

**Effects of Wildfires and Ash Leaching on Stream Chemistry  
in the Santa Ynez Mountains of Southern California**

Supplementary Information

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Figure S1. Upper El Cap site. A. Conditions on September 30, 2017, before the first major rainfall. B. Conditions on January 13, 2018, after the first major rainfall.

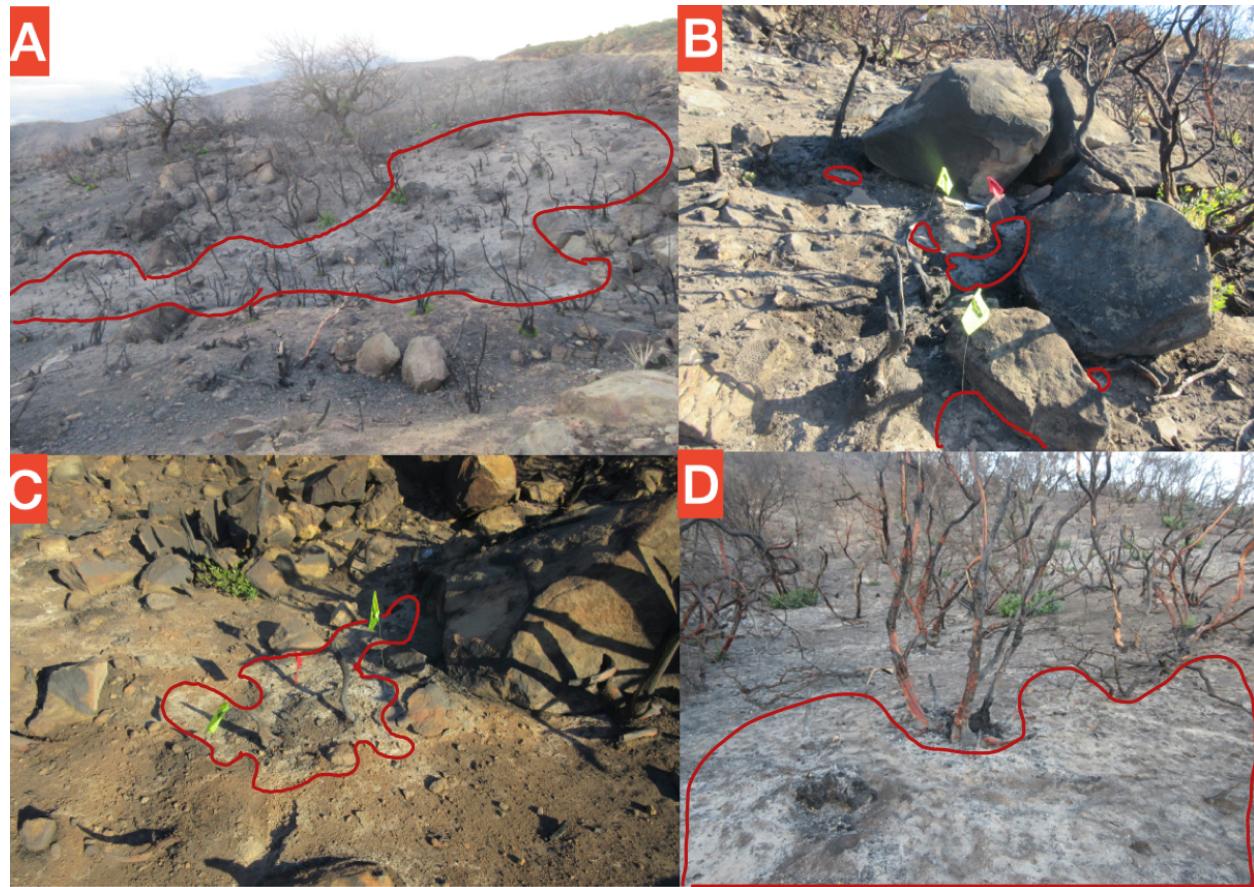


Figure S2. Surficial ash accumulations within the fire scar. Red boundaries delineate surficial ash at several sampling locations. Panel A illustrates ash that has accumulated in a gully at site Ash 1. Panel B illustrates ash that has accumulated in and around crevices near boulders at site Ash 2. Panel C shows ash that has accumulated as a pocket at site Ash 2. Panel D shows ash that has accumulated as a patchy blanket at site Ash 5.

