolution of man. Recent research has shown the close interaction of fire, the evolution of vegetation, the atmosphere and climate when there were only natural ignition sources and shows the presence of both high and low fire worlds (Scott 2018a). Many of the traits that have been developed by plants that allow them to survive or even thrive through wildfire evolved during the Cretaceous high fire world. Humans evolved into a fiery landscape. The interactions between fire and mankind has been considered a long and convoluted process yet while we may have some control over wildfire the misunderstanding between people and this force of nature is significant especially because of three significant factors (Roos et al., 2016). We are building in to flammable landscapes without the requisite understanding of or planning for wildfire. We are underestimating the role of invasive species such as grasses on the dynamics of fire as well as the extensive planting of non-native trees that may fuel a wildfire and also we have underestimated the significant changes in climate affecting wildfire activity and size that are occurring because of global warming. All this means we need a much more inclusive dialogue between fire and climate scientists with not only policy makers but also the general public (Scott 2018b).
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