Bibliography

Abt Associates (2008) BenMAP Technical Appendices. Prepared for the Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. Available on the Internet at *http://www.epa.gov/air/benmap/models/BenMAPappendicesSept08.pdf*.

ACIA (2004) Impacts of a warming Arctic: Arctic climate impact assessment. Cambridge University Press.

Ackerman A.S. and Toon O.B. (1981) Absorption of visible radiation in atmosphere containing mixtures of absorbing and nonabsorbing particles. *Applied Optics,* **20**, 3661-3667.

Ackerman A.S., Toon O.B., Stevens D.E., Heymsfield A.J., Ramanathan V., and Welton E.J. (2000) Reduction of tropical cloudiness by soot. *Science,* **288**, 1042-1047.

Adachi K. and Buseck P.R. (2008) Internally mixed soot, sulfates, and organic matter in aerosol particles from Mexico City. *Atmospheric Chemistry and Physics,* **8**, 6469-6481.

Adams T.T., Walsh J., Brown M., Goodrum J., Sellers J., and Das K. (2002) A demonstration of fat and grease as an industrial boiler fuel. University of Georgia Engineering Outreach Service, Athens, GA.

Adar S.D., Gold D.R., Coull B.A., Schwartz J., Stone P.H., and Suh H. (2007) Focused exposures to airborne traffic particles and heart rate variability in the elderly. *Epidemiology,* **18**, 1, 95-103.

Adar S.D. and Kaufman J.D. (2007) Cardiovascular disease and air pollutants: evaluating and improving epidemiological data implicating traffic exposure. *Inhalation Toxicology,* **19**, 135-149.

Adkins E., Tyler E., Wang J., Siriri D., and Modi V. (2010) Field testing and survey evaluation of household biomass cookstoves in rural sub-Saharan Africa. *Energy for Sustainable Development,* **14**, 172-185.

Adler G., Riziq A.A., Erlick C., and Rudich Y. (2010) Effect of intrinsic organic carbon on the optical properties of fresh diesel soot. *Proceedings of the National Academy of Sciences,* **107**, 6699-6704.

Adler T. (2010) Better burning, better breathing: improving health with cleaner cook stoves. *Environmental Health Perspectives,* **118**, 3.

Agrawal H., Welch W.A., Miller J.W., and Cocker D.R. (2008) Emission measurements from a crude oil tanker at sea. *Environmental Science & Technology,* **42**, 7098-7103.

Albrecht B.A. (1989) Aerosols, cloud microphysics, and fractional cloudiness. *Science*, **245**, 1227–30, doi: 10.1126/science.245.4923.1227.

Alexander D.T.L., Crozier P.A., and Anderson J.R. (2008) Brown carbon spheres in East Asian outflow and their optical properties. *Science,* **321**, 833-836.

Alexeeff S.E., Coull B.A., Gryparis A., Suh H., Sparrow D., Vokonas P.S., and Schwartz J. (2011) Medium-term exposure to traffic-related air pollution and markers of inflammation and endothelial function. *Environmental Health Perspectives,* **119**, 4, 481-486.

Alfaro S.C., Lafon S., Rajot L., Formenti P., Gaudichet A., and Maille M. (2004) Iron oxides and light absorption by pure desert dust: An experimental study. *Journal of Geophysical Research,* **109**, D08208, doi: 10.1029/2003JD004374.

Allen C.D., Savage M., Falk D.A., Suckling K.F., Swetnam T.W., Schulke T., Stacey P.B., Morgan P., Hoffman M., and Klingel J.T. (2002) Ecological restoration of southwestern Ponderosa Pine ecosystems: a broad perspective. *Ecological Applications,* **12**, 5, 1418-1433.

Allen J.O., Dookeran N.M., Smith K.A., Sarofim A.F, Taghizadeh K., and Lafleur A.L. (1996) Measurement of polycyclic aromatic hydrocarbons associated with size-segregated Atmospheric Aerosols in Massachusetts. *Environmental Science & Technology,* **30**, 1023–1031.

Amador-Muñoz O., Villalobos-Pietrini R., Agapito-Nadales M.C., Munive-Colín Z., Hernández-Mena L., Sánchez-Sandoval M., Gómez-Arroyo S., Bravo-Cabrera J.L., and Guzmán-Rincón J. (2010) Solvent extracted organic matter and polycyclic aromatic hydrocarbons distributed in size-segregated airborne particles in a zone of México City: Seasonal behavior and human exposure. *Atmospheric Environment,* **44**, 1, 122-130.

AMAP (2009) *Arctic Monitoring and Assessment Programme 2009 update on selected climate issues of concern*, Arctic Monitoring and Assessment Programme, Oslo, Norway (AMAP Technical Report No. 2). Available on the Internet at *http://www.amap.no/assessment/generalpublic.htm*.

American Transportation Research Institute (2011) Compendium of Idling Regulations. Available on the Internet at *http://www.atri-online.org/research/idling/ATRI_Idling_Compendium.pdf*.

Anderson B.E., Cofer W.R., Bagwell D.R., Barrick J.W., Hudgins C.H., and Brunke K.E. (1998) Airborne observations of aircraft aerosol emissions I: total nonvolatile particle emission indices. *Geophysical Research Letters,* **25**, 10, 1689-1692.

Anderson J. and Sherwood T. (2002) Comparison of EPA and other estimates of mobile source rule costs to actual price changes. Society of Automotive Engineers Paper 2002-01-1980.

Andreae M.O. and Merlet P. (2001) Emission of trace gases and aerosols from biomass burning. *Global Biogeochemical Cycles,* **15**, 955- 966.

Andreae M.O. and Gelencsér A. (2006) Black carbon or brown carbon? The nature of light-absorbing carbonaceous aerosols. *Atmospheric Chemistry and Physics,* **6**, 3131-3148.

Andreae M.O., Schmid O., Yang H., Chand D., Yu J.Z., Zeng L.M., and Zhang Y.H. (2008) Optical properties and chemical composition of the atmospheric aerosol in urban Guangzhou, China. *Atmospheric Environment,* **42**, 25, 6335-6350.

Anenberg S.C., Horowitz, L. W., Tong D.Q., and West J.J. (2010) An estimate of the global burden of anthropogenic ozone and fine particulate matter on premature human mortality using atmospheric modeling. *Environmental Health Perspectives,* **118**, 1189-1195.

Anenberg S.C., Talgo K., Arunachalam S., Dolwick P., Jang C., and West J.J. (2011) Impacts of global, regional, and sectoral black carbon emission reductions on surface air quality and human mortality. *Atmospheric Chemistry and Physics,* **11**, 7253-7267.

Archer D., Eby M., Brovkin V., Ridgwell A., Cao L., Mikolajewicz U., Caldeira K., Matsumoto K., Munhoven G., Montenegro A., and Tokos K. (2009) Atmospheric lifetime of fossil fuel carbon dioxide. *Annual Review of Earth and Planetary Sciences,* **37**, 117-134.

Arctic Council (2009) Arctic marine shipping assessment 2009 report. Tromsø, Norway.

Arctic Council (2011) Progress report and recommendations for ministers, Nuuk Greenland. Arctic Council Task Force on Short-Lived Climate Forcers. Available on the Internet at *http://arctic-council.npolar.no/accms/export/sites/default/en/meetings/2011-nuuk-ministerial/docs/3-0a_TF_SPM_recommendations_2May11_final.pdf*.

Arnott W.P., Hamasha K., Moosmuller H., Sheridan P.J., and Ogren J.A. (2005) Towards aerosol light-absorption measurements with a 7-wavelength Aethalometer: Evaluation with a photoacoustic instrument and 3-wavelength nephelometer. *Aerosol Science and Technology,* **39**, 17-29.

Audet P. and Charest C. (2007) Heavy metal phytoremediation from a meta-analytical perspective. *Environmental Pollution,* **147**, 231-237.

Auffhammer M., Ramanathan V., and Vincent J.R. (2006) Integrated model shows that atmospheric brown clouds and greenhouse gases have reduced rice harvests in India. *Proceedings of the National Academy of Sciences,* **103**, 19668-19672.

Aunan K., Berntsen T.K., Myhre G., Rypdal K., Streets D.G., Woo J.-H., and Smith K.R. (2009) Radiative forcing from household fuel burning in Asia. *Atmospheric Environment,* **43**, 35, 5674-5681, doi: 10.1016/j.atmosenv.2009.07.053.

Babich P., Davey M., Allen G., and Koutrakis P. (2000) Method comparisons for particulate nitrate, elemental carbon, and $PM_{2.5}$ mass in seven U.S. cities. *Journal of the Air & Waste Management Association,* **50**, 7, 1095-1105.

Baccarelli A., Wright R.O., Bollati V., Tarantini L., Litonjua A.A., Suh H.H., Zanobetti A., Sparrow D., Vokonas P.S., and Schwartz J. (2009) Rapid DNA methylation changes after exposure to traffic particle. *American Journal of Respiratory and Critical Care Medicine,* **179**, 572-578.

Bachmann J.D. (2007) Will the circle be unbroken: A history of the US national ambient air quality standards. *Journal of the Air & Waste Management Association,* **57**, 6, 652-697.

Bachmann J.D. (2009) Black carbon: A science/policy primer. Pew Center on Global Climate Change, Arlington, VA.

Bae M.-S., Demerjiana K.L., and Schwaba J.J. (2006) Seasonal estimation of organic mass to organic carbon in $PM_{2.5}$ at rural and urban locations in New York State. *Atmospheric Environment,* **40**, 39, 7467-7479.

Bae M.-S., Hong C.-S., Kim Y.J., Han J.-S., Moon K.-J., Kondo Y., Komazaki Y., and Miyazaki Y. (2007) Intercomparison of two different thermal-optical elemental carbons and optical black carbon during ABC-EAREX2005. *Atmospheric Environment,* **41**, 13, 2791-2803, doi: 10.1016/j.atmosenv.2006.11.040.

Bae M.-S., Schauer J.J., Turner J.R., and Hopke P.K. (2009) Seasonal variations of elemental carbon in urban aerosols as measured by two common thermal-optical carbon methods. *Science of the Total Environment,* **407**, 18, 5176-5183, doi: 10.1016/j.scitotenv.2009.05.035.

Bahadur R., Feng Y., Russell L.M., and Ramanathan V. (2011) Impact of California's air pollution laws on black carbon and their implications for direct radiative forcing. *Atmospheric Environment,* **45**, 1162-1167.

Bailis R., Ezzati M., and Kammen D.M. (2005) Mortality and greenhouse gas impacts of biomass and petroleum energy futures in Africa. *Science,* **308**, 98-103, doi: 10.1126/science.1106881.

Baja E.S., Schwartz J.D., Wellenius G.A., Coull B.A., Zanobetti A., Vokonas P.S., and Suh H.H. (2010) Traffic-related air pollution and QT interval: Modification by diabetes, obesity, and oxidative stress gene polymorphisms in the Normative Aging Study. *Environmental Health Perspectives,* **118**, 6, 840-846.

Ban-Weiss G., Cao L., Bala G., and Caldeira K. (2011) Dependence of climate forcing and response on the altitude of black carbon aerosols. *Climate Dynamics*, doi: 10.1007/s00382-011-1052-y.

Barnes and Kumar (2002) Success factors in improved stoves programmes: lessons from six states in India. *Journal of Environmental Studies and Policy,* **5**, 2, 99-112.

Barnett T.P., Adam J.C., and Lettenmaier D.P. (2005) Potential impacts of a warming climate on water availability in snow-dominated regions. *Nature,* **438**, doi: 10.1038/nature04141.

Baron R.E., Montgomery W.D., and Tuladhar S.D. (2009) An analysis of black carbon mitigation as a response to climate change. Prepared by the Copenhagen Consensus on Climate, August. Available on the Internet at *http://fixtheclimate.com/component-1/the-solutions-new-research/*.

Barth M.J. and Tadi R.R. (1998) Emissions comparison between truck and rail: case study of California I-40. *Transportation Research Record* **1520**, 44-52.

Bauer S.E., Menon S., Koch D., Bond T.C., and Tsigaridis K. (2010) A global modelling study on carbonaceous aerosol microphysical characteristics and radiative effects. *Atmospheric Chemistry and Physics,* **10**, 7439-7456.

Bauer S.E. and Menon S. (2012) Aerosol direct, indirect, semi-direct and surface albedo effects from sector contributions based on the IPCC AR5 emissions for pre-industrial and present day conditions. *Journal of Geophysical Research,* **117** (D01206), doi: 10.1029/2011JD016816.

Bell M., Dominici F., Ebisu K., Zeger S., and Samet J. (2007) Spatial and temporal variation in $PM_{2.5}$ chemical composition in the United States for Health Effects Studies. *Environmental Health Perspectives,* **115**, 989-995.

Bell M., Ebisu K., Peng R., Samet J., and Dominici F. (2009) Hospital admissions and chemical composition of fine particle air pollution. *American Journal of Respiratory and Critical Care Medicine,* **179**, 1115-1120.

Bell T.L., Rosenfeld D., Kim K.-M., Yoo J.-M., Lee M.-I., and Hahnenberger M. (2008) Midweek increase in U.S. summer rain and storm heights suggests air pollution invigorates rainstorms. *Journal of Geophysical Research,* **113**, D02209, doi: 10.1029/2007JD008623.

Berntsen T., Fuglestvedt J., Myhre G., Stordal F., and Berglen T.F. (2006) Abatement of greenhouse gases: does location matter? *Climatic Change,* **74**, 4.

Bevan S.L., North P.R.J., Grey W.M.F., Los S.O., and Plummer S.E. (2009) Impact of atmospheric aerosol from biomass burning on Amazon dry-season drought. *Journal of Geophysical Research,* **114**, D09204, doi: 10.1029/2008JD011112.

Birch M.E. and Cary R.A. (1996) Elemental carbon-based method for monitoring occupational exposures to particulate diesel exhaust. *Aerosol Science and Technology,* **25**, 221-241.

Blue Sky Framework (2010) Blue Sky Modeling Framework: website for a modular modeling system that enables fire information, consumption, and smoke modeling Developed by the U.S. Forest Service AirFire Team and Sonoma Technology, Inc., April 1. Available on the Internet at *http://blueskyframework.org/.*

Bluestein J., Rackley J., and Baum E. (2008) Sources and mitigation opportunities to reduce emissions of short-term arctic climate forcers. Technical Report No. 2 prepared by Arctic Monitoring and Assessment Program (AMAP), Oslo, Norway.

Bonazza A., Sabbioni C., and Ghedini N. (2005) Quantitative data on carbon fractions in interpretation of black crusts and soiling on European built heritage. *Atmospheric Environment,* **39**, 14, 2607-2618, doi: 10.1016/j.atmosenv.2005.01.040.

Bond T.C., Anderson T.L., and Campbell D. (1999) Calibration and Intercomparison of filter based measurements of visible light absorption by aerosols. *Aerosol Science and Technology,* **30**, 582-600 (6), doi: 10.1080/027868299304435.

Bond T.C. (2001) Spectral dependence of visible light absorption by carbonaceous particles emitted from coal combustion. *Geophysical Research Letters,* **28**, 21.

Bond T., Streets D., Yarber K., Nelson S., Woo J., and Klimont Z. (2004) A technology based global inventory of black and organic carbon emissions from combustion. *Journal of Geophysical Research,* **109**, doi: 10.1029/2003JD003697.

Bond T.C. and Sun H.L. (2005) Can reducing BC emissions counteract global warming? *Environmental Science & Technology,* **39**, 16.

Bond T.C. and Bergstrom R.W. (2006) Light absorption by carbonaceous particles: an investigative review. *Aerosol Science and Technology* **40**, 1, 27-67.

Bond T., Habib G., and Bergstrom R.W. (2006a) Limitations in the enhancement of visible light absorption due to mixing state. *Journal of Geophysical Research,* **111**, D20211.

Bond T.C., Wehner B., Plewka A., Wiedensohler A., Heintzenberg J., and Charlson R.J. (2006b) Climate-relevant properties of primary particulate emissions from oil and natural gas combustion. *Atmospheric Environment* **40**, 3574-3587.

Bond T.C. (2007) Can warming particles enter global climate discussions? *Environmental Research Letters,* **2**, 4, 1-9, doi: 10.1088/1748-9326/2/4/045030.

Bond T.C., Bhardwaj E., Dong R., Jogani R., Jung S., Roden C., Streets D.G., and Trautmann. N.M. (2007) Historical emissions of black and organic carbon aerosol from energy-related combustion. *Global Biogeochemical Cycles,* **21**, GB2018, 1850-2000.

Bond T.C. (2008) Targeting black carbon for climate reasons: what do we know about emissions, and is it enough to get started? Presentation to *Princeton University Woodrow Wilson School 59e Policy Workshop, Princeton, NJ.*

Bond T.C., Zarzycki C., Flanner M.G., and Koch D.M. (2011) Quantifying immediate radiative forcing by black carbon and organic matter with the Specific Forcing Pulse. *Atmospheric Chemistry and Physics,* **11**, 1505-1525, doi: 10.5194/acp-11-1505-2011.

Boucher O. and Reddy M.S. (2008) Climate trade-off between BC and carbon dioxide emissions. *Energy Policy,* **36**, 193-200.

Bower J., Broughton G., Connolly C., Cook A., Eaton S., Glynn A., Grice S., Kent A., Loader A., Stedman J., Targa J., Telling S., Tsagatakis I., Vincent K., Willis P., Yap F.-w., and Yardley R. (2009) Air Pollution in the UK, 2008. ISBN 978-0-85521-1899, November. Available on the Internet at *http://uk-air.defra.gov.uk/library/annualreport/viewonline?year=2008*.

Box J.E., Bromwich D.H., and Bai L. (2004) Greenland ice sheet surface mass balance 1991 - 2000: Application of Polar MM5 mesoscale model and in situ data. *Journal of Geophysical Research,* **109**, D16105, doi: 10.1029/2003JD004451.

Boy E., Bruce N., and Delgado H. (2002) Birth weight and exposure to kitchen wood smoke during pregnancy in rural Guatemala. *Environmental Health Perspectives,* **110**, 1, 109-114.

Broadway R.M. and Cass R.W. (1975) Fractional efficiency of a utility boiler baghouse: Nucla Generating Plant. EPA-600/2-75-013-a (NITS PB 246 641), August.

Brown S.G., Frankel A., Raffuse S.M., Roberts P.T., Hafner H.R., and Anderson D.J. (2007) Source apportionment of fine particulate matter in Phoenix, Arizona, using positive matrix factorization. *Journal of the Air & Waste Management Association,* **57**, 741-752 (STI-2675), doi: 10.3155/1047-3289.57.6.741.