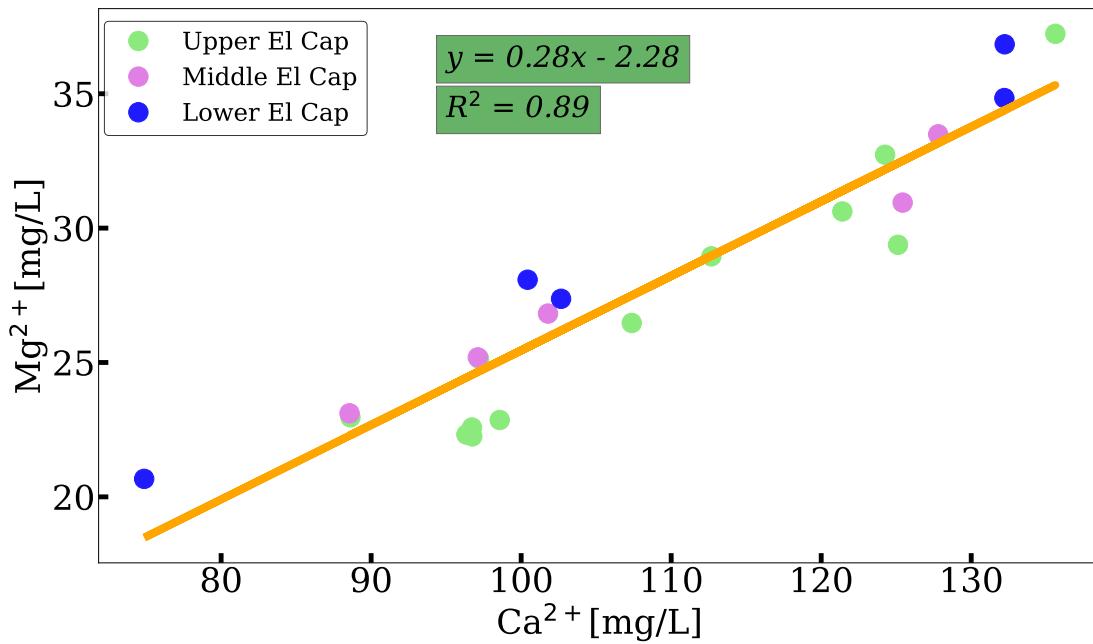


Figure S3. Correlation between  $Mg^{2+}$  and  $Ca^{2+}$  in stream water sampled from Upper, Middle and Lower El Capitan Creek sites.

