

Interactive comment on “Generation of a global fuel dataset using the Fuel Characteristic Classification System” by M. L. Pettinari and E. Chuvieco

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The manuscript adopts the FCCS to describe fuels across the globe. A general caveat of the approach is that using the FCCS typology required a modification of Rothermel’s fire spread model by its creators, which at the time created polemic within the USDA Forest Service, to the point that FCCS usage remains extremely limited in the US. Such modification has never been validated experimentally, and comparisons of observed fire behaviour with predicted fire behaviour as per the FCCS have never been carried out. Hence, there is no evidence supporting realistic agreement between the fire potentials / behavior produced by FCCS and "real-world" fire behaviour. A second

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concern is that the FCCS was idealized to describe fuels on a site-specific basis and this is its supposed strength and utility. Here the system is used to describe fuels on a larger spatial scale (300x300m), with a subsequent aggregation at a much larger scale (0.5x0.5°). However, average values are assumed to describe each vegetation type, which makes no sense. I don't see any advantages (on the contrary, fire potential estimates are not reliable) in using the FCCS approach on this worldwide basis in relation to more straightforward approaches, e.g. the use of fuel models as in models such as SPITFIRE.

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