

UC Irvine

UC Irvine Previously Published Works

Title

Analysis of formaldehyde fluxes above a Ponderosa Pine forest measured via eddy-covariance

Permalink

<https://escholarship.org/uc/item/1xm215d7>

Journal

ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY, 242

ISSN

0065-7727

Authors

Digangi, Joshua

Henry, Sam

Karl, Thomas

et al.

Publication Date

2011-08-28

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at

<https://creativecommons.org/licenses/by/4.0/>

[Skip to content](#)



- [Home](#)
- [About](#)
- [Submit](#)
- [Browse](#)
- [Questions](#)
- [Contact](#)
- [NCAR Library](#)

---Go To

▼

Analysis of formaldehyde fluxes above a Ponderosa Pine forest measured via eddy-covariance



Citation:	Keutsch, F., J. Digangi, S. Henry (more) , 2011: Analysis of formaldehyde fluxes above a Ponderosa Pine forest measured via eddy-covariance. <i>242nd ACS National Meeting</i> , Denver, CO, American Chemical Society.
UCAR/NCAR/UCP Authors:	Karl, T. , Atmospheric Chemistry Division (ACD) Kim, S. , Atmospheric Chemistry Division (ACD) Turnipseed, A.A. , Atmospheric Chemistry Division (ACD) Mauldin, R.L. , Atmospheric Chemistry Division (ACD) Cantrell, C.A. , Atmospheric Chemistry Division (ACD) Flocke, F.M. , Atmospheric Chemistry Division (ACD) Guenther, A.B. , Atmospheric Chemistry Division (ACD)
Other Authors:	Keutsch, F. Digangi, J. Henry, S. Nakashima, Y. Mak, J. Hansel, A. Kajii, Y.
UCAR Affiliations:	Atmospheric Chemistry Division (ACD)
Abstract:	The OH radical is the most important tropospheric oxidant. An important question surrounds missing OH sink terms observed in biogenically influenced regions, which have been proposed to be caused by unmeasured biogenic volatile organic compounds (BVOCs). Formaldehyde (HCHO) is formed during oxidation of virtually all BVOCs. Observation of the HCHO efflux from the forest provides a direct measure of HCHO sources and serves as constraint on the in-canopy oxidation of unmeasured, reactive BVOCs. We present the first reported measurements of HCHO flux via eddy covariance observed with the Madison Fiber Laser-Induced Fluorescence instrument in a rural forest northwest of Colorado Springs, CO. Upward HCHO fluxes up to 200 µg m⁻² hr⁻¹ were observed. We investigate the contribution of fast VOC oxidation chemistry and other HCHO emission sources, such as soil, leaf litter and plants, to assess whether the observed fluxes can be explained with known in-canopy sources and sinks of HCHO.
Classification:	Non-refereed
Resource Type:	Presentation/webcast
Date Presented	August 28, 2011
Relations:	http://www.envirofacs.org/symposia/ENVR_ProgramD2011(2).pdf
Copyright Notice:	Copyright 2011 University Corporation for Atmospheric Research (UCAR). All rights reserved. The user is granted the right to use this resource for non-commercial, non-profit research, or educational purposes only, as are more fully described in the UCAR Terms of Use.
Citable URL:	http://nldr.library.ucar.edu/repository/collections/OSGC-000-000-011-120