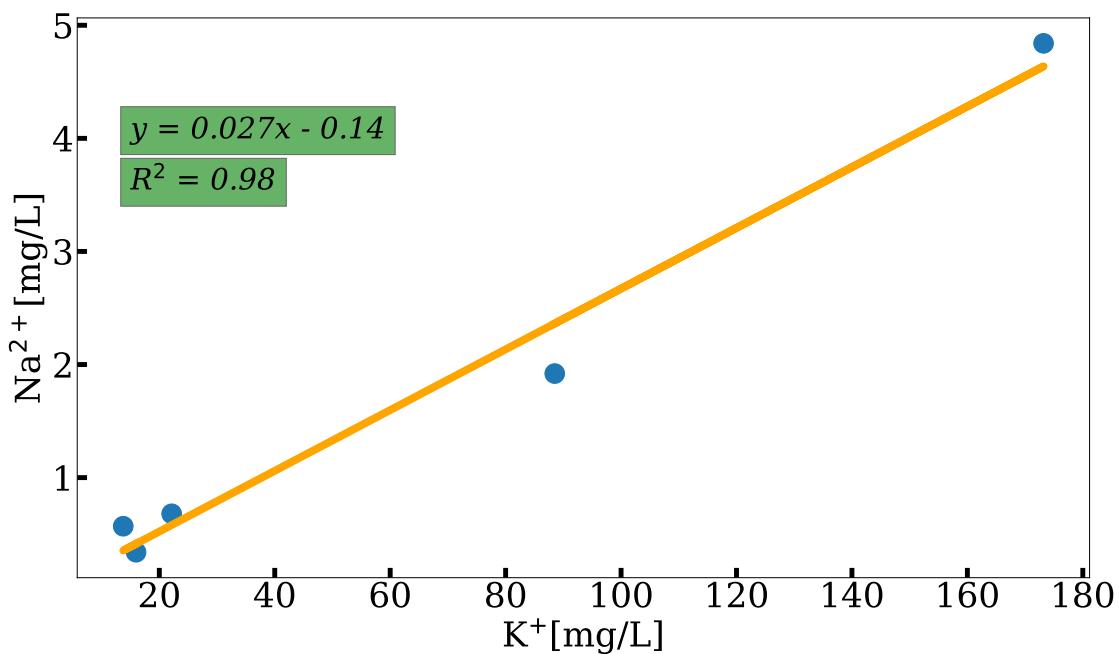


Figure S4. Correlation between  $\text{Na}^+$  and  $\text{K}^+$  concentrations leached from ash samples taken from all ash sampling sites.

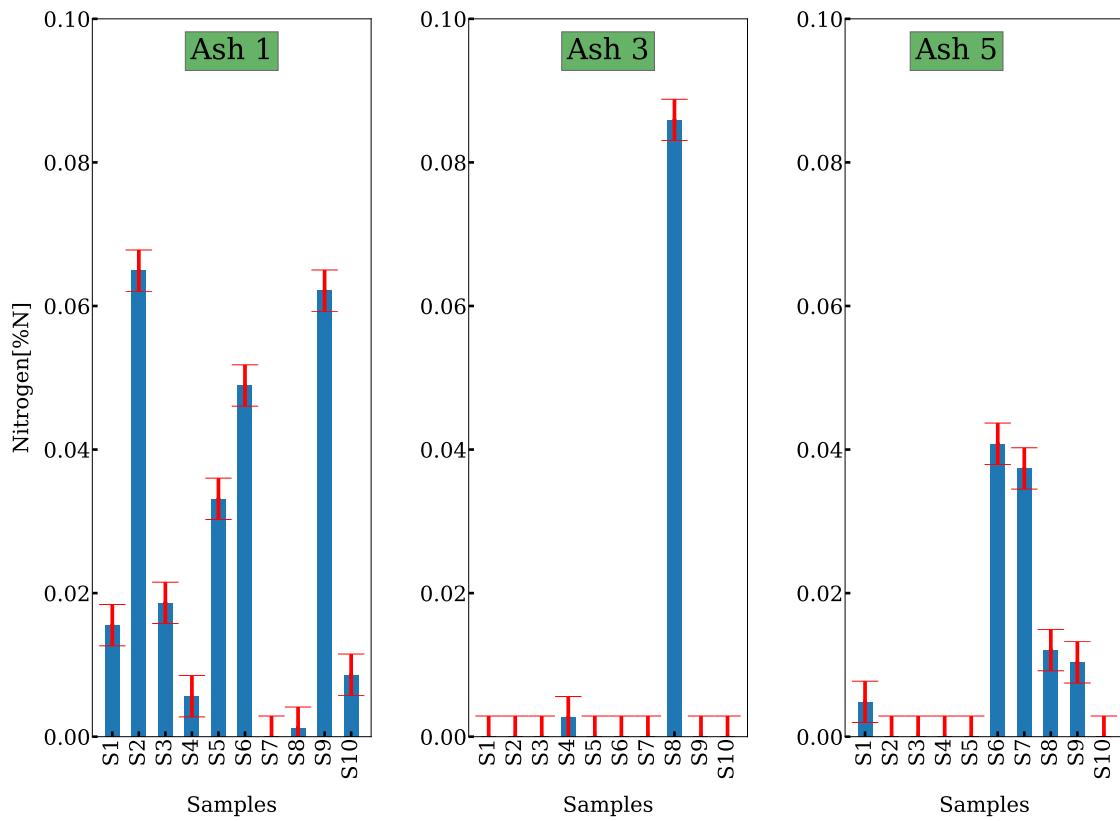


Figure S5. Nitrogen weight percent measurements at sites Ash1, Ash3 and Ash5. At each site 10 samples were taken (S1 to S10). Standarderrors ( $SE = \sigma / \sqrt{n}$ ;  $\sigma$ =sample standard deviation,  $n$  = number of samples) are indicated by the red bars.