Bruce N., Perez-Padilla R., and Albalak R. (2000) Indoor air pollution in developing countries: a major environmental and public health challenge for the new millennium. *Bulletin of the World Health Organization,* **78**, 9, 1078-1092.

Buonicore A.J. and W.T. Davis (eds.) (1992) *Air pollution Engineering Manual.* Air & Waste Management Association, Van Nostrand Reinhold, New York, NY.

Burnet P.G., McCrillis R.C., and Morgan S.J. (1988) Performance of certified wood stoves under field conditions. Report for August 1985-September 1987. In *Transactions, PM_{10}: Implementation of Standards*, C.V. Mathai and D.H. Stonefield, eds., Air Pollution Control Association, Pittsburgh, PA, 664-672.

Burt R., Wilson M.A., Mays M.D., and Lee C.W. (2003) Major and trace elements of selected pedons in the USA. *Journal of Environmental Quality,* **32**, 2109-2121.

Butler A.T. (1988) Control of woodstoves by state regulation as a fine particulate control strategy. In *Transactions, PM_{10}: Implementation of Standards*, C.V. Mathai and D.H. Stonefield, eds., Air Pollution Control Association, Pittsburgh, PA, 654-663.

Butry D.T., Prestemon J.P., and Abt K.L. (2010a) Optimal timing of wildfire prevention education. *Ecology and the Environment*, **137**, 197-206.

Butry D.T., Prestemon J.P., Abt K.L., and Sutphen R. (2010b) Economic optimization of wildfire intervention activities. *International Journal of Wildland Fire* **19**, 659-672.

Butterfield D., Beccaceci S., Sweeney B., Green D., Alexander J., and Grieve A. (2010) 2009 annual report for the UK Black Carbon Network. *NPL Report,* **AS-52**, May.

Buzcu-Guven B., Harriss R., and Hertzmark D. (2010) Gas flaring and venting: extent, impacts, and remedies. Prepared for the Energy Forum of the James A. Baker III Institute of Public Policy, Rice University. Available on the Internet at *http://www.rice.edu/energy/publications/docs/Birnur%20Carbon.pdf*.

Cachier H. and Pertuisot M.H. (1994) Particulate carbon in Arctic ice. *Analusis Magazine,* **22**, 34-37.

Cachier H. (1997) Particulate and dissolved carbon in air and snow at the Summit site. In *Transfer of aerosols and gases to Greenland snow and ice*, J.-L. Jaffrezo ed., Cedex, France, 21-27.

Cadle S.H., Groblicki P.J., and Stroup D.P. (1980) Automated carbon analyzer for particulate samples. *Analytical Chemistry,* **52**, 13, 2201-2206.

Cadle S.H., Bellan T., Black K., Carlock M., Graze R., Minasslan F., Murray H., Nam E., Natarajan M., and Lawson D.R. (2006) Real-world vehicle emissions: A summary of the 15th coordinating research council on-road vehicle emissions workshop. *Journal of the Air & Waste Management Association,* **56**, 121-136.

Cakmak S., Dales R.E., Angelica R.M., and Blanco V.C. (2011) The risk of dying on days of higher air pollution among the socially disadvantaged elderly. *Environmental Research,* **111**, 3, 388-393.

California Air Resources Board (2010) Preliminary discussion paper: proposed amendments to California's low-emission vehicle regulations – particulate matter mass, ultrafine solid particle number, and black carbon emissions. *May.*

Cao G., Zhang X., and Zheng F. (2006) Inventory of black carbon and organic carbon emissions from China. *Atmospheric Environment,* **40**, 34, 6516-6527.

Carlton A.G., Wiedinmyer C., and Kross J.H. (2009) A review of Secondary Organic Aerosol (SOA) formation from isoprene. *Atmospheric Chemistry and Physics,* **9**, 4987-5005.

Carmichael G.R., Adhikary B., Kulkarni S., D'Allura A., Tang Y., Streets D., Zhang Q., Bond T., Ramanathan V., Jamroensan A., and Marrapu P. (2009) Asian aerosols: current and year 2030 distributions and implications to human health and regional climate change. *Environmental Science & Technology,* **43**, 15, 5811-5817.

Cass R.W. and Broadway R.M. (1976) Fractional efficiency of a utility boiler baghouse: Sunbury Steam Electric Station. EPA-600/2-76-077a [NTIS PB253 943], March.

CATF (2009a) Agricultural fires and arctic climate change: a special Clean Air Task Force report. May. Available on the Internet at *http://www.catf.us/resources/publications/files/Agricultural_Fires_and_Arctic_Climate_Change.pdf*.

CATF (2009b) The carbon dioxide-equivalent benefits of reducing black carbon emissions from U.S. Class 8 trucks using diesel particulate filters: a preliminary analysis. Prepared by the Clean Air Task Force, September. Available on the Internet at *http://www.catf.us/resources/publications/files/CATF-BC-DPF-Climate.pdf*.

CCSP (2009) *Atmospheric aerosol properties and climate impacts, a report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research*, M. Chin, R.A. Kahn, and S.E. Schwartz, eds., National Aeronautics and Space Administration, Washington, D.C., USA.

Cerveny R.S. and Balling R.C. (1998) Weekly cycles of air pollutants, precipitation, and tropical cyclones in the coastal NW Atlantic region. *Nature,* **394**, 561-563.

Chakrabarty R.K., Moosmuller H., Chen L.-W.A., Lewis K., Arnott W.P., Mazzoleni C., Dubey C.K., Wold C.E., Hao W.M., and Kreidenweis S.M. (2010) Brown carbon in tar balls from smoldering biomass combustion. *Atmospheric Chemistry and Physics,* **10**, 6363-6370, doi: 10.5194/acp-10-6363-2010.

Chameides W.L., Yu H., Liu S.C., Bergin M., Zhou X., Mearns L., Wang G., Kiang C.S., Saylor R.D., Luo C., Huang Y., Steiner A., and Giorgi F. (1999) Case study of the effects of atmospheric aerosols and regional haze on agriculture: an opportunity to enhance crop yields in China through emission controls. *Proceedings of the National Academy of Sciences,* **96**, 13626-13633.

Chan T.W., Huang L., Leaitch W.R., Sharma S., Brook J.R., Slowik J.G., Abbatt J.P.D., Brickell P.C., Liggio J., Li S.-M., and Moosmuller H. (2010) Observations of OM/OC and specific attenuation coefficients (SAC) in ambient fine PM at a rural site in central Ontario. *Atmospheric Chemistry and Physics,* **10**, 2393-2411, doi: 10.5194/acp-10-2393-2010.

Chan T.W., Brook J.R., Smallwood G.J., and Lu G. (2011) Time-resolved measurements of black carbon light absorption enhancement in urban and near-urban locations of Southern Ontario, Canada. *Atmospheric Chemistry and Physics,* **11**, 10407-10432, doi: 10.5194/acp-11-10407-2011.

Chang O.M.C. and England G.C. (2004) Development of fine particulate emission factors and speciation profiles for oil and gas-fired combustion systems, update: critical review of source sampling and analysis methodologies for characterizing organic aerosol and fine particulate source emission profiles.

Charlson R.J. (1992) Climate forcing by anthropogenic aerosols. *Science,* **255**, 423.

Chen L.-W., Chow J.C., Watson J.G., Moosmuller H., and Arnott W.P. (2004) Modeling reflectance and transmittance of quartz fiber filter samples containing elemental carbon particles: implications for thermal/optical analysis. *Journal of Aerosol Science,* **35**, 765-780.

Chen W.-T., Lee Y.H., Adams P.J., Nenes A., and Seinfeld J.H. (2010) Will BC mitigation dampen aerosol indirect forcing? *Geophysical Research Letters,* **37**, L09801, doi: 10.1029/2010GL042886.

Cheng Y., He K.B., Dua F.K., Zheng M., Ma Y.L., Tan J.H., and Du Z.Y. (2010) Improved measurement of carbonaceous aerosol: evaluation of the sampling artifacts and inter-comparison of the thermal-optical analysis methods, *Atmospheric Chemistry and Physics*, **10**, 8533-8548, doi: 10.5194/acp-10-8533-2010.

Cheng Y., Zheng M., He K.-B., Chen Y., Yan B., Russell A.G., Shi W., Jiao Z., Sheng G., Fu J., and Edgerton E.S. (2011) Comparison of two thermal-optical methods for the determination of organic carbon and elemental carbon: Results from the southeastern United States. *Atmospheric Environment,* **45**, 11, 1913-1918.

Chi K.H., Lin C.Y., Yang C.F., Wang J.L., Lin N.H., Sheu G.R., and Lee C.T. (2010) PCDD/F measurement at a high-altitude station in central Taiwan: evaluation of long-range transport of PCDD/Fs during the Southeast Asia biomass burning event. *Environmental Science & Technology,* **44**, 8, 2954-2960.

Chin M., Diehl T., Ginoux P., and Malm W. (2007) Intercontinental transport of pollution and dust aerosols: implications for regional air quality. *Atmospheric Chemistry and Physics,* **7**, 21, 5501-5517.

Chou C.C.K., Chen W.-N., Chang S.-Y., Chen T.-K., and Huang S.-H. (2005) Specific absorption cross-section and elemental carbon content of urban aerosols. *Geophysical Research Letters,* **32**, L21808, 1-4, doi: 10.1029/2005gl024301.

Chow J.C., Watson J.G., Pritchett L.C., Pierson W.R., Frazier C.A., and Purcell R.G. (1993) The DRI thermal optical reflectance carbon analysis system description, evaluation and applications in United States air quality studies. *Atmospheric Environment,* **27A**, 8, 1185-1201.

Chow J.C., Watson J.G., Doraiswamy P., Chen L.-W.A., Sodeman D.A., Ho S.S.H., Kohl. S.D., Trimble D.L., and Voepel. H. (2006) Climate change - characterization of black carbon and organic carbon air pollution emissions and evaluation of measurement methods, Phase I: method intercomparison. Report prepared for the California Air Resources Board, Sacramento, CA, by the Desert Research Institute, Reno, NV, Report Number DRI 04-307, July 11. Available on the Internet at *http://www.arb.ca.gov/research/apr/past/04-307_v1.pdf*.

Chow J.C., Watson J.G., Chen L.-W.A., Chang M.C.O., Robinson N.F., Trimble D., and Kohl S. (2007) The IMPROVE-A temperature protocol for thermal/optical carbon analysis: maintaining consistency with a long-term database. *Journal of the Air & Waste Management Association,* **57**, 1014-1023.

Chow J.C., Watson J.G., Doraiswamy P., Chen L.-W.A., Sodeman D.A., Lowenthal D.H., Arnott W.P., and Motallebi N. (2009) Aerosol light absorption, black carbon, and elemental carbon measurements at the Fresno Supersite, California. *Atmospheric Research,* **93**, 4, 874-887.

Chow J.C., Watson J.G., Chen L.-W.A., Rice J., and Frank N.H. (2010a) Quantification of $PM_{2.5}$ organic carbon sampling artifacts in US networks. *Atmospheric Chemistry and Physics,* **10**, 5223-5239, doi: 10.5194/acp-10-5223-2010.

Chow J.C., Watson J.G., Green M.C., and Frank N.H. (2010b) Filter light attenuation as a surrogate for elemental carbon. *Journal of the Air & Waste Management Association,* **60**, November.

Chow J.C., Watson J.G., Lowenthal D.H., Chen L.-W.A., and Motallebi N. (2010c) Black and organic carbon emission inventories: Review and application to California. *Journal of the Air & Waste Management Association,* **60**, 4, 497-507.

Chow J.C., Watson J.G., Lowenthal D.H., Chen L.-W., and Motallebi N. (2011) $PM_{2.5}$ source profiles for black and organic carbon emission inventories. *Atmospheric Environment,* **45**, 5407-5414.

Chu S.-H. (2005) Stable estimate of primary OC/EC ratios in the ECtracer method. *Atmospheric Environment,* **39**, 1383-1392.

Chuang K.J., Coull B.A., Zanobetti A., Suh H., Schwartz J., Stone P.H., Litonjua A., Speizer F.E., and Gold D.R. (2008) Particulate air pollution as a risk factor for ST-segment depression in patients with coronary artery disease. *Circulation,* **118**, 1314-1320.

Chung C., Ramanathan V., Kim D., and Podgorny I. (2005) Global anthropogenic aerosol direct forcing derived from satellite and ground-based observations. *Journal of Geophysical Research,* **110**, D24207, doi: 10.1029/2005JD006356.

Chung C.E. and Zhang G.J. (2004) Impact of absorbing aerosol on precipitation: Dynamic aspects in association with convective available potential energy and convective parameterization closure and dependence on aerosol heating profile. *Journal of Geophysical Research,* **109**, D22103, doi: 10.1029/2004JD004726.

Chung S.H. and Seinfeld J.H. (2002) Global distribution and climate forcing of carbonaceous aerosols. *Journal of Geophysical Research,* **107**, D19.

Chung S.H. and Seinfeld J.H. (2005) Climate response of direct radiative forcing of anthropogenic black carbon. *Journal of Geophysical Research,* **110**, D11102, doi: 10.1029/2004JD005441.

Chylek P., Srivastava V., Cahenzli L., Pinnick R.G., Dod R.L., Novakov T., Cook T.L., and Hinds B.D. (1987) Aerosol and graphitic carbon content of snow. *Journal of Geophysical Research,* **92**, 9801-9809.

Chylek P., Johnson B., and Wu H. (1992) Black carbon concentration in a Greenland Dye-3 ice core. *Geophysical Research Letters,* **19**, 1951-1953.

Chylek P., Johnson B., Damiano P.A., Taylor K.C., and Clement P. (1995) Biomass Burning Record and Black Carbon in the GISP2 Ice Core. *Geophysical Research Letters,* **22**, 89-92, doi: 10.1029/94GL02841.

Chylek P., Kou L., Johnson B., Boudala F., and Lesins G. (1999) Black carbon concentrations in precipitation and near surface air in and near Halifax, Nova Scotia. *Atmospheric Environment,* **33**, 2269-2277.

Clark N., Demers P., Karr C., Koehoorn M., Lencar C., Tamburic L., and Brauer M. (2010) Effect of early life exposure to air pollution on development of childhood asthma. *Environmental Health Perspectives,* **118**, 2, 284-290, doi: 10.1289/ehp.0900916.

Clarke A.D. and Noone K.J. (1985) Soot in the Arctic snowpack: A cause for perturbations in radiative transfer. *Atmospheric Environment,* **19**, 2045-2053.

Clarke L., Edmonds J., Jacoby H., Pitcher H., Reilly J., and Richels R. (2007) Scenarios of greenhouse gas emissions and atmospheric concentrations, sub-report 2.1A. In *Synthesis and Assessment Product 2.1*, U.S. Climate Change Science Program and the Subcommittee on Global Change Research. Department of Energy, Office of Biological & Environmental Research, Washington, D.C., 154.

Cofala J., Amann M., Klimont Z., Kupiainen K., and Hoglund-Isaksson L. (2007) Scenarios of global anthropogenic emissions of air pollutants and methane until 2030. *Atmospheric Environment,* **41**, 8486-8499, doi: 10.1016/j.atmosenv.2007.07.010.

Cohen A.J., Anderson H.R., Ostro B., Pandey K.D., Krzyzanowski M., Kunzli N., K. G., Pope III C.A., Romieu I., Samet J.M., and Smith K.R. (2004) Urban air pollution. In *Comparative quantification of health risks: global and regional burden of disease due to selected major risk factors*, M. Ezzati, A.D. Lopez, A. Rodgers, and C.J.L. Murray, eds., World Health Organization, Geneva, 1353-1434.

Collaud Coen M., Weingartner E., Apituley A., Ceburnis D., Fierz-Schmidhauser R., Flentje H., Henzing J.S., Jennings S.G., Moerman M., Petzold A., Schmid O., and Baltensperger U. (2010) Minimizing light absorption measurement artifacts of the Aethalometer: evaluation of five correction algorithms. *Atmospheric Measurement Techniques,* **3**, 457-474, doi: 10.5194/amt-3-457-2010.

Cooke W.F. and Wilson J.J.N. (1996) A global black carbon aerosol model. *Journal of Geophysical Research,* **101**, D14, 19395-19409.

Cooke W.F., Liousse C., Cachier H., and Feichter J. (1999) Construction of a 1° × 1° fossil fuel emission data set for carbonaceous aerosol and implementation in the ECHAM4 model. *Journal of Geophysical Research,* **104**, 22,137-122,162 (D18), doi: 10.1029/1999JD900187

Coordinating Research Council (2008) Kansas City characterization study. Final Report prepared for the Environmental Protection Agency, Project E69. Based on EPA Contract Report (ERG No. 0133.18.007.001).

Corbett J.J., Lack D.A., Winebrake J.J., Harder S., Silberman J.A., and Gold M. (2010) Arctic shipping emissions inventories and future scenarios. *Atmospheric Chemistry and Physics,* **10**, 19, 9689, doi: 10.5194/acp-10-9689-2010.

Cross E.S., Onasch T.B., Ahern A., Wrobel W., Slowik J.G., Olfert J., Lack D.A., Massoli P., Cappa C.D., Schwarz J.P., Spackman J.R., Fahey D.W., Sedlacek A., Trimborn A., Jayne J.T., Freedman A., Williams L.R., Ng N.L., Mazzoleni C., Dubey M., Brem B., Kok G., Subramanian R., Freitag S., Clarke A., Thornhill D., Marr L.C., Kolb C.E., Worsnop D.R., and Davidovits P. (2010) Soot particle studies—instrument inter-comparison—project overview. *Aerosol Science and Technology,* **44**, 8, 592-611, doi: 10.1080/02786826.2010.482113.

Curry J.A. (1995) Interactions among aerosols, clouds, and climate of the Arctic Ocean. *Science of the Total Environment,* **160/161**, 777-791.

Daniel J.S., Solomon S., Sanford T.J., McFarland M., Fuglestvedt J., and Friedlingstein P. (2011) Limitations of single-basket trading: lessons from the Montreal Protocol for climate policy. *Climatic Change*, doi: 10.1007/s10584-011-0136-3.

DeBell L.J. (2006) Spatial and seasonal patterns and temporal variability of haze and its constituents in the United States. Report IV. IMPROVE report by Colorado State University, Fort Collins, CO, November. Available on the Internet at *http://vista.cira.colostate.edu/improve/publications/Reports/2006/PDF/IMPROVE_Report_IV.pdf*.

