

## ***Interactive comment on “Development of a global fire weather database for 1980–2012” by R. D. Field et al.***

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### General Comments

Overall the paper is well written and the work is sound - the paper is suitable for publication with minor revisions. The global gridded dataset(s) of fire danger indices presented in the paper will be useful for further analysis of past and future fire activity in earth system modeling. The authors note that other fire danger indices might be added in future. This compilation of historic FWI System values is a good start. The paper suggests/develops methodologies that would also be useful with finer scale regional reanalysis datasets.

### Specific Comments

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Although the choice of study period (33 years) doesn't line up with the standard climate normal period I assume users could adjust the data to a normal period.

It is worth noting that the FWI System moisture indices (p6559) reflect litter and forest floor organic matter moisture which are important to fire activity in temperate and boreal forests. The FWI System does not reflect other time varying conditions that may also influence fire activity such as live fuel moisture, or atmospheric stability.

A few small points regarding moisture code timelags (p650): 1) the timelag of the DMC is 14 days (not 12 days as in Van Wagner 1987) 2) the stated timelags are for a standard drying day (21.1 C and 45% RH in July in Canada) 3) timelags will differ for other weather conditions and day lengths.

The review of global fire weather (p 6565-657) is interesting, but data for, and discussion of fire weather in Africa is notably absent.

The authors note caution in applying the DC in Mediterranean regions where deep organic layers are absent (p6568-26). This caution might be extended to subarid regions on all continents (Mexico, Central and South America, Australia, Asia, and Africa). While the DC may still provide a useful indicator of fire danger in sub-arid regions over some parts of the DC scale and some parts of the year, fire danger may not continue to increase with increasing DC over some threshold value, say  $\sim$  DC 600-800. Above this fuels are about as dry as they will get but DC continues to increase.

### Technical Corrections

5464-24 typo “make therefore make”

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