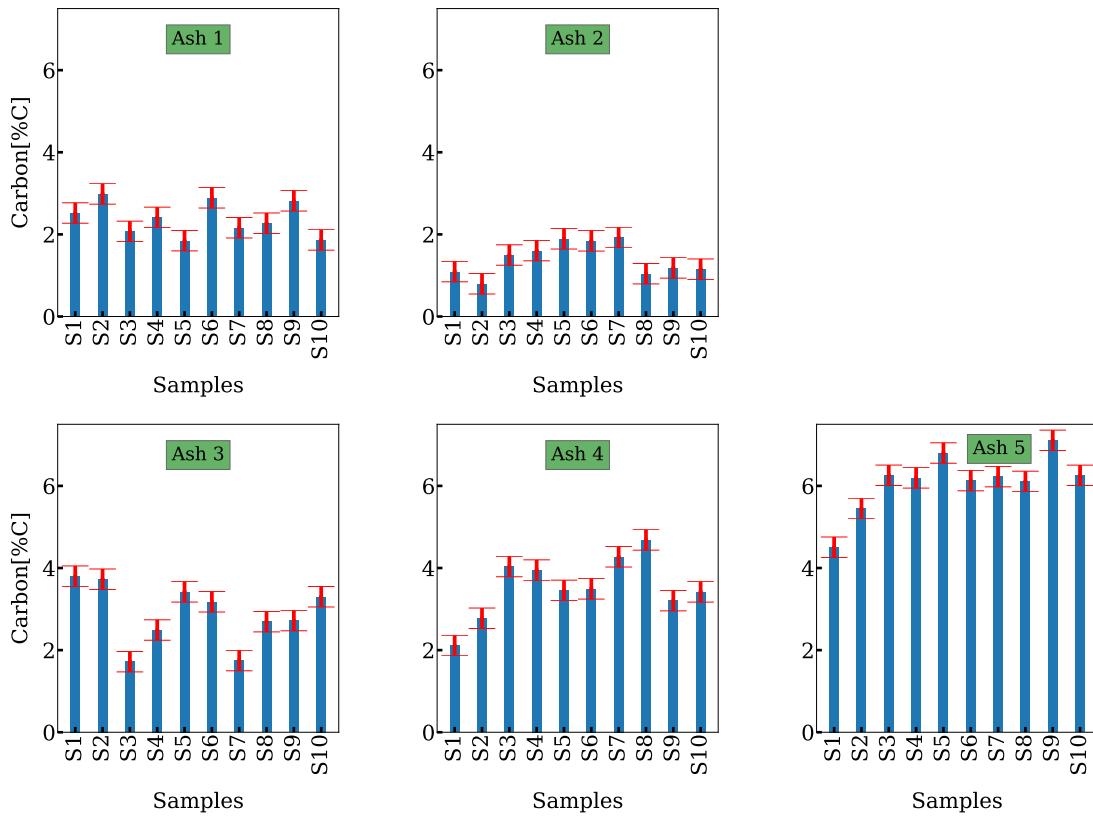


Figure S6. Carbon weight percent measurements at sites Ash1 to Ash5. At each site 10 samples were taken (S1 to S10). Standard errors ( $SE = \sigma / \sqrt{n}$ ;  $\sigma$ =sample standard deviation,  $n$ =number of samples) are indicated by the red bars.