Delfino R.J., Staimer N., Gillen D., Tjoa T., Sioutas C., Fung K., George S.C., and Kleinman M.T. (2006) Personal and ambient air pollution is associated with increased exhaled nitric oxide in children with asthma. *Environmental Health Perspectives,* **114**, 1736-1743.

Delfino R.J., Staimer N., Tjoa T., Polidori A., Arhami M., Gillen D.L., Kleinman M.T., Vaziri N.D., Longhurst J., Zaldivar F., and Sioutas C. (2008) Circulating biomarkers of inflammation, antioxidant activity, and platelet activation are associated with primary combustion aerosols in subjects with coronary artery disease. *Environmental Health Perspectives,* **116**, 7, 898-906.

Delfino R.J., Staimer N., Tjoa T., Gillen D.L., Polidori A., Arhami M., Kleinman M.T., Vaziri N.D., Longhurst J., and Sioutas C. (2009) Air pollution exposures and circulating biomarkers of effect in a susceptible population: clues to potential causal component mixtures and mechanisms. *Environmental Health Perspectives,* **117**, 1232-1238.

Delfino R.J., Tjoa T., Gillen D.L., Staimer N., Polidori A., Arhami M., Jamner L., Sioutas C., and Longhurst J. (2010) Traffic-related air pollution and blood pressure in elderly subjects with coronary artery disease. *Epidemiology,* **21**, 3, 396-404, doi: 10.1097/EDE.0b013e3181d5e19b.

Delfino R.J., Gillen D.L., Tjoa T., Staimer N., Polidori A., Arhami M., Sioutas C., and Longhurst J. (2011) Electrocardiographic ST segment depression and exposure to traffic-related aerosols in elderly subjects with coronary artery disease. *Environmental Health Perspectives,* **119**, 2, 196-202.

Delucchi M.A. and Jacobson M.Z. (2011) Providing all global energy with wind, water, and solar power, Part II: reliability, system and transmission costs, and policies. *Energy Policy,* **39**, 3, 1170-1190.

Denman K.L., Brasseur G., Chidthaisong A., Ciais P., Cox P.M., Dickinson R.E., Hauglustaine D., Heinze C., Holland E., Jacob D., Lohmann U., Ramachandran S., Dias P.L.d.S., Wofsy S.C., and Zhang X. (2007) Couplings between changes in the climate system and biogeochemistry. In *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, S. Soloman, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller, eds., Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Derwent R.G., Ryall D.B., Jennings S.G., Spain T.G., and Simmonds P.G. (2001) Black Carbon Aerosol and Carbon Monoxide in European Regionally Polluted Air Masses at Mace Head, Ireland during 1995-1998. *Atmospheric Environment,* **35**, 6371-6378.

DeWinter J.L., Raffuse S.M., Larkin N.K., Strand T.T., Brown S.G., Craig K.J., and Roberts P.T. (2011) Mitigating the impact of prescribed burning in the continental United States using trends in synoptic scale transport to the Arctic region. *Air & Waste Management Association Greenhouse Gas Strategies in a Changing Climate, San Francisco, CA, November 16-17* (STI-4148). Available on the Internet at *http://events.awma.org/GHG2011/ghg2011.html*.

Dickerson R.R., Andreae M.O., Campos T., Mayol-Bracero O.L., Neususess C., and Streets D.G. (2002) Analysis of black carbon and carbon monoxide observed over the Indian Ocean: implications for emissions and photochemistry. *Journal of Geophysical Research,* **107**, D19, 8017, doi: 10.1029/2001JD000501.

Diesel Technology Forum (2006) Retrofitting America's diesel engines. *November.* Available on the Internet at *http://www.dieselforum.org/news-center/pdfs/Retrofitting-America-s-Diesel-Engines-11-2006.pdf/view*.

Diesel Technology Forum (2007) CMAQ funded diesel retrofit projects. *April*. Available on the Internet at *http://www.dieselforum.org/news-center/pdfs/CMAQ-web.pdf/view*.

Dillner A.M., Stein C., Larson S.M., and Hitzenberger R. (2001) Measuring the mass extinction efficiency of elemental carbon in rural aerosol. *Aerosol Science and Technology*, **35**, 6, 1009-1021.

Dockery D.W., Luttmann-Gibson H., Rich D.Q., Link M.S., Mittleman M.A., Gold D.R., Koutrakis P., Schwartz J.D., and Verrier R.L. (2005) Association of air pollution with increased incidence of ventricular tachyarrhythmias recorded by implanted cardioverter defibrillators. *Environmental Health Perspectives,* **113**, 670-674.

Doherty S.J., Warren S.G., Grenfell T.C., Clarke A.D., and Brandt R.E. (2010) Light-absorbing impurities in Arctic snow. *Atmospheric Chemistry and Physics,* **10**, 11647-11680.

Dopelheuer A. (2001) Quantities, characteristics and reduction potentials of aircraft engine emissions. By the Society of Automotive Engineers, Technical Paper 2001-01-3008.

Dubovik O. and King M.D. (2000) A flexible inversion algorithm for retrieval of aerosol optical properties from Sun and sky radiance measurements. *Journal of Geophysical Research,* **105**, 20673-20696.

Dubowsky S.D., Suh H., Schwartz J., Coull B.A., and Gold D.R. (2006) Diabetes, obesity, and hypertension may enhance associations between air pollution and markers of systemic inflammation. *Environmental Health Perspectives,* **114**, 992-998.

Dukan M. (2010) Mitigating industrial black carbon through energy recycling. *Climate Alert,* **20**, 2.

Dusek U., Frank G.P., Hildebrandt L., Curtius J., Schneider J., Walter S., Chand D., Drewnick F., Hings S., Jung D., Borrmann S., and Andreae M.O. (2006) Size matters more than chemistry for cloud-nucleating ability of aerosol particles. *Science,* **312**, 5778, 1375-1378.

Dwyer J.G., Norris J.R., and Ruckstuhl C. (2010) Do climate models reproduce observed solar dimming and brightening over China and Japan? *Journal of Geophysical Research,* **115**, D00k08, doi: 10.1029/2009JD012945.

ESMAP (2004) Toward cleaner urban air in South Asia: tackling transport pollution, understanding sources. Report by the World Bank Energy Sector Management Assistance Programme (ESMAP), ESMAP Report 281/04, March. Available on the Internet at *http://www.worldbank.org/sarubanair*.

Ezzati M., Rodgers A., Lopez A.D., Hoorn S.V., and Murray C.J.L. (2004) Mortality and burden of disease attributable to individual risk factors. In *Comparative Quantification of Health Risks: Global and Regional Burden of Disease Due to Selected Major Risk Factors*, M. Ezzati, A.D. Lopez, A. Rodgers, and C.J.L. Murray, eds., World Health Organization, Geneva, Switzerland, 2141-2166.

Falke S.R., Husar R.B., and Schichtel B.A. (2001) Fusion of SeaWiFS and TOMS satellite data with surface observations and topographic data during extreme aerosol events. *Journal of the Air & Waste Management Association,* **51**, 11, 1579-1585.

Fann N., Fulcher C., and Hubbell B. (2009) The influence of location, source, and emission type in estimates of the human health benefits of reducing a ton of air pollution. *Air Quality, Atmosphere & Health,* **2**, 3, 169-176, doi: 10.1007/s11869-009-0044-0.

Fann N., Lamson A.D., Anenberg S.C., Wesson K., Risley D., and Hubbell B.J. (2011) Estimating the national public health burden associated with exposure to ambient $PM_{2.5}$ and ozone. *Risk Analysis*, **32**, 1, 81-95, doi: 10.1111/j.1539-6924.2011.01630.x.

Fann N. and Risley D. (2011) The public health context for $PM_{2.5}$ and ozone air quality trends. *Air Quality, Atmosphere & Health,* **4**, 1-11, doi: 10.1007/s11869-010-0125-0.

Favez O., Alfaro S.C., Sciare J., Cachier H., and Abdelwahab M.M. (2009) Ambient measurements of light-absorption by agricultural waste burning organic aerosols. *Journal of Aerosol Science,* **40**, 7, 613-620.

Feingold G., Jiang H., and Harrington J.Y. (2005) On smoke suppression of clouds in Amazonia. *Geophysical Research Letters,* **32**, L02804, doi: 10.1029/2004GL021369.

Field C.B. (2007) Contribution of working group II to the fourth assessment report of the intergovernmental panel on climate change. In *Climate Change 2007: Impacts, Adaptation and Vulnerability*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson, eds., Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Flanner M.G., Zender C.S., Randerson J.T., and Rasch P.J. (2007) Present-day climate forcing and response from BC in snow. *Journal of Geophysical Research,* **112**, D11, doi: 10.1029/2006JD008003.

Flanner M.G., Zender C.S., Hess P.G., Mahowald N.M., Painter T.H., Ramanathan V., and Rasch P.J. (2009) Springtime warming and reduced snow cover from carbonaceous particles. *Atmospheric Chemistry and Physics,* **9**, 2481-2497.

Flanner M.G., Shell K.M., Barlage M., Perovich D.K., and Tschudi M.A. (2011) Radiative forcing and albedo feedback from the Northern Hemisphere cryosphere between 1979 and 2008. *Nature Geoscience*, **4**, 151-155, doi: 10.1038/ngeo1062.

Food and Agriculture Organization of the United Nations (2007) Fire management – global assessment 2006. Rome, Italy, FAO Forestry Paper 151.

Forster P., Ramaswamy V., Artaxo P., Berntsen T., Betts R., Fahey D.W., Haywood J., Lean J., Lowe D.C., Myhre G., Nganga J., Prinn R., Raga G., Schulz M., and R. Van Dorland (2007) Changes in atmospheric constituents and in radiative forcing. In *Climate Change 2007: the Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller, eds., Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Frank N. (2006) Carbon Measurements and Adjustments. Presented at Air Quality Data in Health Effects Research. Available on the Internet at *http://vista.cira.colostate.edu/improve/Publications/Workshops/Carbon_Jan2008/Carbon_Measurements_and_Adjustments_Frank.ppt*.

French H.W. (2007) Reports of forced labor at brick kilns unsettle China. *New York Times,* **June 16**.

Frenklach M. (2002) Reaction mechanism of soot formation in flames. *Physical Chemistry Chemical Physics,* **4**, 11, 2028-2037, doi: 10.1039/B110045A.

Fu Q. and Sun W. (2006) Apparent optical properties of spherical particles in absorbing medium. *Journal of Quantitative Spectroscopy and Radiative Transfer,* **100**, 1-3, 137-142, doi: 10.1016/j.jqsrt.2005.11.031.

Fuglestvedt J. (2009) Impacts of metric choice on analyzing climate effects of emissions. IPCC expert meeting on the science of alternative metrics, The Grand Hotel, Oslo, Norway, 18-20 March 2009, 75 pages, G.-K. Plattner, T.F. Stocker, P. Midgley, and M. Tignor, eds., IPCC Working Group I Technical Support Unit, University of Bern, Bern, Switzerland (ISBN 978-92-9169-126-5). Available on the Internet at *http://www.ipcc.ch/pdf/supporting-material/expert-meeting-metrics-oslo.pdf*.

Fuglestvedt J.S., Berntsen T.K., Godal O., Sausen R., Shine K.P., and Skodvin T. (2003) Metrics of climate change: assessing radiative forcing and emission indices. *Climatic Change,* **58**, 267-331.

Fuglestvedt J.S., Shine K.P., Berntsen T., Cook J., Lee D.S., Stenke A., Skeie R.B., Velders G.J.M., and Waitz I.A. (2010) Transport impacts on atmosphere and climate: metrics. *Atmospheric Environment,* **44**, 37, 4648-4677, doi: 10.1016/j.atmosenv.2009.04.044.

Fujino J., Nair R., Kainuma M., Masui T., and Matsuoka Y. (2006) Multi-gas mitigation analysis on stabilization scenarios using AIM global model. *The Energy Journal,* Special Issue Number 3: Multigas Mitigation and Climate Policy, 343-354.

Fujita E.M., Campbell D.E., Arnott W.P., Chow J.C., and Zielinska B. (2007) Evaluations of the chemical mass balance method for determining contributions of gasoline and diesel exhaust to ambient carbonaceous aerosols. *Journal of the Air & Waste Management Association,* **57**, 6, 721-740.

Fuller K.A., Malm W.C., and Kreidenweis S.M. (1999) Effects of mixing on extinction by carbonaceous particles. *Journal of Geophysical Research,* **104**, D13, 15941-15954, doi: 10.1029/1998jd100069.

Gaines L., Vyas A., and Anderson J. (2006) Estimation of fuel use by idling commercial trucks. Paper 06-2567: *85th Annual Meeting of the Transportation Research Board*, Washington, D.C.

Galbavy E.S., Anastasio C., Lefer B.L., and Hall S.R. (2007) Light penetration in the snowpack at Summit, Greenland: part 1, nitrite and hydrogen peroxide photolysis. *Atmospheric Environment,* **41**, 5077-5090.

Gan T.H., Hanhela P., Mazurek W., and Gillett R. (2010) Characteristics of submarine engine diesel particulates in the maritime environment. *Journal of Aerosol Science,* **41**, 1, 23-35, doi: 10.1016/j.jaerosci.2009.09.007.

Gan W., Koehoorn M., Davies H., Demers P., Tamburic L., and Brauer M. (2011) Long-term exposure to traffic-related air pollution and the risk of coronary heart disease hospitalization and mortality. *Environmental Health Perspectives,* **119**, 501-507 (4).

Garrett T.J., Zhao C., Dong X., Mace G.G., and Hobbs P.V. (2004) Effects of varying aerosol regimes on low-level Arctic stratus. *Geophysical Research Letters,* **31**, L17105 (17), doi: 10.1029/2004GL019928.

Gelencsér A. (2004) *Carbonaceous aerosol*, Springer, Dordrecht, The Netherlands.

Generoso S., Bey I., Attie J.-L., and Breon F.-M. (2007) A satellite- and model-based assessment of the 2003 Russian fires: Impact on the Arctic region. *Journal of Geophysical Research,* **112**, D15302, doi: 10.1029/2006JD008344.

Godleski J.J., Clarke R.W., Coull B.A., Saldiva P.H.N., Jiang N.F., Lawrence J., and Koutrakis P. (2002) Composition of inhaled urban air particles determines acute pulmonary responses. *The Annals of Occupational Hygiene,* **46**, 419-424.

Gold D.R., Litonjua A.A., Zanobetti A., Coull B.A., Schwartz J., MacCallum G., Verrier R.L., Nearing B.D., Canner M.J., Suh H., and Stone P.H. (2005) Air pollution and ST-segment depression in elderly subjects. *Environmental Health Perspectives,* **113**, 883-887.

Gomot-de Vaufleury A. and Kerhoas I. (2000) Effects of cadmium on the reproductive system of the land snail Helix aspersa. *Bulletin of Enviornmental Contamination and Toxicology,* **64**, 434-442.

Graber E.R. and Rudich Y. (2006) Atmospheric HULIS: how humic-like are they? A comprehensive and critical review. *Atmospheric Chemistry and Physics,* **6**, 729-753.

Graham S., Bailis R., Charron D. (2005) Household energy, indoor air pollution and health: overview of experiences and lessons in China. 1-108. Center for Entrepreneurship in International Health and Development, School of Public Health, University of California, Berkeley.

Grannas A.M., Shepson P.B., and Filley T.R. (2004) Photochemistry and nature of organic matter in Arctic and Antarctic snow. *Global Biogeochemical Cycles,* **18**, GB1006, doi: 10.1029/2003GB002133.

Gray H. (1986) Control of Atmospheric fine primary carbon particle concentrations. Available on the Internet at *http://resolver.caltech.edu/CaltechEQL:EQL-R-23*.

Grenfell T.C., Perovich D.K., and Ogren J.A. (1981) Spectral albedos of an alpine snow pack. *Cold Regions Science and Technology,* **4**, 121-127.

Grenfell T.C., Warren S.G., and Mullen P.C. (1994) Reflection of solar radiation by the Antarctic snow surface at ultraviolet, visible, and near-infrared wavelengths. *Journal of Geophysical Research,* **99**, 18669-18684.

Grenfell T.C., Light B., and Sturm M. (2002) Spatial distribution and radiative effects of BC in the snow and sea ice during the SHEBA experiment. *Journal of Geophysical Research,* **107**, C10, 8032.

Grieshop A.P., Reynolds C.C.O., Kandlikar M., and Dowlatabadi H. (2009) A black-carbon mitigation wedge. *Nature Geoscience,* **2**, 533-534, doi: 10.1038/ngeo595.

Griffin J.J. and Goldberg E.D. (1983) Impact of fossil fuel combustion on sediments of Lake Michigan: a reprise. *Environmental Science & Technology,* **17**, 244-245, doi: 10.1021/es00110a013.

Guan H., Esswein R., Lopez J., Bergstrom R., A. Warnock, Follette-Cook M., Fromm M., and Iraci L.T. (2010) A multi-decadal history of biomass burning plume heights identified using aerosol index measurements. *Atmospheric Chemistry and Physics,* **10**, 6461-6469, doi:10.5194/acp-10-6461-2010.

Gundel L.A., R.L. D., Rosen H., and Novakov T. (1984) The relationship between optical attenuation and black carbon concentration for ambient and source particles. *The Science of the Total Environment,* **36**, 197-202.

Gupta J. (2003) Informal labour in brick kilns: need for regulation. *Economic and Political Weekly,* **38**, 31, 3282-3292.

Hadley O., Ramanathan V., Carmichael G.R., Tang Y., Corrigan C.E., Roberts G.C., and Mauger G.S. (2007) Trans-Pacific transport of black carbon and fine aerosol (d < 2.5 mm) into North America. *Journal of Geophysical Research,* **112**, D05309, doi: 10.1029/2006JD007632.

Hadley O.L., Corrigan C.E., Kirchstetter T.W., Cliff S.S., and Ramanathan V. (2010) Measured black carbon deposition on the Sierra Nevada snow pack and implication for snow pack retreat, *Atmospheric Chemistry and Physics*, **10**, 7505-7513, doi: 10.5194/acp-10-7505-2010.

Hagler G.S.W., Bergin M.H., Smith E.A., and Dibb J.E. (2007a) A summer time series of particulate carbon in the air and snow at Summit, Greenland. *Journal of Geophysical Research,* **112**, D21309, doi: 10.1029/2007JD008993.

Hagler G.S.W., Bergin M.H., Smith E.A., Dibb J.E., Anderson C., and Steig E.J. (2007b) Particulate and water-soluble carbon measured in recent snow at Summit, Greenland. *Geophysical Research Letters,* **34**, L16505, doi: 10.1029/2007GL030110.

