Introduction
On September 8th, 2010, the Fourmile Canyon wildfire started to burn in the foothills near Boulder, Colorado. Areas burned by wildfires can be expected to have a different hydrologic response to rainfall (as a result of changes in the soil before the fire). In Boulder County, in an effort to minimize the risk of flash floods in the canyon, antecedent soil moisture and impact of straw on the hydrologic response, specifically runoff, of a burned area (Boulder, CO 80303, university@boulder.co.gov.

Study Site
Located on the Lee and Right Forks, the study site was located within a basin that was burned by the Fourmile Canyon wildfire. Study sites are located in the Lee and Right Forks. Image was created by Anna Ahlstrom.

Results
- Runoff measurements were recorded as a time series, while soil water content measurements were recorded at 0.05 intervals.
- Red and blue lines correlate with the same color bars to show that data were recorded at the same plot on their respective links.
- Higher antecedent soil water content resulted in lower amounts of runoff.
- Runoff coefficients are calculated for each pair of plots.
- Each set of paired plots is shown in the graph.

Discussion
Soil water content exhibited nearly linear relationships between the control and experimental plots during the calibration period. The lower R² value for the Left fork plots (0.42) was a result of outlier data points that had higher organic matter content as determined by USGS. Since organic matter retains moisture, this resulted in higher soil water content for these samples.

Conclusion
Since we are still in the process of collecting data, the hydrologic impact of the straw mulch cannot be evaluated at this time. However, the calibration curves established for each plot will allow for the calculation of the magnitude of change induced by the addition of straw mulch on the burned hill slope. The area-adjusted runoff for each set of paired plots is non-linear, and the soil water content is nearly linear. Relationship between each set of plots has been established and will be taken into account while analyzing data prior to the addition of straw mulch on the experimental plots.

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