

# What's Smoking Now? Fairbanks Air Quality and PM2.5

by Cathy Cahill

Associate Professor of Chemistry, Geophysical Institute, UAF

## ***Science for Alaska Lecture Series 2010***

A list of materials about this topic provided by Aldean Kilbourn,  
Geophysical Institute Keith B. Mather Library



### Internet Resources

#### **GENERAL INFORMATION (ALL SITES ACCESSIBLE AS OF 8 FEBRUARY 2010)**

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<<http://www.gi.alaska.edu/ScienceForum/ASF0/046.html>>.
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<<http://www.gi.alaska.edu/ScienceForum/ASF8/844.html>>.
- Davis, T.N. 1981. Alaska's weather and climate. *Alaska Science Forum*, no 514.  
<<http://www.gi.alaska.edu/ScienceForum/ASF5/514.html>>.
- Davis, T.N. 1981. Differences in air temperature. *Alaska Science Forum*, no. 458.  
<<http://www.gi.alaska.edu/ScienceForum/ASF4/458.html>>.
- Fairbanks North Star Borough. Air Quality Index. <<http://www.co.fairbanks.ak.us/airquality/>>.  
Links to other air quality topics.
- Fairbanks North Star Borough. Air Quality Maintenance Plan.  
<<http://co.fairbanks.ak.us/Transportation/FnsbAqPlan/>>.
- Gosink, T. 1983. What do carbon monoxide levels mean? *Alaska Science Forum*, no. 588.  
<<http://www.gi.alaska.edu/ScienceForum/ASF5/588.html>>.
- Rozell, N. 2002. Alaska's urban air quality has come a long way. *Alaska Science Forum*, no. 1583.  
<<http://www.gi.alaska.edu/ScienceForum/ASF15/1583.html>>.
- Rozell, N. 2008. Bad desert air and a glacier that licks a river. *Far North Science*, 28 April 2008.  
<<http://www.farnorthscience.com/2008/04/28/ak-sci-forum/bad-desert-air-and-a-glacier-that-licks-a-river/>>.
- Rozell, N. 2004. Death of a temperature inversion. *Alaska Science Forum*, no. 1683.  
<<http://www.gi.alaska.edu/ScienceForum/ASF16/1683.html>>.
- Rozell, N. 2000. Despite smoke and manmade invaders, Alaska air still good stuff. *Alaska Science Forum*, no. 1497. <<http://www.gi.alaska.edu/ScienceForum/ASF14/1497.html>>.
- Rozell, N. 2003. Oxygen sensors may improve Alaska air. *Alaska Science Forum*, no. 1627.  
<<http://www.gi.alaska.edu/ScienceForum/ASF16/1627.html>>.
- Rozell, N. 2001. Sampling the air from Alaska to Arizona. *Alaska Science Forum*, no. 1567.  
<<http://www.gi.alaska.edu/ScienceForum/ASF15/1567.html>>.

Rozell, N. 2004. The smoking of interior Alaska. *Alaska Science Forum*, no. 1707.  
<<http://www.gi.alaska.edu/ScienceForum/ASF17/1707.html>>.

Rozell, N. 1995. Smug smog. *Alaska Science Forum*, no. 1218.  
<<http://www.gi.alaska.edu/ScienceForum/ASF12/1218.html>>.

State of Alaska, Division of Air Quality. Air Monitoring & Quality Assurance.  
<<http://www.dec.state.ak.us/air/am/smoke.htm>>.  
Photos in bottom right of website show vision comparison of particulate in Fairbanks.

State of Alaska, Division of Air Quality. Air Non-Point and Mobile Sources.  
<[http://www.dec.state.ak.us/AIR/anpms/pm/pm2-5\\_fbks.htm](http://www.dec.state.ak.us/AIR/anpms/pm/pm2-5_fbks.htm)>.  
Article focuses on PM2.5 and Fairbanks .

Tanaka, H.L. 1988. When the deep freeze warms up. *Alaska Science Forum*, no. 906.  
<<http://www.gi.alaska.edu/ScienceForum/ASF9/906.html>>.

U.S. Environmental Protection Agency. 2009. Particulate Matter.  
<<http://www.epa.gov/oar/particlepollution/>  
Many links.

Vermont Department of Health. Particulates and Air Quality.  
<[http://healthvermont.gov/enviro/indoor\\_air/particulate.aspx](http://healthvermont.gov/enviro/indoor_air/particulate.aspx)>.



## Book and Journal Resources

Bigler, S.G., MacKenzie, K., Willis, R.A. 1989. Air Pollution Conditions in Fairbanks, Alaska.  
Unpublished. 98p.

Bytnerowicz, A., Arbaugh, M., Riebau, A., Anderson, C., ed. 2009. Wildland Fires and Air Pollution.  
Elsevier. 638p.  
Most relevant: chapter 7, Effects of Forest Fires on Visibility and Air Quality. References at end of each chapter.

Coutts, H.J. 1979. A Study of Winter Air Pollutants at Fairbanks, AK. Corvallis, OR: Corvallis  
Environmental Research Laboratory, Office of Research and Development, U.S.  
Environmental Protection Agency. 63p.

Fairbanks North Star Borough, Department of Environmental Services. 1973. Air Quality Improvement  
Plan. 34p.

Joy, R., Dulla, R.G. 1992. Fairbanks 1990 Base Year Carbon Monoxide Emission Inventory.  
Sacramento, CA: Sierra Research, Inc. 17p.

Laden, F., Schwartz, J., Speizer, F.E., Dockery, D.W. 2006. Reduction in fine particulate air pollution  
and mortality. *American Journal of Respiratory and Critical Care Medicine*, 173(6): 667-672.

National Research Council (U.S.) Committee on Carbon Monoxide Episodes in Meteorological and  
Topographical Problem Areas. 2002. The Ongoing Challenge of Managing Carbon Monoxide  
Pollution in Fairbanks, AK. Washington, D.C.: National Academies Press. 134p.

Ng, K. 2008. Willingness to Pay (WTP) for Air Quality Improvements : A Benefit Transfer and  
Contingent Valuation Study. Thesis (M.S.)--University of Alaska Fairbanks. 83p.

Ward, T.J., Palmer, C.P., Houck, J.E. 2009. Community woodstove changeout and impact on ambient concentrations of polycyclic aromatic hydrocarbons and phenolics. *Environmental Science & Technology*, 43(14): 5345-60.



## Teacher Resources

Pima County Department of Environmental Quality. Air Info Now: what is particulate matter?

<[http://www.airinfnow.com/html/ed\\_particulate.html](http://www.airinfnow.com/html/ed_particulate.html)>.

Easy to read, has links for teachers, online activities, experiments, and action ideas.

Science Buddies: Project Ideas - Air Particles and Air Quality.

<[http://www.sciencebuddies.org/science-fair-projects/project\\_ideas/EnvSci\\_p009.shtml?isb=c2lk\)jEsaWE6](http://www.sciencebuddies.org/science-fair-projects/project_ideas/EnvSci_p009.shtml?isb=c2lk)jEsaWE6)>.