Hamilton R.S. and Mansfield T.A. (1991) Airborne particulate elemental carbon: its sources, transport and contribution to dark smoke and soiling. *Atmospheric Environment,* **25**, 715-723.

Hammer C.U., Clausen H.B., Dansgaard W., Gundestrup N., Johnsen S.J., and Reeh N. (1978) Dating of Greenland ice cores by flow models, isotopes, volcanic debris, and continental dust. *Journal of Glaciology,* **20**, 82, 3-26.

Hand J.L., Copeland S.A., Day D.E., Dillner A.M., Indresand H., Malm W.C., McDade C.E., Moore Jr. C.T.T., Pitchford M.L., Schichtel B.A., and Watson J.G. (2011) Spatial and seasonal patterns and temporal variability of haze and its constituents in the United States. Report V: interagency monitoring of protected visual environments. IMPROVE report by Colorado State University, Fort Collins, CO, June. Available on the Internet at *http://vista.cira.colostate.edu/improve/publications/Reports/2011/PDF/Cover_TOC.pdf*.

Hanna E., Huybrechts P., Janssens I., Cappelen J., Steffen K., and Stephens A. (2005) Runoff and mass balance of the Greenland ice sheet: 1958-2003. *Journal of Geophysical Research,* **110**, D13108, doi: 10.1029/2004JD005641.

Hansen A.D.A., Rosen H., and Novakov T. (1982) Real-time measurement of the absorption coefficient of aerosol particles. *Applied Optics,* **21**, 3060–3062.

Hansen J. and Nazarenko L. (2004) Soot climate forcing via snow and ice albedos. *Proceedings of the National Academy of Sciences,* **101**, 423-428, doi: 10.1073/pnas.2237157100.

Hansen J., Sato M., Ruedy R., and others (2005) Efficacy of climate forcings. *Journal of Geophysical Research,* **110**, D18104, doi: 10.1029/2005JD005776.

Hansen J., Sato M., Kharecha P., Russell G., Lea D.W., and Siddall M. (2007a) Climate change and trace gases. *Philosophical Transactions of the Royal Society A,* **365** (1856), 1925-1954, doi: 10.1098/rsta.2007.2052.

Hansen J., Sato M., Ruedy R., Kharecha P., Lacis A., Miller R., Nazarenko L., Lo K., Schmidt G.A., Russell G., Aleinov I., Bauer S., Baum E., Cairns B., Canuto V., Chandler M., Cheng Y., Cohen A., Del Genio A., Faluvegi G., Fleming E., Friend A., Hall T., Jackman C., Jonas J., Kelley M., Kiang N.Y., Koch D., Labow G., Lerner J., Menon S., Novakov T., Oinas V., Perlwitz J., Perlwitz J., Rind D., Romanou A., Schmunk R., Shindell D., Stone P., Sun S., Streets D., Tausnev N., Thresher D., Unger N., Yao M., and Zhang S. (2007b) Climate simulations for 1880-2003 with GISS modelE. *Climate Dynamics,* **29**, 661–696.

Hansen J., Sato M., Kharecha P., and von Schuckmann K. (2011) Earth's energy imbalance and implications. *Atmospheric Chemistry and Physics,* **11**, 13421-13449, doi: 10.5194/acp-11-13421-2011.

Haynie F.H. (1986) Environmental factors affecting corrosion of weathering steel. In *Materials Degradation Caused by Acid Rain: Developed from the 20th State-of-the-Art Symposium of the American Chemical Society, June 1985, Arlington, VA.*, ACS symposium series 318, 163-171, R. Baboian, ed., American Chemical Society, Washington, D.C.

Hays M.D., Smith N.D., Kinsey J.S., Dong Y., and Kariher P. (2003) A polycyclic aromatic hydrocarbon (PAH) size distributions in aerosols from appliances of residential wood combustion as determined by direct thermal desorption. *Journal of Aerosol Science,* **34**, 1061-1084.

Health Effects Institute (2010) Traffic-related air pollution: a critical review of the literature on emissions, exposure, and health effects. Special report, 17, available on the Internet at *http://pubs.healtheffects.org/view.php?id=334*.

Hecobian A., Zhang X., Zheng M., Frank N., Edgerton E.S., and Weber R.J. (2010) Water-soluble organic aerosol material and the light-absorption characteristics of aqueous extracts measured over the Southeastern United States. *Atmospheric Chemistry and Physics,* **10**, 5965–5977, doi: 10.5194/acp-10-5965-2010.

Hedman B., Naslund M., and Marklund S. (2006) Emission of PCDD/F, PCB, and HCB from combustion of firewood and pellets in residential stoves and boilers. *Environmental Science & Technology,* **40**, 4968-4975.

Hegerl G.C., Zwiers F.W., Braconnot P., Gillett N.P., Luo Y., Orsini J.A.M., Nicholls N., Penner J.E., and Stott P.A. (2007) Understanding and attributing climate change. In *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller, eds., Cambridge University Press, Cambridge, United Kingdom and New York, New York, USA.

Hegg D.A., Warren S.G., Grenfell T.C., Doherty S.J., Larson T.V., and Clarke A.D. (2009) Source attribution of black carbon in arctic snow. *Environmental Science & Technology,* 43, 4016–4021.

Hegg D.A., Warren S.G., Grenfell T.C., Doherty S.J., and Clarke A.D. (2010) Sources of light-absorbing aerosol in arctic snow and their seasonal variation. *Atmospheric Chemistry and Physics,* **10**, 10923–10938, doi: 10.5194/acp-10-10923-2010.

Heierli U. and Maithel S. (2008) Brick by brick: the herculean task of cleaning up the Asian brick industry. Swiss Agency for Development and Cooperation, February. Available on the Internet at *http://www.poverty.ch/documents/brick.pdf*.

Hijioka Y., Matsuoka Y., Nishimoto H., Masui M., and Kainuma M. (2008) Global GHG emissions scenarios under GHG concentration stabilization targets. *Journal of Global Environmental Engineering,* **13**, 97-108.

Hinckley J. and Doshi K. (2010) Emission controls for wood-fired boilers. Prepared by the U.S. Forest Service Biomass Energy Resource Center, Montpelier, VT, May.

Hirdman D., Burkhart J.F., Sodemann H., Eckhardt S., Jefferson A., Quinn P.K., Sharma S., Strom J., and Stohl A. (2010) Long-term trends of black carbon and sulphate aerosol in the Arctic: changes in atmospheric transport and source region emissions. *Atmospheric Chemistry and Physics,* **10**, 9351-9368, doi: 10.5194/acp-10-9351-2010.

Hitzenberger R., Petzold A., Bauer H., Ctyroky P., Pouresmaeil P., Laskus L., and Puxbaum H. (2006) Intercomparison of thermal and optical measurement methods for elemental carbon and black carbon at an urban location. *Environmental Science & Technology,* **40**, 20, 6377-6383.

Holben B.N., Eck T.F., Slutsker I., Tanre D., Buis J.P., Setzer A., Vermote E., Reagan J.A., Kaufman Y.J., Nakjima T., Lavenu F., Jankowiak I., and Smirnov A. (1998) AERONET – A federated instrument network and data archive for aerosol characterization. *Remote Sensing of the Environment,* **66**, 1-16.

Holguin F. (2008) Traffic, outdoor air pollution, and asthma. *Immunology and Allergy Clinics of North America,* **28**, 3, 577-588, doi: 10.1016/j.iac.2008.03.008.

Holland M., Bitz C., Tremblay B., and Bailey D. (2008): The role of natural versus forced change in future rapid summer Arctic ice loss. In *Arctic Sea Ice Decline: Observations, Projections, Mechanisms, and Implications*, E. DeWeaver, C. Bitz, and L.-B. Tremblay (eds). *Geophysical Monograph Series*, **180**, American Geophysical Union, 133-150.

Hopke P.K., Ito K., Mar T., Christensen W.F., Eatough D.J., Henry R.C., Kim E., Laden F., Lall R., Larson T.V., Liu H., Neas L., Pinto J., Stolzel M., Suh H., Paatero P., and Thurston G.D. (2006) PM source apportionment and health effects: 1. Intercomparison of source apportionment results. *Journal of Exposure Science and Environemntal Epidemiology,* **16**, 3, 275-286, doi: 10.1038/sj.jea.7500458.

Hordijk L., Foell W., and Shah J. (1995) RAINS-ASIA: An Assessment Model For Acid Deposition In Asia. Available on the Internet at *http://www.iiasa.ac.at/~rains/asia1/chapter1.pdf*.

Horvath H. (1993) Atmospheric light absorption: a review. *Atmospheric Environment,* **27A**, 3, 293-317, doi: 10.1016/0960-1686(93)90104-7.

Hough M.L. (1988) Oregon approach to reducing residential woodsmoke as part of the PM_{10} strategy. In *Transactions, PM_{10}: Implementation of Standards*, C.V. Mathai and D.H. Stonefield, eds., Air Pollution Control Association, Pittsburgh, PA, 654-663.

Huang J., Fu Q., Zhang W., Wang X., Zhang R., Ye H., and Warren S. (2011) Dust and black carbon in seasonal snow across northern China. *Bulletin of the American Meteorological Society,* **92**, 175-181.

Huang Y.-C.T., Ghio A.J., Stonehuerner J., McGee J., Carter J.D., Grambow S.C., and Devlin R.B. (2003) The role of soluble components in ambient fine particles-induced changes in human lungs and blood. *Inhalation Toxicology,* **15**, 327-342.

Hubbell B.J., Fann N., and Levy J.I. (2009) Methodological considerations in developing local-scale health impact assessments: Balancing national, regional and local data. *Air Quality, Atmosphere, and Health,* **2**, 99-110.

Huffman G.P., Huggins F.E., Shah N., Huggins R., Linak W.P., Miller C.A., Pugmire R.J., Meuzelaar H.L.C., Seehra M.S., and Manivannan A. (2000) Characterization of Fine Particulate Matter Produced by Combustion of Residual Fuel Oil. *Journal of the Air and Waste Management Association,* **50**, 1106-1114.

Huntzicker J.J., Johnson R.L., Shah J.J., and Cary R.A. (1982) Analysis of organic and elemental carbon in ambient aerosols by a thermal-optical method. In *Particulate Carbon: Atmospheric Life Cycle*, G.T. Wolff and R.L. Klimisch, eds., Plenum Press, New York, New York, 79-88.

Husain L., Dutkiewicz V.A., Khan A.J., and Ghauri B.M. (2007) Characterization of carbonaceous aerosols in urban air. *Atmospheric Environment,* **41**, 6872–6883.

Husain L., Khan A.J., Ahmed T., Swami K., Bari A., Webber J.S., and Li J. (2008) Trends in atmospheric elemental carbon concentrations from 1835 to 2005. *Journal of Geophysical Research,* **113**, D13102, doi: 10.1029/2007JD009398.

Husar R.B. (2011) Satellite measurements of atmospheric aerosols. In *Aerosol Measurement: Principles, Techniques, and Applications*, Third Edition, P. Kulkarni, P. A. Baron and K. Willeke eds., John Wiley & Sons, Inc., Hoboken, NJ, doi: 10.1002/9781118001684.ch30.

International Energy Agency (2009) *World energy outlook 2009*, International Energy Agency (ISBN: 978-92-64-06130-9).

International Energy Agency (2010) Energy poverty: how to make modern energy access universal. Special early excerpt of the *World energy outlook 2010*, International Energy Agency (ISBN 978-92-64-08624-1). Available on the Internet at *http://www.worldenergyoutlook.org/docs/weo2010/weo2010_poverty.pdf*.

IPCC (2007) *Climate change 2007: the physical science basis, contribution of working group I to the fourth assessment report of the Intergovernmental Panel on Climate Change*, S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller, eds., Cambridge University Press, Cambridge United Kingdom and New York, NY, USA, 996.

IPCC (2009) Meeting report of the expert meeting on the science of alternative metrics. 75 pages, G.-K. Plattner, T.F. Stocker, P. Midgley, and M. Tignor, eds., IPCC Working Group I Technical Support Unit, University of Bern, Bern, Switzerland (ISBN 978-92-9169-126-5). Available on the Internet at *http://www.ipcc.ch/pdf/supporting-material/expert-meeting-metrics-oslo.pdf*

Isaksen I.S.A., Granier C., Myhre G., Berntsen T.K., Dalsoren S.B., Gauss M., Klimont Z., Benestad R., Bousquet P., Collins W., Cox T., Eyring V., Fowler D., Fuzzi S., Jockel P., Laj P., Lohmann U., Maione M., Monks P., Prevot A.S.H., Raes F., Richter A., Rognerud B., Schulz M., Shindell D., Stevenson D.S., Storelvmo T., Wang W.-C., van Weele M., Wild M., and Wuebbles D. (2009) Atmospheric composition change: climate-chemistry interactions. *Atmospheric Environment,* **43**, 5138-5192.

Ito A. and Penner J.E. (2005) Historical emissions of carbonaceous aerosols from biomass and fossil fuel burning for the period 1870-2000. *Global Biogeochemical Cycles,* **19**, GB2028 (2), doi: 10.1029/2004GB002374.

Ito K., Christensen W.F., Eatough D.J., Henry R.C., Kim E., Laden F., Lall R., Larson T.V., Neas L., Hopke P.K., and Thurston G.D. (2006) PM source apportionment and health effects: 2. An investigation of intermethod variability in associations between source-apportioned fine particle mass and daily mortality in Washington, DC. *Journal of Exposure Science and Environemntal Epidemiology,* **16**, 4, 300-310, doi: 10.1038/sj.jea.7500464.

Ito K., Mathes R., Ross Z., Nádas A., Thurston G., and Matte T. (2011) Fine particulate matter constituents associated with cardiovascular hospitalizations and mortality in New York City. *Environmental Health Perspectives,* **119**, 4, 467-473, doi: 10.1289.ehp.1002667.

Jackson S.C. (2009) Parallel pursuit of near-term and long-term climate mitigation. *Science,* **326**, 5952, 526-527, doi: 10.1126/science.1177042.

Jacobson M.Z. (1999) Isolating nitrated and aromatic aerosols and nitrated aromatic gases as sources of ultraviolet light absorption. *Journal of Geophysical Research,* **104**, D3, 3527-3542, doi: 10.1029/1998jd100054.

Jacobson M.Z. (2000) A physically-based treatment of elemental carbon optics: Implications for global direct forcing of aerosols. *Geophysical Research Letters,* **27**, 217-220.

Jacobson M.Z. (2001) Strong radiative heating due to the mixing state of BC in atmospheric aerosols. *Nature,* **409**, 695-697.

Jacobson M.Z. (2002) Control of fossil-fuel particulate black carbon and organic matter, possibly the most effective method of slowing global warming. *Journal of Geophysical Research,* **107**, 4410, doi: 10.1029/2001jd001376.

Jacobson M.Z. (2005) Correction to "control of fossil-fuel particulate BC and organic matter, possibly the most effective method of slowing global warming." *Journal of Geophysical Research,* **110**, D14105, doi: 10.1029/2005JD005888.

Jacobson M.Z. (2006) Effects of absorption by soot inclusions within clouds and precipitation on global climate. *Journal of Physical Chemistry,* **110**, 6860-6873.

Jacobson M.Z. (2007) Testimony for the hearing on Black Carbon and Climate Change. U.S. House Committee on Oversight and Government Reform [Cited October 18]. Available on the Internet at *http://oversight.house.gov/images/stories/documents/20071018110606.pdf*.

Jacobson M.Z. and Streets D.G. (2009) Influence of future anthropogenic emissions on climate, natural emissions, and air quality. *Journal of Geophysical Research,* **114**, D8, D08118, doi: 10.1029/2008jd011476.

Jacobson M.Z. (2010) Short-term effects of controlling fossil-fuel soot, biofuel soot and gases, and methane on climate, Arctic ice, and air pollution health. *Journal of Geophysical Research,* **115**, D14209.

Jacobson M.Z. and Delucchi M.A. (2011) Providing all global energy with wind, water, and solar power, Part I: Technologies, energy resources, quantities and areas of infrastructure, and materials. *Energy Policy,* **39**, 3, 1154-1169, doi: 10.1016/j.enpol.2010.11.040.

Jansen K.L., Larson T.V., Koenig J.Q., Mar T.F., Fields C., Stewart J., and Lippmann M. (2005) Associations between health effects and particulate matter and black carbon in subjects with respiratory disease. *Environmental Health Perspectives,* **113**, 1741-1746.

Janssen N.A.H., Hoek G., Simic-Lawson M., Fischer P., van Bree L., ten Brink H., Keuken M., Atkinson R.W., Anderson H.R., Brunekreef B., and Cassee F.R. (2011) Black carbon as an additional indicator of the adverse health effects of airborne particles compared with PM_{10} and $PM_{2.5}$. *Environmental Health Perspectives,* **119**, 1691-1699.

Japar S.M. and Szkarlat A.C. (1980) Measurement of diesel vehicle exhaust particulate using photoacoustic spectroscopy. *Combustion Science and Technology,* **24**, 5-6, 215-219, doi: 10.1080/00102208008952440.

Japar S.M., Szkarlat A.C., and Pierson W.R. (1984) The determination of the optical properties of airborne particle emissions from diesel vehicles. *Science of the Total Environment,* **36**, 121-130.

Jeong C.-H., Hopke P.K., Kim E., and Lee D.-W. (2004) The comparison between thermal-optical transmittance elemental carbon and Aethalometer black carbon measured at multiple monitoring sites. *Atmospheric Environment,* **38**, 31, 5193-5204.

Jeong G.-R. and Wang C. (2010) Climate effects of seasonally varying biomass burning emitted carbonaceous aerosols. *Atmospheric Chemistry and Physics,* **10**, 8373-8389, doi:10.5194/acp-10-8373-2010.

Jerrett M., Burnett R.T., Pope C.A., Ito K., Thurston G., Krewski D., Shi Y., Calle E., and Thun M. (2009) Long-term ozone exposure and mortality. *New England Journal of Medicine,* **360**, 11, 1085-1095, doi: 10.1056/NEJMoa0803894.

Jetter J. and Kariher P. (2008) Solid-fuel household cook stoves: Characterization of performance and emissions. *Biomass and Bioenergy,* **33**, 2, 294-305.

