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Burn Baby Burn: A Study in Forest Fuels and Humidity

My question was: How does the moisture of forest fuels affect the type of gases given off in a wild fire? My procedure was first I weighed 5 grams of dry ponderosa pine needles and then I burned the pine needles for 5 minutes in a foil bowl in an empty aquarium. As the needles were burning, I took readings from a hygrometer, a carbon dioxide sensor, and a carbon monoxide sensor. I repeated that test again. Next I held 5 grams of pine needles over a pan of boiling water for 5 seconds. Then I burned them while taking readings from the three sensors. I repeated this test again. I then repeated the previous sequence for samples of 10 seconds of humidity, 20 seconds, 30 seconds, 45 seconds, and 1 minute. My conclusion was that my hypothesis was correct and incorrect. When you add humidity to pine needles and then burn them, it delays the amount of time it took for the gases to be released, but the gases are still released. When I burned the dry pine needles, the carbon dioxide level peaked earlier and the carbon monoxide level was very high, but when I added humidity to the pine needles the carbon dioxide level peaked later and the carbon monoxide level dropped. What I learned from the project was that when you add humidity to forest fuels, carbon dioxide levels stay about the same, but peak later and carbon monoxide levels drop, and humidity levels increase.