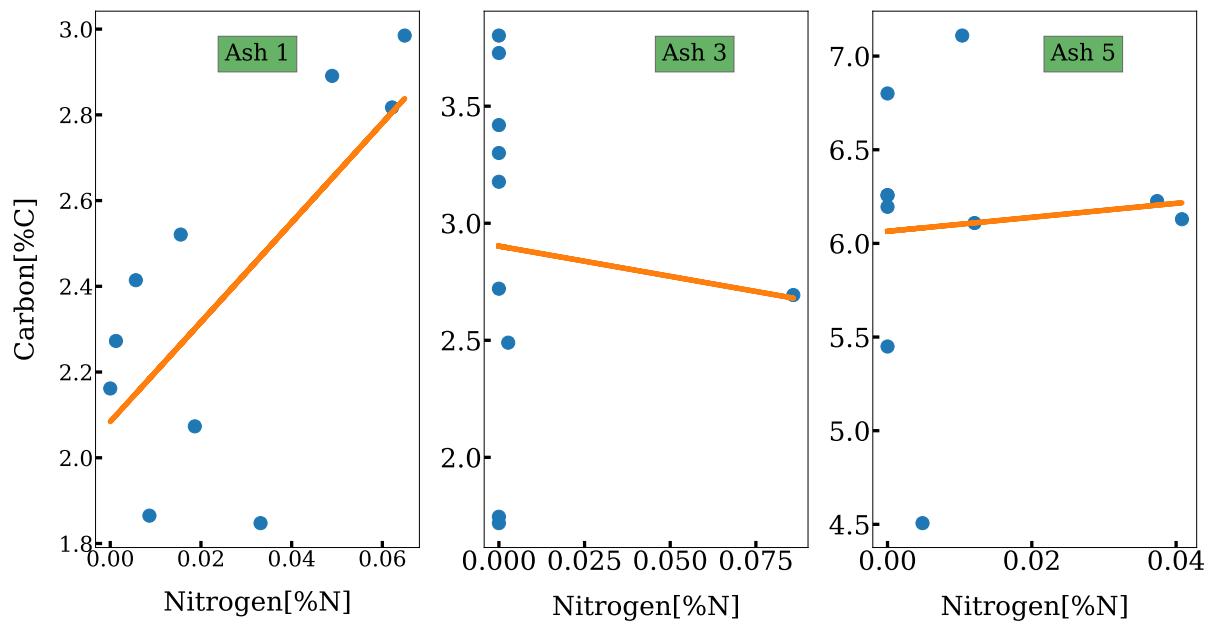


Figure S7. Correlations between nitrogen and carbon weight percentages in ash from sites Ash1, Ash3, and Ash5.

