News & Comments

# A Wildfire's Earliest Evidence has been Discovered

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Thanks to charcoal deposits from Wales and Poland, scientists have discovered the oldest wildfires ever detected. As a result, i can gain a better understanding of what life on Earth was like during the Silurian era.

The role of wildfires in earth-system processes has almost certainly been overlooked for a long time. Fire is fueled by fuel, ignited by lightning strikes, and given enough oxygen by the atmosphere.

In this study, wildfires would have burnt through very short vegetation, as well as plants up to knee or waist height. "It looks now as though our evidence of fire coincides closely with our evidence of the earliest land plant macrofossils because as soon as there's fuel, at least in the form of plant macrofossils, there is wildfire pretty much instantly, " says paleobotanist Ian Glasspool from Colby College in Maine.

According to the researchers, the fires propagated and left charcoal deposits, suggesting Earth's atmospheric oxygen levels were at least 16 percent. The level is currently 21%, but it has varied dramatically throughout Earth's history. According to their analysis, atmospheric oxygen levels 430 million years ago may have been as high as 21%.

Their study concluded from the charcoal analysis that atmospheric oxygen levels during the Silurian were equivalent to, or possibly above, those at present. As terrestrial plant life increased photosynthesis, oxygen levels would have increased to near current levels. Wildfires were likely a major global phenomenon during the Silurian, contributing to sediment movement and carbon and phosphorus cycling, study suggests

The discovery of the oldest wildfire on record certainly contributes to that unpacking - it shatters the previous record by 10 million years - and it spotlights how important research into wildfires can be in charting Earth's history.