



## Supplement of

## **Brief Communication: Synoptic-scale differences** between Sundowner and Santa Ana wind regimes in the Santa Ynez Mountains, California

Benjamin J. Hatchett et al.

Correspondence to: Benjamin J. Hatchett (benjamin.hatchett@gmail.com)

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Figure S1: (a) Cumulative distributions of relative humidity at KSBA during the extended spring (March-June) Sundowner maxima and extended winter (November-February) Santa Ana maxima. (b) As in (a) except for wind speed at KSBA. (c-d) As in (a-b) but for the Montecito RAWS. Distributions are created from either all hours (All Days) or for the five hours following each identified possible top 0.5% Sundowner event (Sundowner Days) during the respective peak seasons (see Figure 1d-f). The figure in the main manuscript (Figure 2) uses the period 1997-2014 for KSBA, this figure uses the full period of record (1979-2014) for KSBA.



Figure S2: Seasonal mean 500 hPa geopotential heights (filled contours, contour interval 40 m) and sea level pressures (contours every 2 hPa, thicker contours show 4 hPa intervals) for extended winter (a) and extended spring (b).



Figure S3: 500 hPa geopotential height differences between Sundowner Events and Santa Ana Only events during extended winter (a) and extended spring (b). Contour interval is 25 m. (c-d) As in (a-b) except for sea level pressure differences. Contour interval is 1 hPa.