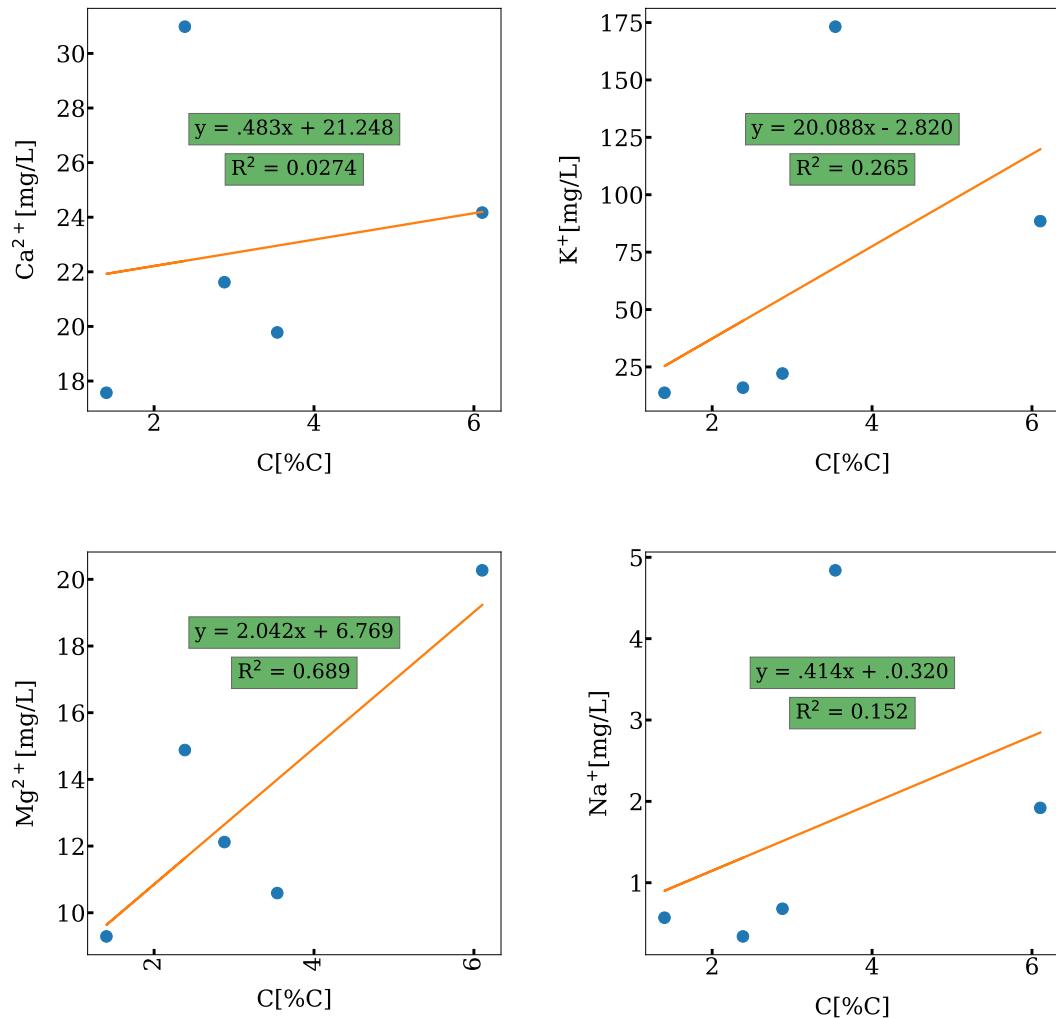


Figure S8. Correlations between carbon and extractable major cations in ash from all ash sampling sites.

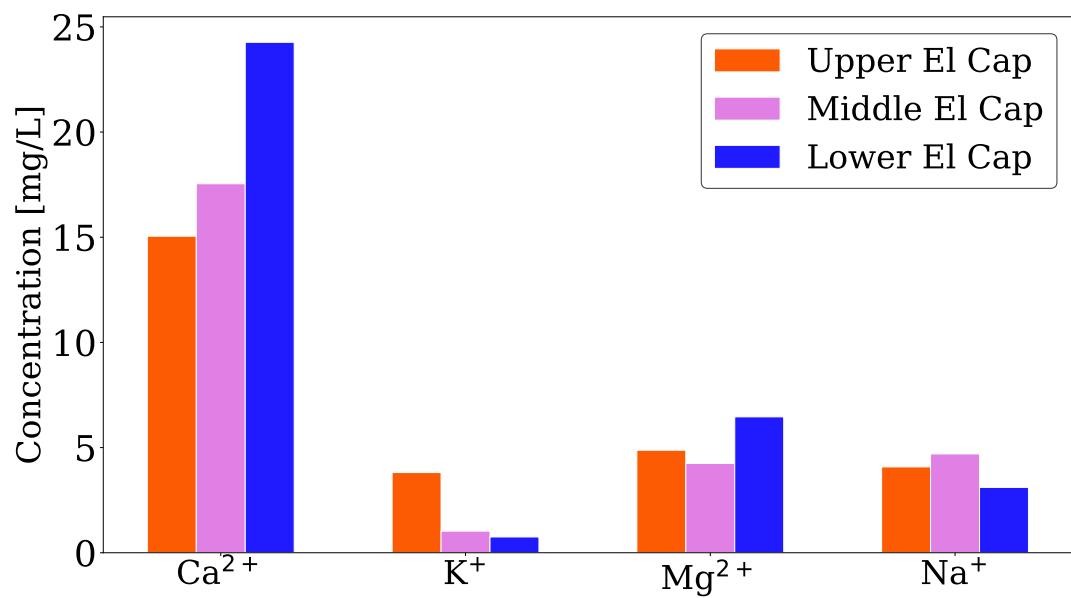


Figure S9. Standard deviations in major cation concentrations in stream water calculated from all samples by sampling site.