Jimenez J.L., Canagaratna M.R., Donahue N.M., Prevot A.S.H., Zhang Q., Kroll J.H., DeCarlo P.F., Allan J.D., Coe H., Ng N.L., Aiken A.C., Docherty K.D., Ulbrich I.M., Grieshop A.P., Robinson A.L., Duplissy J., Smith J. D., Wilson K.R., Lanz V.A., Hueglin C., Sun Y.L., Tian J., Laaksonen A., Raatikainen T., Rautiainen J., Vaattovaara P., Ehn M., Kulmala M., Tomlinson J.M., Collins D.R., Cubison M.J., Dunlea E.J., Huffman J.A., Onasch T.B., Alfarra M.R., Williams P.I., Bower K., Kondo Y., Schneider J., Drewnick F., Borrmann S., Weimer S., Demerjian K., Salcedo D., Cottrell L., Griffin R., Takami A., Miyoshi T., Hatakeyama S., Shimono A., Sun J.Y, Zhang Y.M., Dzepina K., Kimmel J.R., Sueper D., Jayne J.T., Herndon S.C., Trimborn A.M., Williams L.R., Wood E.C., Kolb C.E., Middlebrook A.M., Baltensperger U., and Worsnop D.R. (2009) Evolution of organic aerosols in the atmosphere, *Science*, **326**, 1525-1529, doi: 10.1126/science.1180353.

Jimenez J., Claiborn C., Larson T., Gould T., Kirchstetter T.W., and Gundel L. (2007) Loading effect correction for real-time aethalometer measurements of fresh diesel soot. *Journal of Air and Waste Management,* **57**, 868-873, doi: 10.3155/1047-289.57.7.868.

Johnson M., Edwards R., Frenk C.A., and Masera O. (2007) In-field greenhouse gas emissions from cook stoves in rural Mexican households. *Atmospheric Environment,* **42**, 6, 1206-1222, doi: 10.1016/j.atmosenv.2007.10.034.

Junker C. and Liousse C. (2008) A global emission inventory of carbonaceous aerosol from historic records of fossil fuel and biofuel consumption for the period 1860-1997. *Atmospheric Chemistry and Physics,* **8**, 1195-1207.

Kahn R.A., Garay M.J., Nelson D.L., Yau K.K., Bull M.A., Gaitley B.J., Martonchik J.V., and Levy R.C. (2007) Satellite-derived aerosol optical depth over dark water from MISR and MODIS: comparisons with AERONET and implications for climatological studies. *Journal of Geophysical Research,* **112**, D18205, doi: 10.1029/2006JD008175.

Kahn R.A., Nelson D.L., Garay M., Levy R.C., Bull M.A., Diner D.J., Martonchik J.V., Paradise S.R., Hansen E.G., and Remer L.A. (2009) MISR aerosol product attributes, and statistical comparisons with MODIS. *IEEE Transactions on Geoscience and Remote Sensing*, **47**, 12, 4095-4114, doi: 10.1109/TGRS.2009.2023115.

Kahn R.A., Gaitley B.J., Garay M.J., Diner D.J., Eck T., Smirnov A., and Holben B.N. (2010) Multiangle Imaging SpectroRadiometer global aerosol product assessment by comparison with the Aerosol Robotic Network, *Journal of Geophysical Research*, **115**, D23209, doi: 10.1029/2010JD014601.

Kandlikar M., Reynolds C.C.O., and Grieshop A.P. (2009): A perspective paper on black carbon mitigation as a response to climate change. Copenhagen Consensus on Climate.

Kannari A., Streets D.G., Tonooka Y., Murano K., and Baba T. (2008) MICS-Asia II: an inter-comparison study of emission inventories for the Japan Region. *Atmospheric Environment,* **42**, 15, 3584-3591.

Kar A., Rehman I.H., Burney J., Praveen P.S., Suresh R., Singh L., Singh V.K., Ahmed T., Ramanathan N., and Ramanathan V. (2012) Real-time assessment of black carbon pollution in Indian households due to traditional and improved biomass cookstoves. *Environmental Science and Technology* (in press).

Kaspari S.D., Schwikowski M., Gysel M., Flanner M.G., Kang S., Hou S., and Mayewski P.A. (2011) Recent increase in black carbon concentrations from a Mt. Everest ice core spanning 1860–2000 AD. *Geophysical Research Letters,* **38**, L04703, doi: 10.1029/2010GL046096.

Kaufman Y.J., Tanre D., Dubovik O., Karnieli A., and Remer L.A. (2001) Absorption of sunlight by dust as inferred from satellite and groundbased remote sensing. *Geophysical Research Letters,* **28**, 1479-1482.

Kazadzis S., Bais A., Arola A., Krotkov N., Kouremeti N., and Meleti C. (2009) Ozone monitoring instrument spectral UV irradiance products:comparison with ground based measurements at an urban environment. *Atmospheric Chemistry and Physics,* **9**, 585-594, doi: 10.5194/acp-9-585-2009.

Khalek I.A., Bougher T.L., and Merritt P.M. (2009) Coordinating Research Council, Advanced Collaborative Emissions Study, Phase 1.

Kim J.J., Smorodinsky S., Lipsett M., Singer B.C., Hodgson A.T., and Ostro B. (2004) Traffic-related air pollution near busy roads: the East Bay children's Respiratory Health Study. *American Journal of Respiratory and Critical Care Medicine,* **170**, 520-526.

Kim Y., Hatsushika H., Muskett R.R., and Yamazaki K. (2005) Possible effect of boreal wildfire soot on Arctic sea ice and Alaska glaciers. *Atmospheric Environment,* **39**, 3513-3520.

Kinsey J. and Wayson R.L. (2007) EPAct PM Methodology Discussion Paper.

Kinsey J.S., Hays M.D., Dong Y., Williams D.C., and Logan R. (2011) Chemical characterization of the fine particle emissions from commercial aircraft engines during the Aircraft Particle Emissions eXperiment (APEX) 1 to 3. Environmental Science and Technology, **45** (8), 3415–3421, doi: 10.1021/es103880d.

Kiraz K., Kart L., Demir R., Oymak S., Gulmez I., Unalacak M., and Ozesmi M. (2003) Chronic pulmonary disease in rural women exposed to biomass fumes. *Clinical and Investigative Medicine,* **26**, 5, 243-248.

Kirchstetter T.W., Aguiar J., Tonse S., and Novakov T. (2008) Black carbon concentrations and diesel vehicle emission factors derived from coefficient of haze measurements in California: 1967-2003. Prepared by Lawrence Berkeley National Laboratory, Berkeley, CA, LBNL Paper LBNL-63493.

Klimont Z., Cofala J., Bertok I., Amann M., Heyes C., and Gyarfas F. (2002) Modelling Particulate reductions in Europe: A framework to estimate reduction potential and control costs. Interim Rep., IR-02-076.

Klouda G.A., Filliben J.J., Parish H.J., Chow J.C., Watson J.G., and Cary R.A. (2005) Reference Material 8785: Air particulate matter on filter media. *Aerosol Science and Technology,* **39**, 173-183.

Knox A., Evans G.J., Brook J.R., Yao X., Jeong C.H., Godri K.J., Sabaliauskas K., and Slowik J.G. (2009) Mass absorption cross section of ambient black carbon aerosol in relation to chemical age. *Aerosol Science and Technology,* **43**, 6, 522-532, doi: 10.1080/02786820902777207.

Koch D., Bond T.C., Streets D., and Unger N. (2007a) Linking future aerosol radiative forcing to shifts in source activities. *Geophysical Research Letters,* **34**, L05821, doi: 10.1029/2006GL028360, 2007.

Koch D., Bond T.C., Streets D., Unger N., and van der Werf G.R. (2007b) Global impacts of aerosols from particular source regions and sectors. *Journal of Geophysical Research,* **112**, D02205.

Koch D., Schulz M., Kinne S., McNaughton C., Spackman J.R., Balkanski Y., Bauer S., Berntsen T., Bond T.C., Boucher O., Chin M., Clarke A., Luca N.D., Dentener F., Diehl T., Dubovik O., Easter R., Fahey D.W., Feichter J., Fillmore D., Freitag S., Ghan S., Ginoux P., Gong S., Horowitz L., Iversen T., Kirkev°ag A., Klimont Z., Kondo Y., Krol M., Liu X., Miller R., Montanaro V., Moteki N., Myhre G., Penner J.E., Perlwitz J., Pitari G., Reddy S., Sahu L., Sakamoto H., Schuster G., Schwarz J.P., Seland Ø., Stier P., Takegawa N., Takemura T., Textor C., Aardenne J.A.v., and Zhao Y. (2009) Evaluation of black carbon estimations in global aerosol models. *Atmospheric Chemistry and Physics,* **9**, 9001-9026, doi: 10.5194/acp-9-9001-2009.

Koch D. and Del Genio A.D. (2010) Black carbon semi-direct effects on cloud cover: review and synthesis. *Atmospheric Chemistry and Physics*, **10**, 7685-7696, doi: 10.5194/acp-10-7685-2010.

Kopacz M., Mauzerall D.L., Leibensperger E.M., Wang J., Henze D.K., and Singh K. (2011) Origin and radiative forcing of black carbon transported to the Himalayas and Tibetan Plateau, *Atmospheric Chemistry and Physics*, **11**, 2837-2852, doi: 10.5194/acp-11-2837-2011.

Kopp R.E. and Mauzerall D.L. (2010) Assessing the climatic benefits of BC mitigation. *Proceedings of the National Academy of Sciences,* **107**, 26, 11703-11708.

Koren I., Martins J.V., Remer L.A., and Afargan H. (2008) Smoke invigoration versus inhibition of clouds over the Amazon. *Science,* **321**, 946-949.

Kozlowski T. and Keller. T. (1966) Food relations of woody plants. *The Botanical Review,* **32**, 293-382.

Kralovec A.C., Christensen E.R., and Van Camp R.P. (2002) Fossil and wood combustion as recorded by carbon particles in Lake Erie sediments 1850-1998. *Environmental Science & Technology,* **36**, 1405-1413.

Krewski D., Jerrett M., Burnett R.T., Ma R., Hughes E., Shi Y., Turner M.C., Pope III C.A., Thurston G., Calle E.E., Thun M.J., Beckerman B., DeLuca P., Finkelstein N., Ito K., Moore D.K., Newbold K.B., Ramsay T., Ross Z., Shin H., and Tempalski B. (2009) Extended follow-up and spatial analysis of the American Cancer Society study linking particulate air pollution and mortality. *Research Report/Health Effects Institute,* **140**, 5-114; discussion 115-136.

Krylov I.F., Emel'yanov V.E., Nikitina E.A., Vizhgorodskii B.N., and Rudyak K.B. (2005) Low-sulfur diesel fuels: pluses and minuses. *Chemistry and Technology of Fuels and Oils,* **41**, 6, 423-428, doi: 10.1007/s10553-006-0001-7 .

Kucera T., Horakova H., and Sonska A. (2008) Toxic metal ions in photoautotrophic organisms. *Photosynthetica,* **46**, 481-489.

Kuki K., Oliva M., and Pereira E. (2008) Iron ore industry emissions as potential ecological risk factor for tropical coastal vegetation. *Environmental Management,* **42**, 1, 111-121, doi: 10.1007/s00267-008-9093-7.

Kukla G.J. and Kukla H.J. (1974) Increased surface albedo in the northern hemisphere. *Science,* **183**, 709-714.

Kupiainen K. and Klimont Z. (2007) Primary Emissions of Submicron and Carbonaceous Particles in Europe and the Potential for their Control. IIASA Interim Report. Available on the Internet at *http://www.iiasa.ac.at/rains/reports/ir-04-079.pdf*.

Lack D.A., Corbett J.J., Onasch T., Lerner B., Massoli P., Quinn P.K., Bates T.S., Covert D.S., Coffman D., Sierau B., Herndon S., Allan J., Baynard T., Lovejoy E., Ravishankara A.R., and Williams E. (2009) Particulate emissions from commercial shipping: Chemical, physical, and optical properties. *Journal of Geophysical Research,* **114**, D00F04, doi: 10.1029/2008jd011300.

Lack D.A. and Cappa C.D. (2010) Impact of brown and clear carbon on light absorption enhancement, single scattering albedo and absorption wavelength dependence of black carbon. *Atmospheric Chemistry and Physics,* **10**, 4207-4220, doi: 10.5194/acp-10-4207-2010.

Laden F., Schwartz J., Speizer F.E., and Dockery D.W. (2006) Reduction in fine particulate air pollution and mortality: Extended follow-up of the Harvard Six Cities Study. *American Journal of Respiratory and Critical Care Medicine,* **173**, 667-672.

Laird D. (2008) The charcoal vision: A win-win-win scenario for simultaneously producing bioenergy, permanently sequestering carbon, while improving soil and water quality. *Agronomy Journal* **100**, 178-181.

Lamarque J.-F., Bond T.C., Eyring V., Granier C., Heil A., Klimont Z., Lee D., Liousse C., Mieville A., Owen B., Schultz M.G., Shindell D., Smith S.J., Stehfest E., Aardenne J.V., Cooper O.R., Kainuma M., Mahowald N., McConnell J.R., Naik V., Rishi K., and Vuuren D.P.v. (2010) Historical (1850-2000) gridded anthropogenic and biomass burning emissions of reactive gases and aerosols: methodology and application. *Atmospheric Chemistry and Physics,* **10**, 7017-7039.

Larkin N.K., O'Neill S.M., Solomon R., Raffuse S., Strand T.M., Sullivan D.C., Krull C., Rorig M., Peterson J., and Ferguson S.A. (2009) The BlueSky smoke modeling framework. *International Journal of Wildland Fire,* **18**, 8, 906-920 (STI-3784), doi: 10.1071/WF07086.

Larkin N.K., Strand T., Raffuse S., Drury S., Sullivan D., Wheeler N., and Chinkin L. (2010) Developing an improved wildland fire emissions inventory. *19th International Emissions Inventory Conference*, San Antonio, Texas, USA, 27-30 September.

Larkin N.K., Brown S., Craig K., DeWinter J., Raffuse S., Strand T., Roberts P., and Solomon R. (2011) Identifying the potential for Arctic transport of smoke. In proceedings of the *American Meteorological Society's Ninth Fire and Forest Meteorology Symposium, Palm Springs, CA, 17-20 October* (Paper 192366). Available on the Internet at *http://ams.confex.org/ams/9FIRE/webprogram*.

Lau K.M. and Kim K.M. (2006) Observational relationships between aerosol and Asian monsoon rainfall, and circulation. *Geophysical Research Letters,* **33**, L21810, doi: 10.1029/2006GL027546.

Lau W.K.M., Kim M.-K., Kim K.-M., and Lee W.-S. (2010) Enhanced surface warming and accelerated snow melt in the Himalayas and Tibetan Plateau induced by absorbing aerosols. *Environmental Research Letters,* **5**, 2, doi: 10.1088/1748-9326/5/2/025204.

Lauer A. and Hendricks J. (2006) Simulating aerosol microphysics with the ECHAM4/MADE GCM - Part II: results from a first multiannual simulation of the submicrometer aerosol. *Atmospheric Chemistry and Physics,* **6**, 5495-5513, doi:10.5194/acp-6-5495-2006.

Lavanchy V.M.H., Gaggeler H.W., Schotterer U., Schwikowski M., and Baltensperger U. (1999) Historical record of carbonaceous particle concentrations from a European high-alpine glacier (Colle Gnifetti, Switzerland). *Journal of Geophysical Research,* **104**, 21227-21236.

Legrand M., Preunkert S., Schock M., Cerqueira M., Kasper-Giebl A., Afonso J., Pio C., Gelencser A., and Dombrowski-Etchevers I. (2007) Major 20th century changes of carbonaceous aerosol components (EC, WinOC, DOC, HULIS, carboxylic acids, and cellulose) derived from Alpine ice cores. *Journal of Geophysical Research,* **112**, D23S11, doi: 10.1029/2006JD008080.

Lenton T.M., Held H., Kriegler E., Hall J.W., Lucht W., Rahmstorf S., and Schellnhuber H.J. (2009) Tipping elements in the Earth's climate system. *Proceedings of the National Academy of Sciences,* **105**, 1786-1793.

Levy J.I., Baxter L.K., and Schwartz J. (2009) Uncertainty and variability in health-related damages from coal-fired power plants in the United States. *Risk Analysis,* **29**, 1000-1014.

Liepert B.G., Feichter J., Lohmann U., and Roeckner E. (2004) Can aerosols spin down the water cycle in a warmer and moister world? *Geophysical Research Letters,* **31**, L06207.

Lilenfield H., Whitefield P.D., and Hagen D. (1995) Ground testing of emissions from aircraft exhaust. Paper by the American Institute of Aeronautics and Astronautics, Paper AIAA-95-0110.

Lim B. and Cachier H. (1996) Determination of black carbon by chemical oxidation and thermal treatment in recent marine and lake sediments and cretaceous-tertiary clays. *Chemical Geology,* **131**, 143-154.

Lim H.-J., Turpin B.J., Edgerton E., Hering S.V., Allen G., Maring H., and Solomon P. (2003) Semicontinuous aerosol carbon measurements: comparison of Atlanta Supersite measurements. *Journal of Geophysical Research,* **108**, 8419, doi: 10.1029/2001JD001214.

Lim H. (2002) Study of exhaust emissions from idling heavy duty diesel trucks and commercially available idle reducing devices. EPA 420-R-02-025, October.

Lin C.-I., Baker M., and Charlson R.J. (1973) Absorption coefficient of atmospheric aerosol: a method for measurement. *Applied Optics,* **12**, 6,1356-1363.

Liousse C., Cachier H., and Jennings S.G. (1993) Optical and thermal measurements of black carbon aerosol content in different environments: Variation of the specific attenuation cross-section, sigma (σ). *Atmospheric Environment,* **27A**, 8, 1203-1211, doi: 10.1016/0960-1686(93)90246-u.

Liousse C., Penner J.E., Chuang C., Walton J.J., and Eddleman H. (1996) A global three-dimensional study of carbonaceous aerosols. *Journal of Geophysical Research,* **101**, D14, 19411- 19432.

Lipfert F.W., Baty J.D., Wyzga R.E., and Miller J.P. (2006) $PM_{2.5}$ constituents and related air quality variables as predictors of survival in a cohort of U.S. military veterans. *Inhalation Toxicology,* **18**, 645-657.

Lipfert F.W., Wyzga R.E., Baty J.D., and Miller J.P. (2009) Air pollution and survival within the Washington University-EPRI veterans cohort: risks based on modeled estimates of ambient levels of hazardous and criteria air pollutants. *Journal of the Air & Waste Management Association,* **59**, 473-489.

Lippmann M., Ito K., Hwang J.S., Maciejczyk P., and Chen L.C. (2006) Cardiovascular effects of nickel in ambient air. *Environmental Health Perspectives,* **114**, 1662-1669.

