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### explore fuels and burn severity in a subalpine forest reburn. *Ecological Applications.*

### Data S1

### R scripts used to recreate data and analyses

### Author(s) [of the material provided in DataS1.zip]

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### File list (files found within DataS1.zip)

* step01\_fuels\_plots\_data\_cleaning\_prep.R
* step02\_field\_plot\_fuels\_calculations.R
* step03\_berry\_fire\_point\_selection.Rmd
* step04\_las\_statistics\_extraction.Rmd
* step05\_naip\_statistics\_extraction.Rmd
* step06\_fit\_fuels\_regressions.R
* step07\_create\_fuels\_map.R
* step08\_fit\_fbfms\_randomForest.R
* step09\_fuels\_fit\_analyses.R
* step10\_fuels\_map\_landfire\_comparison.Rmd
* step11\_fuels\_severity\_analyses.R

**Description**

* step01\_fuels\_plots\_data\_cleaning\_prep.R: Quality check and cleaning of field plot data.
* step02\_field\_plot\_fuels\_calculations.R: Calculate fuel loads for field plots.
* step03\_berry\_fire\_point\_selection.Rmd: Random selection of points for Q1 and Q2 analyses. Also calculates summary information about the Berry Fire on high and low spread days.
* step04\_las\_statistics\_extraction.Rmd: Extract lidar metrics from lidar point cloud for fitting fuels regressions, predicting fuel loads in Berry Fire sample points (Q1 and Q2), and creating the final fuels map. This script also creates the common grid and masks used for final fuels map.
* step05\_naip\_statistics\_extraction.Rmd: Extract imagery metrics from NAIP data for fitting fuels regressions, predicting fuel loads in Berry Fire sample points (Q1 and Q2), and creating the final fuels map.
* step06\_fit\_fuels\_regressions.R: Fit linear regression models to predict field-measured fuels from lidar and imagery predictors.
* step07\_create\_fuels\_map.R: Create lidar-imagery fusion fuels maps.
* step08\_fit\_fbfms\_randomForest.R: Fit random forest classification models to predict surface Fire Behavior Fuel models from lidar and imagery predictors.
* step09\_fuels\_fit\_analyses.R: Use final linear regression models to predict fuels in field data plots and generate summary data on model fits (predicted versus observed values).
* step10\_fuels\_map\_landfire\_comparison.Rmd: Compare predicted fuels from final lidar-imagery fusion fuels and LANDFIRE fuels maps (rasters) with field data observations (using centroids from field plots to extract corresponding raster values).
* step11\_fuels\_severity\_analyses.R: Analyses for Q1 (fuels and burn severity in young versus mature forests) and Q2 (how well fuels predict burn severity under extreme versus moderate fire weather).