

## ***Interactive comment on “Brief Communication: Differences between Sundowner and Santa Ana wind regimes in the Santa Ynez Mountains, California” by Benjamin J. Hatchett et al.***

### **Anonymous Referee #1**

Received and published: 26 August 2017

Overview: This brief manuscript presents evidence that Santa Barbara’s “Sundowners” are dynamically distinct from Southern California’s Santa Ana winds. The figures and text are clear and concise, and I have only very minor comments the authors should address before I recommend publication.

Page 1

I. 28: ‘low relative humidity result’ should be ‘low relative humidity results’

Page 3

I. 1-13: I think the criteria for Sundowner-only, Sundowner+SAW, and SAW-only could

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be explained a bit more clearly. In particular, it’s not clear as written, how many days are in the Sundowner-only regime (I think it’s 71 but this could be spelled out more plainly). Also, I’m curious why the definition of SAW was top 2% for SAW-only and less stringent for Sundowner+SAW – did any top 2% SAWs overlap with Sundowner days?

I. 16: The ‘peak seasons’ of April-May and December-January do not seem to be consistent with what is shown in the figures (Mar-Jun and Nov-Feb in both Figs 2 and 3).

I. 19: Were the long-term means calculated on a seasonal, monthly, or daily basis (or some other method?)

I. 23: I believe a reference for the August-Roche-Magnus approximation is appropriate.

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I. 6: ‘potential Sundowner events’ – why is the word ‘potential’ used here? Are these CDFs for Sundowners as defined by your index?

I. 7: I believe this refers to Fig. 2b (not 3b)

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I. 5: ‘west MSLP gradients’ should read ‘west MSLP gradient’

Figure 2: Are these CDFs for Sundowner-only days during each season, Sundowner+SAW days for each season, or SAW (winter) days and Sundowner (Spring) days. The caption of (a) indicates the latter, but the legend at the bottom says winter/spring Sundowner days. Please clarify. Also, begin (b) with ‘As in (a) except...’

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2017-272>, 2017.

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