Littell J.S., Oneil E.E., McKenzie D., Hicke J.A., Lutz J.A., Norheim R.A., and Elsner M.M. (2010) Forest ecosystems, disturbance, and climactic change in Washington State, USA. *Climatic Change*, 129-158, doi 10.1007/s10584-010-9858-x.

Liu D., Wang Z., Liu Z., Winker D., and Trepte C. (2008a) A height resolved global view of dust aerosols from the first year CALIPSO lidar measurements. *Journal of Geophysical Research,* **113**, D16214, doi: 10.1029/2007JD009776.

Liu J., Fan S., Horowitz L.W., and II H.L. (2011) Evaluation of factors controlling long-range transport of black carbon to the Arctic. *Journal of Geophysical Research,* **116** (D04307), doi: 10.1029/2010JD015145.

Liu S., Zhou Y., Wang X., Wang D., Lu J., Zheng J., Zhong N., and Ran P. (2007) Biomass fuels are the probable risk factor for chronic obstructive pulmonary disease in rural South China. *Thorax,* **62**, 10, 889-897, doi: 10.1136/thx.2006.061457.

Liu X., Xu B., Yao T., Wang N., and Wu G. (2008b) Carbonaceous particles in Muztagh Ata ice core, West Kunlun Mountains, China. *Chinese Science Bulletin,* **53**, 21, 3379-3386.

Lohmann U. and Hoose C. (2009) Sensitivity studies of different aerosol indirect effects in mixed-phase clouds. *Atmospheric Chemistry and Physics,* **9**, 8917-8934.

LRTAP (2010) Report by the Co-Chairs of the Ad Hoc Expert Group on Black Carbon to the Convention on Long-Range Transboundary Air Pollution (LRTAP). 30 September 2010. Available on the Internet at *http://www.unece.org/fileadmin/DAM/env/documents/2010/eb/eb/ece.eb.air.2010.7.e.pdf*.

MacCarty N., Ogle D., Still D., Bond T., and Roden C. (2008) A laboratory comparison of the global warming impact of five major types of biomass cooking stoves. *Energy for Sustainable Development,* **12**, 2, 5-14.

MacCarty N., Still D., and Ogle D. (2010) Fuel use and emissions performance of fifty cooking stoves in the laboratory and related benchmarks of performance. *Energy for Sustainable Development* **14**, 161-171.

MACTEC (2005) Boiler best available retrofit technology (BART) engineering analysis. Lake Michigan Air Directors Consortium (LADCO), March 30.

Madrigano J., Baccarelli A., Wright R., Suh H., Sparrow D., Vokonas P., S., and Schwartz J. (2010) Air pollution, obesity, genes, and cellular adhesion molecules. *Occupational and Environmental Medicine.,* **67**, 5, 312-317.

Magi B.I. (2009) Chemical apportionment of southern African aerosol mass and optical depth. *Atmospheric Chemistry and Physics,* **9**, 7643-7655.

Malm W.C. (1999) *Introduction to Visibility, Revised Edition*, Colorado State University, Fort Collins, CO, USA. Available on the Internet at *http://vista.cira.colostate.edu/improve/Education/IntroToVisinstr.htm*.

Mann J.K., Balmes J.R., Bruckner T.A., Mortimer K.M., Margolis H.G., Pratt B., Hammond S.K., Lurmann F.W., and Tager I.B. (2010) Short-term effects of air pollution on wheeze in asthmatic children in Fresno, California. *Environmental Health Perspectives,* **118**, 10, 1497-1502, doi: 10.1289/ehp.0901292.

Manne A.S. and Richels R.G. (2001) An alternative approach to establishing trade-offs among greenhouse gases. *Nature,* **410**, 6829.

Mar T.F., Ito K., Koenig J.Q., Larson T.V., Eatough D.J., Henry R.C., Kim E., Laden F., Lall R., Neas L., Stolzel M., Paatero P., Hopke P.K., and Thurston G.D. (2006) PM source apportionment and health effects. 3. Investigation of inter-method variations in associations between estimated source contributions of PM2.5 and daily mortality in Phoenix, AZ. Journal of Exposure Science and Environemntal Epidemiology, 16, 4, 311-320, doi: 10.1038/sj.jea.7500465.

MARAMA (2006) Control Analysis and Documentation for Residential Wood Combustion in the MANE-VU Region. Prepared by OMNI Environmental Services, Inc., Beaverton, OR. Available on the Internet at *http://www.marama.org/visibility/ResWoodCombustion/RWC_FinalReport_121906.pdf*.

Marinoni A., Cristofanelli P., Laj P., Duchi R., Calzolari F., Decesari S., Sellegri K., Vuillermoz E., Verza G.P., Villani P., and Bonasoni P. (2010) Aerosol mass and black carbon concentrations, a two year record at NCO-P (5079 m, Southern Himalayas). *Atmospheric Chemistry and Physics*, **10**, 8551-8562, doi: 10.5194/acp-10-8551-2010.

Marmur A., Mulholland J., Kim E., Hopke P., Sarnat J., Klein M., Tolbert P., and Russell A. (2006) Comparing Results from Several $PM_{2.5}$ Source-Apportionment Methods for Use in a Time-Series Health Study. *Epidemiology,* **17**, S200-S200.

Martin W.J., II, Glass R.I., Balbus J.M., and Collins F.S. (2011) A Major Environmental Cause of Death. *Science*, **334**, 6053, 180-181, doi: 10.1126/science.1213088.

Martins J.A., Silva Dias M.A.F., and Gonalves F.L.T. (2009) Impact of biomass burning aerosols on precipitation in the Amazon: I. A modelling study. *Journal of Geophysical Research,* **114**, D02207, doi: 10.1029/2007JD 009587.

Masclet P., Hoyau V., Jaffrezo J.L., and Cachier H. (2000) Polycyclic aromatic hydrocarbon deposition on the ice sheet of Greenland. Part I: superficial snow. *Atmospheric Environment,* **34**, 3195-3207.

Masera O., Edwards R., Arnez C., Berrueta V., Johnson M., Bracho L., Riojasrodriguez H., and Smith K. (2007) Impact of Patsari improved cook stoves on indoor air quality in Michoacán, Mexico. *Energy for Sustainable Development,* **11**, 2, 45-56, doi: 10.1016/S0973-0826(08)60399-3.

Mauritsen T., Sedlar J., Tjernström M., Leck C., Martin M., Shupe M., Sjogren S., Sierau B., Persson P.O.G., Brooks I.M., and Swietlicki E. (2010) Aerosols indirectly warm the Arctic. *Atmospheric Chemistry and Physics,* **10**, 16775-16796, doi: 10.5194/acpd-10-16775-2010.

Mauritsen T., Sedlar J., Tjernström M., Leck C., Martin M., Shupe M., Sjogren S., Sierau B., Persson P.O.G., Brooks I.M., and Swietlicki E. (2011) An Arctic CCN-limited cloud-aerosol regime. *Atmospheric Chemistry and Physics,* **11**, 165-173, doi: 10.5194/acp-11-165-2011.

Mayol-Bracero O.L., Gabriel R., Andreae M.O., Kirchstetter T.W., Novakov T., Ogren J., Sheridan P., and Streets D.G. (2002) Carbonaceous aerosols over the Indian Ocean during the Indian Ocean Experiment (INDOEX): chemical characterization, optical properties, and probable sources. *Journal of Geophysical Research,* **107**, D19, 8030, doi: 10.1029/2000JD000039.

McCarty J.L. (2011) Remote sensing-based estimates of annual and seasonal emissions from crop residue burning in the contiguous United States. *Journal of the Air & Waste Management Association,* **61**, 22-34.

McConnell J.R., Edwards R., Kok G.L., Flanner M.G., Zender C.S., Saltzman E.S., Banta J.R., Pasteris D.R., Carter M.M., and Kahl J.D.W. (2007) 20th-century industrial black carbon emissions altered Arctic climate forcing. *Science,* **317**, 5843, 1381-1384, doi: 10.1126/science.1144856.

McConnell J.R. and Edwards R. (2008) Coal burning leaves toxic heavy metal legacy in the Arctic. *Proceedings of the National Academy of Sciences,* **105**, 34, 12140-12144.

McConnell J.R. (2010) Historical black carbon and other ice core aerosol records in the Arctic for GCM evaluation. *Atmospheric Environment,* **44**, 2665-2666.

McConnell R., Berhane K., Gilliland F., Molitor J., Thomas D., Lurmann F., Edward Avol, Gauderman W.J., and Peters J.M. (2003) Prospective study of air pollution and bronchitic symptoms in children with asthma. *American Journal of Respiratory and Critical Care Medicine,* **168**, 790-797, doi: 10.1164/rccm.200304-466OC.

McCracken J.P., Smith K.R., Díaz A., Mittleman M.A., and Schwartz J. (2007) Chimney stove intervention to reduce long-term wood smoke exposure lowers blood pressure among Guatemalan women. *Environmental Health Perspectives,* **115**, 7, 996-1001, doi: 10.1289/ehp.9888.

McCracken J., Baccarelli A., Hoxha M., Dioni L., Melly S., Coull B., Suh H., Vokonas P., and Schwartz J. (2010) Annual ambient black carbon associated with shorter telomeres in elderly men: Veterans affairs normative aging study. *Environmental Health Perspectives,* **118**, 11, 1564-1570, doi: 10.1289/ehp.0901831.

McKelvey K.S. and Busse K.K. (1996) Twentieth-century fire patterns on Forest Service lands. In *Sierra Nevada Ecosystem Project: Final Report to Congress, Vol. II, Assessments and Scientific Basis for Management Options*, University of California Davis Centers for Water and Wildland Resources, Davis, CA.

McMeeking G.R., Kreidenweis S.M., Carrico C.M., Collett J.L., Day D.E., and Malm W.C. (2005) Observations of smoke-influenced aerosol during the Yosemite Aerosol Characterization Study: 2. Aerosol scattering and absorbing properties. *Journal of Geophysical Research,* **110**, D18, D18209, doi: 10.1029/2004jd005624.

Meehl G.A., Arblaster J.M., and Collins W.D. (2008) Effects of black carbon aerosols on the Indian monsoon. *Journal of Climate*, **21**, 2869-2882, doi: 10.1175/2007JCLI1777.1.

Menon S., Hansen J., Nazarenko L., and Luo Y. (2002) Climate effects of black carbon aerosols in China and India. *Science,* **297**, 2250-2253.

Menon S., Koch D., Beig G., Sahu S., Fasullo J., and Orlikowski D. (2010) Black carbon aerosols and the third polar ice cap. *Atmospheric Chemistry and Physics,* **10**, 4559-4571, doi: 10.5194/acp-10-4559-2010.

MEPC (2010) Prevention of air pollution from ships: reduction of emissions of black carbon from shipping in the Arctic. *60th Session of the Marine Environment Protection Committee* (MEPC 60/4/24). Available on the Internet at *http://www.rina.org.uk/hres/mepc%2060_4_24.pdf*.

Miller J.D., Safford H.D., Crimmins M., and Thode A.E. (2009) Quantitative evidence for increasing forest fire severity in the Sierra Nevada and Southern Cascade Mountains, California and Nevada, USA. *Ecosystems,* **12**, 16–32, doi: 10.1007/s10021-008-9201-9.

Min S.-K., Zhang X., and Zwiers F.W. (2008) Human influence on Arctic sea ice detectable from early 1990s onwards. *Geophysical Research Letters,* **35** (21), doi: 10.1029/2008GL035725.

Ming J., Cachier H., Xiao C., Qin D., Kang S., Hou S., and Xu J. (2008) Black carbon record based on a shallow Himalayan ice core and its climatic implications. *Atmospheric Chemistry and Physics,* **8**, 1343-1352, doi: 10.5194/acp-8-1343-2008.

Ming J., Xiao C., Cachier H., Qin D., Qin X., Li Z., and Pu J. (2009) Black carbon in the snow of glaciers in west China and its potential effects on albedos. *Atmospheric Research,* **92**, 114-123.

Minoura H., Takahashi K., Chow J.C., and Watson J.G. (2006) Multi-year trend in fine and coarse particle mass, carbon, and ions in downtown Tokyo, Japan. *Atmospheric Environment,* **40**, 14, 2478-2487, doi: 10.1016/j.atmosenv.2005.12.029.

Mishchenko M.I., Cairns B., Kopp G., Schueler C.F., Fafaul B.A., Hansen J.E., Hooker R.J., Itchkawich T., Maring H.B., and Travis L.D. (2007) Accurate monitoring of terrestrial aerosols and total solar irradiance: introducing the Glory mission. *Bulletin of the American Meteorological Society,* **88**, 677-691, doi: 10.1175/BAMS-88-5-677.

Mitra A.P. and Sharma C. (2002) Indian aerosols: present status. *Chemosphere,* **49**, 9, 1175–1190.

Miyazaki Y., Kondo Y., Sahu L.K., Imaru J., Fukushima N., and Kano M. (2008) Performance of a newly designed continuous soot monitoring system (COSMOS). *Journal of Environmental Monitoring,* **10**, 1195-1201, doi: 10.1039/b806957c.

Moffet R.C. and Prather K.A. (2009a) *In-situ* measurements of the mixing state and optical properties of soot with implications for radiative forcing estimates. *Proceedings of the National Academy of Sciences,* **106**, 29, 11872-11877.

Moffet R.C. and Prather K.A. (2009b) Climate effects of black carbon aerosols in China and India. *Science,* **297**, 2250 –2253.

Mohr L., Luo S., Mathias E., Tobing R., Homan S., and Sterling D. (2008) Influence of season and temperature on the relationship of elemental carbon air pollution on pediatric asthma emergency room visits. *Journal of Asthma,* **45**, 10, 936-943.

Moosmüller H., Chakrabarty R.K., and Arnott W.P. (2009) Aerosol light absorption and its measurement: A review. *Journal of Quantitative Spectroscopy and Radiative Transfer,* **110**, 11, 844-878, doi: 10.1016/j.jqsrt.2009.02.035.

Mordukhovich I., Wilker E., Suh H., Wright R., Sparrow D., Vokonas P.S., and Schwartz J. (2009) Black carbon exposure, oxidative stress genes, and blood pressure in a repeated-measures study. *Environmental Health Perspectives,* **117**, 11, 1767–1772, doi: 10.1289/ehp.0900591.

Morgan G. (2009) Asia and Australasia wildfire management: a regional perspective. In *Proceedings of the Third International Symposium on Fire Economics, Planning, and Policy: Common Problems and Approaches*, A. González-Cabán ed., USDA Forest Service Pacific Southwest Research Station, Albany, CA (PSW-GTR-227).

Muhlbaier-Dasch J. (1982) Particulate and gaseous emissions from wood-burning fireplaces. *Environmental Science & Technology,* **16**, 639-645.

Muri G., Cermelj B., Faganeli J., and Brancelj A. (2002) Black carbon in Slovenian alpine lacustrine sediments. *Chemosphere,* **46**, 1225-1234.

Muri G., Wakeham S.G., and Faganeli J. (2003) Polycyclic aromatic hydrocarbons and black carbon in sediments of a remote alpine lake (Lake Planina, Northwest Slovenia). *Environmental Toxicology and Chemistry,* **22**, 1009-1016.

Murphy D.M., Chow J.C., Leibensperger E.M., Malm W.C., Pitchford M., Schichtel B.A., Watson J.G., and White W.H. (2011) Decreases in elemental carbon and fine particle mass in the United States. *Atmospheric Chemistry and Physics,* **11**, 4679-4686, doi: 10.5194/acp-11-4679-2011.

Murphy S.M., Agrawal H., Sorooshian A., Padró L.T., Gates H., Hersey S., Welch W.A., Jung H., Miller J.W., Cocker D.R., Nenes A., Jonsson H.H., Flagan R.C., and Seinfeld J.H. (2009) Comprehensive simultaneous shipboard and airborne characterization of exhaust from a modern container ship at sea. *Environmental Science & Technology,* **43**, 13, 4626-4640, doi: 10.1021/es802413j.

Myers R. (2006) Back to the back to the future: stationary source testing for fine PM. *AWMA EM,* **April**, 25-30.

Myhre G., Berglen T.F., Johnsrud M., Hoyle C.R., Berntsen T., Christopher S.A., Fahey D.W., Isaksen I.S.A., Jones T.A., Kahn R.A., Loeb N., Quinn P.K., Remer L., Schwarz J.P., and Yttri K.E. (2009) Modelled radiative forcing of the direct aerosol effect with multi-observation evaluation. *Atmospheric Chemistry and Physics,* **9**, 1365-1392, doi: 10.5194/acp-9-1365-2009.

Naeher L.P., Leaderer B.P., and Smith K.R. (2000) Particulate matter and carbon monoxide in highland Guatemala: indoor and outdoor levels from traditional and improved wood stoves and gas stoves. *Indoor Air,* **10**, 200-205.

Naidoo G. and Chirkoot D. (2004) The effects of coal dust on photosynthetic performance of the mangrove, Avicennia marina in Richards Bay, South Africa. *Environmental Pollution,* **127**, 359-366.

NARSTO (2005) A NARSTO assessment: improving emission inventories for effective air quality management across North America. Prepared by the NARSTO Emission Inventory Assessment Team. Available on the Internet at *http://www.narsto.org/section.src?SID=8*.

National Academies Press (2001) *Evaluating Vehicle Inspections and Maintenance Programs*, Washington, DC.

National Interagency Fire Center (2011) Prevention and education. Available on the Internet at *http://www.nifc.gov/prevention_education.html*

National Research Council (2004) Research priorities for airborne particulate matter: IV. Continuing research progress. Prepared by the National Research Council of the National Academies Committee on Research Priorities for Airborne Particulate Matter, Washington, DC.

National Research Council (2011) *Climate Stabilization Targets: Emissions, Concentrations, and Impacts Over Decades to Millennia*, National Academies Press, Washington, DC.

National Research Council of the National Academies (2005) *Radiative Forcing of Climate Change: Expanding the Concept and Addressing Uncertainties*, The National Academies Press, Washington, DC.

National Wildfire Coordinating Group (2007) Chapter 8. Fire prevention. In *Communicator's Guide for Wildland Fire Management: Fire Education, Prevention, and Mitigation Practices.* Available on the Internet at *http://www.nifc.gov/preved/comm_guide/wildfire/files/pdf%20%20files/linked%20pdfs/8%20fire%20prevention.pdf*.

Nazaroff W.W. and Cass G.R. (1991) Protecting museum collections from soiling due to the deposition of airborne particles. *Atmospheric Environment,* **25**, 841-852.

Neary D.G. and Zieroth E. (2007) Forest bioenergy system to reduce the hazard of wildfires: White Mountains, Arizona. *Biomass and Bioenergy,* **31**, 638-645.

