



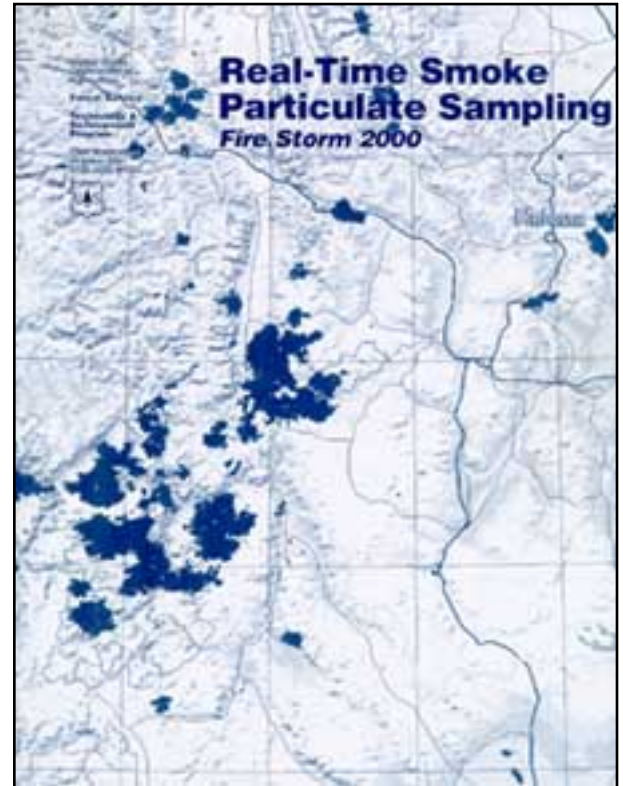
MTDC *Air Program News*

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Reports

The "Real-Time Smoke Particulate Sampling: Fire Storm 2000" report is now available [electronically](#) and in [print](#). The report is the third in a [series](#) the Missoula Technology and Development Center (MTDC) has published comparing results from optical real-time particulate monitors to gravimetric or filter-based samplers. In this study, MTDC collocated several commercial real-time monitors with EPA Federal Reference monitors in Missoula and Hamilton, MT, during the wildfire season of 2000. The real-time instruments included nephelometers and an aethalometer.



Current Projects

DataRam Remote Telemetry Data Retrieval System



MTDC, in conjunction with a small telecommunications firm, Applied Digital Security, Inc., has developed a remote data retrieval system for the Forest Service-owned MIE DataRam 2000 and 4000 models. The system transmits data from a satellite modem to satellites that transmit the data to a Web server. When the modem is operating, data are transmitted hourly to a Web server, allowing particulate concentrations to be viewed and retrieved over the Internet at any time. The self-contained system connects to the RS-232 port on the DataRam, eliminating the need for periodic manual downloading.

DataRam Forest Service User's Guide

The center is developing a user's guide for the DataRam 2000 and 4000 models. The guide is designed for Forest Service employees who have little or no experience with air monitoring instruments. It will give basic instructions for setting up and operating the instruments and will show how to incorporate the "correction" algorithm determined during our laboratory and field evaluation tests.

New Projects

Improved Deposition Measurement Technique for Snow

We will investigate current methods and equipment used for measuring snowfall amounts in remote areas with high winds. Information from these instruments is used to determine the chemistry of snow water by accurately measuring and collecting snowfall amounts and analyzing some of the snow that has been melted, usually in a glycol mixture. With current snow measurement techniques, almost any wind renders collection efficiency questionable, leading to large uncertainties in the estimates of pollutant concentration.

Low-Level Upper Air Temperature Sounding Instrument

The center hopes to develop an inexpensive instrument to estimate low-level winds during wildfires and prescribed burns. Fire and smoke managers need to know the temperature and wind speed of air in the lowest levels of the atmosphere to determine whether or not the meteorological conditions are suitable for successfully carrying out a prescribed fire, or to predict the behavior of a wildfire. A few fire and smoke managers use PIBALS (weather balloons) to estimate winds aloft, however, the cost of adding a commercial off-the-shelf temperature sonde and ground tracking station is very expensive. Other managers use data interpolated from nearby National Weather Service

upper air stations or data estimated from models. The upper air stations are of limited use because they are often far from the burn site and do not provide information about the lowest layers of the atmosphere, which determine how the smoke plume will rise and disperse.

Additional information on the Watershed, Soil, and Air Program is available at MTDC's Web site: <http://fsweb.mtdc.wo.fs.fed.us/programs/wsa/>.

For more information on any of the projects, please contact:

Richard Karsky
MTDC Watershed, Soil, and Air Program Leader
(406) 329-3921
rkarsky@fs.fed.us

Mary Ann Davies
MTDC Project Leader
(406) 329-3981
mdavies@fs.fed.us

Wes Throop
MTDC Project Leader
(406) 329-3957
wthroop@fs.fed.us

Andy Trent
MTDC Project Leader
(406) 329-3912
atrent@fs.fed.us

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 E-mail: wo_mtdc_webmaster@fs.fed.us



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