



Massman Data Overview

High soil temperature data archive

From 2001 to 2006 Massman collected data to measure the effects of different fuels reduction treatments on the soils of the Manitou Experimental Forest, Colorado. The data includes profiles of temperature, heat-flux, water content, and CO₂ at different depths in the soil and a horizontal transect surface radiation. Fuels reduction treatments included slash-piles, broadcast/lop-and-scatter areas, chipped areas, and control areas. The slash-piles and several broadcast/lop-and-scatter areas were burned. The different treatments and measurements were distributed among six pseudo-replicate plots.

Files with temperature data for each rep are in the parent folder 'Data'. The 'Other Data' folder includes the temperature data along with any other water content, CO₂, heat flux, etc., measurements that may have been taken.

Rep 1: Burned 11 January 2002.

Published:

Massman, W.J. and Frank, J.M., 2004, August. An in situ investigation of the influence of a controlled burn on the thermophysical properties of a dry soil. In In: 26th Conference on Agricultural and Forest Meteorology. Paper 1.8. Boston, MA: American Meteorological Society. Online: <https://ams.confex.com/ams/pdfpapers/79501.pdf>.

Missing Data: None

Rep 2: Burned 26 April 2004

Published:

Massman, WJ, JM Frank, SJ Mooney. 2010. Advancing Investigation and Physical Modeling of First-Order Fire Effects on Soils. In: Fire Ecology Volume 6, Issue 1, 2010. doi: 10.4996/fireecology.0601036. P 36-54.

Missing Data: Blank cells where missing or errors occurred

Rep 3: Never burned. No data.

Rep 4: Burned 17 November 2004

Not Published.

Missing Data: None

Rep 5&6: Burned November 2001

Published:

Massman, WJ, JM Frank, WD Shepperd, and MJ Platten. 2003. In situ soil temperature and heat flux measurements during controlled burns at a southern Colorado forest site. In: (Eds. Omi, PN, and LA Joyce) Fire, fuel treatments, and ecological restoration: Conference proceedings; 2002 16-18 April; Fort Collins, CO. USDA Forest Service Proceedings RMRS-P-29, 69-87.

Missing Data: None

Butters Burn: Burned November 2008

Not published. Was conducted as an informal experimental burn. Bulk Density is provided.

Missing Data: Blank cells where errors occurred

See also <https://www.fs.usda.gov/rds/archive/Product/RDS-2007-0002/>

Frank, J.M.; Massman, W.J. 2007. Effects of fuels reduction treatments on the soil temperature, heat-flux, water content, and CO₂ at Manitou Experimental Forest. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
<https://doi.org/10.2737/RDS-2007-0002>

<https://www.fs.fed.us/rmrs/projects/high-soil-temperature-data-archive>