NESCAUM (2005) Assessment of control technology options for BART-eligible sources steam electric boilers, industrial boilers, cement plants and paper and pulp facilities. In *Air Pollution Engineering Manual, Air & Waste Management Association*, A.J. Buonicore and W.T. Davis eds., Van Nostrand Reinhold, New York, NY.

NESCAUM (2009) Applicability and feasibility of NO_x, SO_2, and PM emissions control technologies for industrial, commercial, and institutional (ICI) boilers. January.

NESCAUM (2010) Technologies for control and measurement of mercury emissions from coal-fired power plants in the United States: a status report. July.

NIOSH (1999) National Institute for Occupational Safety and Health method 5040, elemental carbon (diesel particulate), NIOSH manual of analytical methods (NMAM), 4th Ed., Issue 3.

Noone and Clarke (1998) Soot scavenging measurements in arctic snowfall. *Atmospheric Environment,* **22**, 12.

Nordmann S., Birmili W., Weinhold K., Wiedensohler A., Mertes S., Muller K., Gnauk T., Herrmann H., Pitz M., Cyrys J., Flentje H., Ries L., and Wirtz K. (2009) Atmospheric aerosol measurements in the German Ultrafine Aerosol Network (GUAN) Part 2: Comparison of measurements techniques for graphitic, light-absorbing, and elemental carbon, and non-volatile particle volume under field conditions. *Gefahrstoffe Reinhaltung der Luft,* **69**, 11-12, 469-474.

Noss R.F., Franklin J.F., Baker W.L., Schoennagel T., and Moyle P.B. (2006) Managing fire-prone forests in the western United States. *Frontiers in Ecology and the Environment,* **4**, 9.

Notten M., Oosthoek A.J.P., Rozema J., and Aerts R. (2005) Heavy metal concentrations in a soil-plant-snail food chain along a terrestrial soil pollution gradient. *Environmental Pollution,* **138**, 178-190.

Novakov T. (1982) *Soot in the Atmosphere. In Particulate Carbon Atmospheric Life Cycle*, G.T. Wolff and R.L. Klimisch, eds., Plenum Press, New York.

Novakov T. and Corrigan C.E. (1995a) Thermal characterization of biomass smoke particles. *Mikrochim Acta,* **119**, 157-166.

Novakov T. and Corrigan C.E. (1995b) Influence of sample composition on aerosol organic and black carbon determinations. Prepared by Lawrence Berkeley National Laboratory, Berkeley, CA, LBL-37513 UC-407. Available on the Internet at *http://www.osti.gov/bridge/servlets/purl/122026-ZVCNoC/webviewable/122026.pdf*.

Novakov T., Ramanathan V., Hansen J., Kirchstetter T., Sato M., Sinton J., and Sathaye J. (2003) Large historical changes of fossil-fuel black carbon aerosols. *Geophysical Research Letters,* **30**, doi: 10.1029/2002gl016345.

Novakov T., Menon S., Kirchstetter T.W., Koch D., and Hansen J.E. (2005) Aerosol organic carbon to black carbon ratios: analysis of published data and implications for climate forcing. *Journal of Geophysical Research,* **110**, D21205, doi: 10.1029/2005JD005977.

O'Neill B.C. (2000) The jury is still out on global warming potentials. *Climatic Change,* **44**, 427-443.

O'Neill M.S., Veves A., Zanobetti A., Sarnat J.A., Gold D.R., Economides P.A., Horton E.S., and Schwartz J. (2005) Diabetes enhances vulnerability to particulate air pollution-associated impairment in vascular reactivity and endothelial function. *Circulation,* **111**, 22, 2913-2920, doi: 10.1161/CIRCULATIONAHA.104.517110.

O'Neill M.S., Veves A., Sarnat J.A., Zanobetti A., Gold D.R., Economides P.A., Horton E.S., and Schwartz J. (2007) Air pollution and inflammation in type 2 diabetes: a mechanism for susceptibility. *Occupational and Environmental Medicine,* **64**, 373-379, doi: 10.1136/oem.2006.030023.

Ogren J.A., Charlson R.J., and Groblicki P.J. (1983) Determination of elemental carbon in rainwater. *Analytical Chemistry,* **55**, 1569-1572.

Ogren J.A., Groblicki P.J., and Charlson R.J. (1984) Measurement of the removal rate of elemental carbon from the atmosphere. *The Science of the Total Environment,* **36**, 329-338.

Ogren J.A., Sheridan P.J., Andrews E., Jefferson A., Heintzenberg J., and Mertes S. (2001) Measurements of the light absorption efficiency of graphitic carbon in Indian Ocean aerosols. *Journal of Aerosol Science,* **32**, 1001, 677-688.

Ohara T., Akimoto H., Kurokawa K., Horii N., Yamaji K., Yan X., and Hayasaka T. (2007) An Asian emission inventory of anthropogenic emission sources for the period 1980-2020. *Atmospheric Chemistry and Physics,* **7**, 16, 4419-4444.

Orozco-Levi M., Garcia-Aymerich J., Villar J., Ramirez-Sarmiento A., Anto J.M., and Gea J. (2006) Wood smoke exposure and risk of chronic obstructive pulmonary disease. *European Respiratory Journal,* **27**, 3.

Ostro B., Feng W.-Y., Broadwin R., Green S., and Lipsett M. (2007) The effects of components of fine particulate air pollution on mortality in California: results from CALFINE. *Environmental Health Perspectives,* **115**, 1, 13-19, doi: 10.1289/ehp.9281.

Ostro B.D., Feng W.Y., Broadwin R., Malig B.J., Green R.S., and Lipsett M.J. (2008) The impact of components of fine particulate matter on cardiovascular mortality in susceptible subpopulations. *Occupational and Environmental Medicine,* **65**, 750-756.

Ostro B., Roth L., Malig B., and Marty M. (2009) The effects of fine particle components on respiratory hospital admission in children. *Environmental Health Perspectives,* **117**, 475-480.

Ottmar R.D., Peterson J.L., Leenhouts B., and Core J.E. (2001) Smoke management: techniques to reduce or redistribute emissions. In *Smoke Management Guide for Prescribed and Wildland Fire: 2001 edition*, C.C. Hardy, R.D. Ottmar, J.L. Peterson, J.E. Core, and P. Seamon eds., National Wildire Coordination Group.

Pacala S. and Socolow R. (2004) Stabilization wedges: solving the climate problem for the next 50 years with current technologies. *Science,* **305**, 5686, 968-972.

Painter T.H., Barrett A.P., Landry C.C., Neff J.C., Cassidy M.P., Lawrence C.R., McBride K.E., and Farmer G.L. (2007) Impact of disturbed desert soils on duration of mountain snow cover. *Geophysical Research Letters,* **34**, 12, L12502, doi:10.1029/2007GL030284.

Parashar D.C., Gadi R., Mandal T.K., and Mitra A.P. (2005) Carbonaceous aerosol emissions from India. *Atmospheric Environment,* **39**, 40, 7861-7871.

Park S.K., O'Neill M.S., Vokonas P.S., Sparrow D., and Schwartz J. (2005) Effects of air pollution on heart rate variability: The VA normative aging study. *Environmental Health Perspectives,* **113**, 304-309.

Park S.K., O'Neill M.S., Vokonas P.S., Sparrow D., Spiro A., Tucker K.L., Suh H., Hu H., and Schwartz J. (2008) Traffic-related Particles are Associated with Elevated Homocysteine. *American Journal of Respiratory and Critical Care Medicine,* **178**, 283-289.

Park S.S., Kim Y.J., and Fung K. (2001) Characteristics of $PM_{2.5}$ carbonaceous aerosol in the Sihwa industrial area, South Korea. *Atmospheric Environment,* **35**, 657- 665.

Park S.S., Hansen A.D.A., and Cho S.Y. (2010) Measurement of real time black carbon for investigating spot loading effects of Aethalometer data. *Atmospheric Environment,* **44**, 1449-1455.

Parrish D.D. (2006) Critical evaluation of US on-road vehicle emission inventories. *Atmospheric Environment,* **40**, 2288-2300.

Partanen W.E. and Allen C. (2005) Green energy from fats, oil & grease (FOG). Prepared by Power-Gen International, Las Vegas, NV.

Partnership for Clean Fuels and Vehicles (2009) Cleaning up urban bus fleets: With a focus on developing and transition countries. Available on the Internet at *http://www.unep.org/transport/pcfv/PDF/Retrofit.pdf*.

Partnership for Clean Indoor Air (2005) Household energy, indoor air pollution and health: overview of experiences and lessons in India. By Winrock International, Little Rock, AR.

Patel M.M., Chillrud S.N., Correa J.C., Hazi Y., Feinberg M., Kc D., Prakash S., Ross J.M., Levy D., and Kinney P.L. (2010) Traffic-related particulate matter and acute respiratory symptoms among New York City area adolescents. *Environmental Health Perspectives,* **118**, 9, 1338-1343, doi: 10.1289/ehp.0901499.

Paxian A., Eyring V., Beer W., Sausen R., and Wright C. (2010) Present-day and future global bottom-up ship emission inventories including polar routes. *Environmental Science & Technology,* **44**, 4, 1333-1339, doi: 10.1021/es9022859.

Peck M.D., Kruger G.E., Merwe A.E.v.d., Godakumbura W., and Ahuja R.B. (2008) Burns and fires from non-electric domestic appliances in low and middle income countries. *Burns,* **34**, 303-311, doi: 10.1016/j.burns.2007.08.014

Peng R., Bell M., Geyh A., McDermott A., Zeger S., Samet J., and Dominici F. (2009) Emergency admissions for cardiovascular and respiratory diseases and the chemical composition of fine particle air pollution. *Environmental Health Perspectives,* **117**, 957-963.

Penner J.E., Eddleman H., and Novakov T. (1993) Towards the development of a global inventory for black carbon emissions. *Atmospheric Environment,* **27A**, 8, 1277-1295.

Penner J.E., Chen Y., Wang M., and Liu X. (2009) Possible influence of anthropogenic aerosols on cirrus clouds and anthropogenic forcing. *Atmospheric Chemistry and Physics,* **8**, 879-896.

Perovich D.K., Grenfell T.C., Light B., Elder B.C., Harbeck J., Polashenski C., Tucker III W.B., and Stelmach C. (2009) Transpolar observations of the morphological properties of Arctic sea ice. *Journal of Geophysical Research,* **114**, C00A04, doi: 10.1029/2008JC004892.

Peters A., Dockery D.W., Muller J.E., and Mittleman M.A. (2001) Increased particulate air pollution and the triggering of myocardial infarction. *Circulation,* **103**, 2810-2815.

Peters G.P., Nilssen T.B., Lindholt L., Eide M.S., Glomsrød S., Eide L.I., and Fuglestvedt J.S. (2011) Future emissions from shipping and petroleum activities in the Arctic. *Atmospheric Chemistry and Physics,* **11**, 5305-5320.

Peterson M.R. and Richards M.H. (2002) Thermal-optical-transmittance analysis for organic, elemental, carbonate, total carbon, and OCX2 in $PM_{2.5}$ by the EPA/NIOSH method. In *Proceedings, Symposium on Air Quality Measurement Methods and Technology-2002*, E.D. Winegar and R.J. Tropp eds., Air & Waste Management Association, Pittsburgh, PA (83-1-83-19).

Petzold A., Kopp C., and Niessner R. (1997) The dependence of the specific attenuation cross-section on black carbon mass fraction and particle size. *Atmospheric Environment,* **31**, 5, 661-672, doi: 10.1016/S1352-2310(96)00245-2.

Petzold A., Dopelheuer A., Brock C.A., and Schroder F. (1999a) *In situ* observations and model calculations of black carbon emission by aircraft at cruise altitude. *Journal of Geophysical Research,* **104**, D18, 22171-22181.

Petzold A., Strom F.P., Schroder F.P., and Karcher B. (1999b) Carbonaceous aerosol in jet engine exhaust: emission characteristics and implications for heterogeneous chemical reactions. *Atmospheric Environment,* **33**, 2689-2698.

Petzold A., Weingartner E., Hasselbach J., Lauer P., Kurok C., and Fleischer F. (2010) Physical properties, chemical composition, and cloud forming potential of particulate emissions from a marine diesel engine at various locations. *Environmental Science & Technology,* **44**, 10, 3800-3805, doi: 10.1021/es903681z.

Pitchford M., Malm W., Schichtel B., Kumar N., Lowenthal D., and Hand J.L. (2007) Revised algorithm for estimating light extinction from IMPROVE particle speciation data. *Journal of Air and Waste Management,* **57**, 1326-1336, doi: 10.3155/1047-3289.57.11.1326.

Polenske K. and McMichael F. (2002) A Chinese cokemaking process-flow model for energy and environmental analyses. *Energy Policy,* **30**, 10, 865–883, doi: 10.1016/S0301-4215(01)00147-1.

Pope A.C. (2011) Review of the Draft Report to Congress on Black Carbon. Letter from Dr. Arden C. Pope III, Chair, Advisory Council on Clean Air Compliance Analysis, to the Honorable Lisa P. Jackson, Administrator, U.S. EPA, August 11. Available on the Internet at *http://yosemite.epa.gov/sab/sabproduct.nsf/fedrgstr_activites/38059D3EA6FE3A19852578EA004A7469/$File/EPA-COUNCIL-11-002-unsigned.pdf*.

Pope C.A., Burnett R.T., III, and Thun M.J. (2002) Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution. *Journal of the American Medical Association* **287**, 1132-1141, doi: 10.1001/jama.287.9.1132.

Pope C.A., Ezzati M., and Dockery D.W. (2009) Fine-particulate air pollution and life expectancy in the United States. *New England Journal of Medicine,* **360**, 4, 376-386, doi: 10.1056/NEJMsa0805646.

Pope D.P., Mishra V., Thompson L., Siddiqui A.R., Rehfuess E.A., Weber M., and Bruce N.G. (2010) Risk of low birth weight and stillbirth associated with indoor air pollution from solid fuel use in developing countries. *Epidemiology Reviews*, doi: 10.1093/epirev/mxq005.

Pósfai M., Gelencsér A., Simonics R., Arató K., Li J., Hobbs P.V., and Buseck P.R. (2004) Atmospheric tar balls: Particles from biomass and biofuel burning. *Journal of Geophysical Research,* **109**, D06213, doi: 10.1029/2003JD004169.

Pósfai M. and Buseck P.R. (2010) Nature and climate effects of individual tropospheric aerosol particles. *Annual Review of Earth and Planetary Sciences,* **38**, 17-43.

Prestemon J.P., Butry D.T., Abt K.L., and Sutphen R. (2010) Net benefits of wildfire prevention education efforts. *Forest Science,* **56**, 2, 181-192.

Prospero J.M., Landing W.M., and Schulz M. (2010) African dust deposition to Florida: Temporal and spatial variability and comparisons to models. *Journal of Geophysical Research,* **115**, D13304, doi: 10.1029/2009JD012773.

Pueschel R.F., Boering K.A., Verma S., Howard S.D., Ferry G.V., Goodman J., Allen D.A., and Hamill P. (1997) Soot aerosol in the lower stratosphere: pole-to-pole variability and contributions by aircraft. *Journal of Geophysical Research,* **102**, D11, 13113-13118.

Qian Y., Gustafson W.I., Leung L.R., and Ghan S.J. (2009) Effects of soot-induced snow albedo change on snowpack and hydrological cycle in western United States based on Weather Research and Forecasting chemistry and regional climate simulations. *Journal of Geophysical Research,* **114**, D03108, doi: 10.1029/2008JD011039.

Quincey P. (2007) A relationship between black smoke index and black carbon concentration. *Atmospheric Environment,* **41**, 7964-7968.

Quinn P.K., Shaw G., Andrews E., Dutton E.G., Ruoho-Airola T., and Gong S.L. (2007) Arctic haze: current trends and knowledge gaps. *Tellus,* **59B**, 99-114, doi: 10.1111/j.1600-0889.2006.00238.x.

Quinn P.K., Bates T.S., Baum E., Doubleday N., Fiore A.M., Flanner M., Fridlind A., Garrett T.J., Koch D., Menon S., Shindell D., Stohl A., and Warren S.G. (2008) Short-lived pollutants in the Arctic: their climate impact and possible mitigation strategies. *Atmospheric Chemistry and Physics,* **8**, 1723-1735, doi:10.5194/acp-8-1723-2008.

Quinn P.K., Stohl A., Arneth A., Berntsen T., Burkhart J.F., Christensen J., Flanner M., Kupiainen K., Lihavainen H., Shepherd M., Shevchenko V., Skov H., and Vestreng V. (2011) The impact of black carbon on Arctic climate. Arctic Monitoring and Assessment Program (AMAP), Oslo, Technical report no. 4(2011). Available on the Internet at *www.amap.no*.

Quiroz R., Grimalt J.O., and Fernandez P. (2010) Toxicity assessment of polycyclic aromatic hydrocarbons in sediments from European high mountain lakes. *Ecotoxicology and Environmental Safety,* **73**, 559-564.

Raaschou-Nielsen O. and Reynolds P. (2006) Air pollution and childhood cancer: a review of the epidemiological literature. *International Journal of Cancer,* **118**, 12, 2920-2929.

Ram K. and Sarin M.M. (2009) Absorption coefficient and site-specific mass absorption efficiency of elemental carbon in aerosols over urban, rural, and high-altitude sites in India. *Environmental Science & Technology,* **43**, 21, 8233-8239, doi: 10.1021/es9011542.

Ram K., Sarin M.M., and Tripathi S.N. (2010) Inter-comparison of thermal and optical methods for determination of atmospheric black carbon and attenuation coefficient from an urban location in northern India. *Atmospheric Research,* **97**, 335-342.

Ramana M.V., Ramanathan V., Feng Y., Yoon S.-C., Kim S.-W., Carmichael G.R., and Schauer J.J. (2010) Warming influenced by the ratio of black carbon to sulphate and the black-carbon source. *Nature Geoscience,* **3**, 542-545, doi: 10.1038/NGEO918.

Ramanathan V., Crutzen P.J., Kiehl J.T., and Rosenfeld D. (2001) Aerosols, climate, and the hydrological cycle. *Science,* **294**, 2119-2124.

Ramanathan V., Chung C., Kim D., Bettge T., Buja L., Kiehl J.T., Washington W.M., Fu Q., Sikka D.R., and Wild M. (2005) Atmospheric brown clouds: impacts on South Asian climate and hydrological cycle. *Proceedings of the National Academy of Sciences,* **102**, 15, 5326-5333.

Ramanathan V., Li F., Ramana M.V., Praveen P.S., Kim D., Corrigan C.E., and al. e. (2007) Atmospheric brown clouds: hemispherical and regional variations in long-range transport, absorption, and radiative forcing. *Journal of Geophysical Research,* **112**, D22821, doi: 10.1029/2006JD008124.

Ramanathan V. and Carmichael G. (2008) Global and regional climate changes due to black carbon. *Nature Geoscience,* **1**, 221-227.

Ramanathan V. and Feng W.Y. (2009) Air pollution, greenhouse gases and climate change: Global and regional perspectives. *Atmospheric Environment,* **43**, 37-50, doi: 10.1016/j.atmosenv.2008.09.063.

Ramanathan V. (2010) Interactive comment on "Quantifying immediate radiative forcing by black carbon and organic matter with the Specific Forcing Pulse" by T.C. Bond, et al. *Atmospheric Chemistry and Physics Discussions,* **10**, C6227-C6241.

Ramirez-Venegas A., Sansores R.H., Perez-Padilla R., Regalado J., Velazquez A., Sanchez C., and Mayar M.E. (2006) Survival of patients with chronic obstructive pulmonary disease due to biomass smoke and tobacco. *American Journal of Respiratory and Critical Care Medicine,* **173**, 393-397.

Ramos L., Hernandez L.M., and Gonzalez M.J. (1994) Sequential fractionation of copper, lead, cadmium and zinc in soils from or near Donana National Park. *Journal of Environmental Quality,* **23**, 50-57.

Reddy M.S. and Venkataraman C. (2002a) Inventory of aerosol and sulphur dioxide emissions from India. Part II--biomass combustion. *Atmospheric Environment,* **36**, 4, 699-712.

Reddy M.S. and Venkataraman C. (2002b) Inventory of aerosol and sulphur dioxide emissions from India: Part I--fossil fuel combustion. *Atmospheric Environment,* **36**, 4, 677-697.

Reddy M.S. and Boucher O. (2007) Climate impact of black carbon emitted from energy consumption in the world's regions. *Geophysical Research Letters,* **34**, L11802.

Reff A., Bhave P.V., Simon H., Pace T.G., Pouliot G.A., Mobley J.D., and Houyoux M. (2009) Emissions inventory of $PM_{2.5}$ trace elements across the United States. *Environmental Science & Technology,* **43**, 5790-5796.

Regalado J., Perez-Padilla R., Sansores R.H., Páramo Ramirez Jl, Brauer M., Paré P., and Vedal S. (2006) The effect of biomass burning on respiratory symptoms and lung function in rural Mexican women. *American Journal of Respiratory and Critical Care Medicine,* **174**, 901-905.

Regional Environmental Centre for the Caucasus (2008) Fuel quality and vehicle emission standards overview for the Azerbaijan Republic, Georgia, the Kyrgyz Republic, the Republic of Armenia, the Republic of Kazakhstan, the Republic of Moldova, the Republic of Turkmenistan, the Republic of Uzbekistan and the Russian Federation. Available on the Internet at *http://www.unep.org/transport/pcfv/PDF/FuelQuality_en.pdf*.

Regional Planning Organization (2004a) Research and development of planned burning emission inventories for the Central States Regional Air Planning Association. Final report prepared for the Central States Air Resource Agencies and the Central Regional Air Planning Association, Oklahoma City, OK by Sonoma Technology, Inc., Petaluma, CA, STI-902514-2516-FR, July. Available on the Internet at *http://www.dnr.mo.gov/env/apcp/docs/d2-cenrap-plannedburn.pdf*.

Regional Planning Organization (2004b) Fire emissions inventory development for the Midwest Regional Planning Organization. Prepared for the Lake Michigan Air Director's Consortium by EC/R Incorporated, September.

Regional Planning Organization (2005) 2002 fire emission inventory for the WRAP Region – Phase II. Prepared for Western Governors Association/Western Regional Air Partnership by Air Sciences, Inc., Project No. 178-6, July. Available on the Internet at *http://www.wrapair.org/forums/fejf/documents/WRAP_2002_PhII_EI_Report_20050722.pdf*.

Regional Planning Organization (2006) Technical support document on agricultural and forestry smoke management in the MANE-VU Region. Draft. Available upon request, March.

Regional Planning Organization (2008) Documentation of the base G2 and best & final 2002 base year, 2009 and 2018 emission inventories for VISTAS. Prepared by Mactec, Inc., Revision 1, April. Available on the Internet at *http://www.dep.state.fl.us/air/rules/regulatory/regional_haze_imp/app_d.pdf*.

Regoli F., Gorbi S., Fattorini D., Tedesco S., Notti A., Machella N., Bocchetti R., Benedetti M., and Piva F. (2006) Use of the land snail Helix aspersa sentinel organism for monitoring ecotoxicologic effects of urban pollution: an integrated approach. *Environmental Health Perspectives,* **114**, 63-69.

Rehfuess E., Mehta S., and Pruss-Ustun A. (2006) Assessing household solid fuel use: multiple implications for the Milennium Development Goals. *Environmental Health Perspectives,* **114**, 3, A178.

Rehman I.H., Ahmed T., Praveen P.S., Kar A., and Ramanathan V. (2011) Black carbon emissions from biomass and fossil fuels in rural India. *Atmospheric Chemistry and Physics,* **11**, 7289-7299, doi: 10.5194/acp-11-7289-2011.

Reisinger P., Wonaschütz A., Hitzenberger R., Petzold A., Bauer H., Jankowski N., Puxbaum H., Chi X., and Maenhaut W. (2008) Intercomparison of measurement techniques for black or elemental carbon under urban background conditions in wintertime: Influence of biomass combustion. *Environmental Science & Technology,* **42**, 3, 884-889, doi: 10.1021/es0715041.

Remer L.A., Tanre D., Kaufman Y.J., Ichoku C., Mattoo S., Levy R., Chu D.A., Holben B.N., Dubovik O., Smirnov A., Martins J.V., Li R.R., and Ahmad Z. (2002). Validation of MODIS aerosol retrieval over ocean. *Geophysical Research Letters*, **29**, 12, 1618.

Ren C., Park S.K., Vokonas P.S., Sparrow D., Wilker E., Baccarelli A., Suh H.H., Tucker K.L., Wright R.O., and Schwartz J. (2010) Air pollution and homocysteine: More evidence that oxidative stress-related genes modify effects of particulate air pollution. *Epidemiology,* **21**, 2, 198-206.

Rennermalm A., Smith L., Stroeve J., and Chu V. (2009) Does sea ice influence Greenland ice sheet surface-melt? *Environmental Research Letters,* **4**, 024011 (2).

Riahi K., Gruebler A., and Nakicenovic N. (2007) Scenarios of long-term socio-economic and environmental development under climate stabilization. *Technological Forecasting and Social Change,* **74**, 7, 887-935.

Rich D.Q., Schwartz J., Mittleman M.A., Link M., Luttmann-Gibson H., Catalano P.J., Speizer F.E., and Dockery D.W. (2005) Association of short-term ambient air pollution concentrations and ventricular arrhythmias. *American Journal of Epidemiology,* **161**, 1123-1132.

Rich D.Q., Mittleman M.A., Link M.S., Schwartz J., Luttmann-Gibson H., Catalano P.J., Speizer F.E., Gold D.R., and Dockery D.W. (2006) Increased risk of paroxysmal atrial fibrillation episodes associated with acute increases in ambient air pollution. *Environmental Health Perspectives,* **114**, 1, 120-123, doi: 10.1289/ehp.8371.

Rich K.E., Petkau J., Vedal S., and Brauer M. (2004) A case-crossover analysis of particulate air pollution and cardiac arrhythmia in patients with implantable cardioverter defibrillators. *Inhalation Toxicology,* **16**, 363-372.

Rinne S.T., Rodas E.J., Bender B.S., Rinne M.L., Simpson J.M., R. G.-U., and Glickman L.T. (2006) Relationship of pulmonary function among women and children to indoor air pollution from biomass use in rural Ecuador. *Respiratory Medicine,* **100**, 7, 1208-1215.

Roberts D.L. and Jones A. (2004) Climate sensitivity to black carbon aerosol from fossil fuel combustion. *Journal of Geophysical Research,* **109**, D16202, doi: 10.1029/2004JD004676.

Robinson A.L., Donahue N.M., Shrivastava M.K., Weitkamp E.A., Sage A.M., Grieshop A.P., Lane T.E., Pierce J.R., and Pandis S.N. (2007) Rethinking organic aerosols: semivolatile emissions and photochemical aging. *Science,* **315**, 1259-1262.

Roden C.A., Bond T.C., Conway S., Pinel A.B.O., MacCarty N., and Still D. (2009) Laboratory and field investigations of particulate and carbon monoxide emissions from traditional and improved cookstoves. *Atmospheric Environment,* **43**, 1170-1181.

Rojas-Bracho L. (2009) An international strategy for black carbon controls in the transport sector: the case of Mexico. Presented at the *International Workshop on Black Carbon, Nobel House, London, UK, January 2009*. Available on the Internet at *http://theicct.org/sites/default/files/Rojas_2009.pdf*.

Rosen H. and Novakov T. (1983) Optical transmission through aerosol deposits on diffusely reflective filters: a method for measuring the absorbing component of aerosol particles. *Applied Optics,* **22**, 9,1265-1267.

Roth C. (2011) *Micro-gasification: cooking with gas from biomass; an introduction to the concept and the applications of wood-gas burning technologies for cooking*, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Eschborn, Germany.

RTI International (2006) Evaluation of $PM_{2.5}$ emissions and controls at two Michigan steel mills and a coke oven battery: final report. Work Assignment 4-12 under EPA Contract No. 68-D-01-073.

RTI International (2008) Emission factor documentation for AP-42, Section 12.2 - coke production. Final Report, RTI Project 021426.001.001, May.

Rückerl R., Ibald-Mulli A., Koenig W., Schneider A., Woelke G., Cyrys J., Heinrich J., Marder V., Frampton M., Wichmann H.E., and Peters A. (2006) Air pollution and markers of inflammation and coagulation in patients with coronary heart disease. *American Journal of Respiratory and Critical Care Medicine,* **173**, 432-441, doi: 10.1164/rccm.200507-1123OC .

Ruckstuhl C., Philipona R., Behrens K., Coen M.C., Duerr B., Heimo A., Mätzler C., Nyeki S., Ohmura A., Vuilleumier L., Weller M., Behrens K., Wehrli C., and Zelenka A. (2008) Aerosol and cloud effects on solar brightening and the recent rapid warming. *Geophysical Research Letters,* **35**, L12708, doi: 10.1029/2008GL034228.

Russell P.B., Bergstrom R.W., Shinozuka Y., Clarke A.D., DeCarlo P.F., Jimenez J.L., Livingston J.M., Redemann J., Dubovik O., and Strawa A. (2010) Absorption angstrom exponent in AERONET and related data as an indicator of aerosol composition. *Atmospheric Chemistry and Physics,* **10**, 1155-1169, doi: 10.5194/acp-10-1155-2010.

Ryan M., Archer S., Birdsey R., Dahm C., Heath L., Hicke J., Hollinger D., Huxman T., Okin G., Oren R., Randerson J., and Schlesinger W. (2008) Land resources. In *The Effects of Climate Change on Agriculture, Land Resources, Water Resources, and Biodiversity*, U.S. Climate Change Science Program and the Subcommittee on Global Change Research, Washington, DC.

Rypdal K., Berntsen T., Fuglestvedt J.S., Aunan K., Torvanger A., Stordal F., Pacyna J.M., and Nygaard L.P. (2005) Tropospheric ozone and aerosols in climate agreements: scientific and political challenges. *Environmental Science & Policy,* **8**, 1, 29-43, doi: 10.1016/j.envsci.2004.09.003.

Rypdal K., Rive N., Berntsen T., Klimont Z., Mideksa T.K., Myhre G., and Skeie R.B. (2009) Costs and global impacts of BC abatement strategies. *Tellus B,* **61**, 4, 625-641, doi: 10.1111/j.1600-0889.2009.00430.x.

Sabbioni C., Ghedini N., and Bonazza A. (2003) Organic anions in damage layers on monuments and buildings. *Atmospheric Environment,* **37**, 9-10, 1261-1269, doi: 10.1016/s1352-2310(02)01025-7.

Sahu L.K., Kondo Y., Miyazaki Y., Kuwata M., Koike M., Takegawa N., Tanimoto H., Matsueda H., Yoon S.C., and Kim Y.J. (2009) Anthropogenic aerosols observed in Asian continental outflow at Jeju Island, Korea, in spring 2005. *Journal of Geophysical Research,* **114**, D03301, doi: 10.1029/2008JD010306.

Sahu S.K., Beig G., and Sharma C. (2008) Decadal growth of black carbon emissions in India. *Geophysical Research Letters,* **35**, 2, 1-5, doi: 10.1029/2007GL032333.

Saikawa E., Naik V., Horowitz L.W., Liu J., and Mauzerall D.L. (2009) Present and potential future contributions of sulfate, black and organic carbon aerosols from China to global air quality, premature mortality and radiative forcing. *Atmospheric Environment,* **43**, 17, 2814-2822, doi: 10.1016/j.atmosenv.2009.02.017.

Salam M.T., Islam T., and Gilliland F.D. (2008) Recent evidence for adverse effects of residential proximity to traffic sources on asthma. *Current Opinion in Pulmonary Medicine,* **14**, 1, 3-8, doi: 10.1097/MCP.0b013e3282f1987a.

Saldiva P.H.N., Clarke R.W., Coull B.A., Stearns R.C., Lawrence J., Krishna-Murthy G.G., Diaz E., Koutrakis P., Suh H., Tsuda A., and Godleski J.J. (2002) Lung inflammation induced by concentrated ambient air particles is related to particle composition. *American Journal of Respiratory and Critical Care Medicine,* **165**, 1610-1617.

Sarnat J.A., Marmur A., Klein M., Kim E., Russell A.G., Sarnat S.E., Mulholland J.A., Hopke P.K., and Tolbert P.E. (2008) Fine particle sources and cardiorespiratory morbidity: An application of chemical mass balance and factor analytical source-apportionment methods. *Environmental Health Perspectives,* **116**, 459-466.

Sarofim M. (2010) Using black carbon metrics in climate policy. J*ournal of Integrative Environmental Sciences*, **7**, Supplement 1, 135-144, doi: 10.1080/19438151003621409.

Sato M., Hansen J., Koch D., Lacis A., Ruedy R., Dubovik O., Holben B., Chin M., and Novakov T. (2003) Global atmospheric black carbon inferred from AERONET. *Proceedings of the National Academy of Sciences,* **100**, 11.

Saylor R.D., Edgerton E.S., and Hartsell B.E. (2006) Linear regression techniques for use in the EC tracer method of secondary organic aerosol estimation. *Atmospheric Environment,* **40**, 39, 7546-7556.

Schimel D., Alves D., Enting I., Heimann M., Joos F., Raynaud D., Wigley T., Prather M., Derwent R., Ehhalt D., Fraser P., Sanhueza E., Zhou X., Jonas P., Charlson R., Rodhe H., Sadasivan S., Shine K.P., Fouquart Y., Ramaswamy V., Solomon S., Srinivasan J., Albritton D., Isaksen I., Lal M., and Wuebbles D. (1996) Radiative forcing of climate change. In *Climate Change 1995: the Science of Climate Change. Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change*, J.T. Houghton, L.G.M. Filho, B.A. Callander, N. Harris, A. Kattenberg, and K. Maskell, eds., Cambridge University Press, Cambridge, United Kingdom and New York, NY, 65-131.

Schmidt G., Ruedy R., Hansen J., Aleinov I., Bell N., Bauer M., Bauer S., Cairns B., Canuto V., Cheng Y., A. Del Genio, Faluvegi G., Friend A., Hall T., Hu Y., Kelley M., Kiang N., Koch D., Lacis A., Lerner J., Lo K., Miller R., Nazarenko L., Oinas V., Perlwitz J., Perlwitz J., Rind D., Romanou A., Russel G., Sato M., Shindell D., Stone P., Sun S., Tausnev N., Thresher D., and Yao M. (2006) Present-day atmospheric simulation using GISS Model: Comparison to in situ, satellite, and reanalysis data. *Journal of Climate,* **19**, 153-192, doi: 10.1175/JCLI3612.1.

Schmidt M.W.I. and Noack A.G. (2000) Black carbon in soils and sediments: Analysis, distribution, implications, and current challenges. *Global Biogeochemical Cycles,* **14**, 3, 777-793, doi: 10.1029/1999gb001208.

Schneider S.H., Semenov S., Patwardhan A., Burton I., Magadza C.H.D., Oppenheimer M., Pittock A.B., Rahman A., Smith J.B., Suarez A., and Yamin F. (2007) Assessing key vulnerabilities and the risk from climate change. In *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson, eds., Cambridge University Press, Cambridge, UK, 779-810.

Schulz M., Textor C., Kinne S., Balkanski Y., Bauer S., Berntsen T., Berglen T., Boucher O., Dentener F., Guibert S., Isaksen I.S.A., Iversen T., Koch D., Kirkevåg, Liu X., Montanaro V., Myhre G., Penner J.E., Pitari G., Reddy S., Seland Ø., Stier P., and Takemura T. (2006) Radiative forcing by aerosols as derived from the aerocom present-day and pre-industrial simulations. *Atmospheric Chemistry and Physics,* **6**, 5225-5246, doi:10.5194/acp-6-5225-2006.

Schuster G.L., Dubovik O., Holben B.N., and Clothiaux E.E. (2005) Inferring black carbon content and specific absorption from Aerosol Robotic Network (AERONET) aerosol retrievals. *Journal of Geophysical Research,* **110**, D10S17, doi: 10.1029/2004jd004548.

Schwartz J., Litonjua A., Suh H., Verrier M., Zanobetti A., Syring M., Nearing B.D., Verrier R.L., Stone P., MacCallum G., Speizer F.E., and Gold D.R. (2005) Traffic related pollution and heart rate variability in a panel of elderly subjects. *Thorax,* **60**, 6, 455-461, doi: 10.1136/thx.2004.024836.

Seinfeld J. and Pandis S. (2006) *Atmospheric chemistry and physics: From air pollution to climate change (second edition)*, John Wiley & Sons, Inc., Hoboken, New Jersey, 1203 (ISBN 0-471-72018-6).

Sharma S., Brook J.R., Cachier H., Chow J., Gaudenzi A., and Lu G. (2002) Light absorption and thermal measurements of black carbon in different regions of Canada. *Journal of Geophysical Research,* **107**, D24, 4771, doi: 10.1029/2002JD002496.

Shaw G.E. and Stamnes K. (1980) Arctic haze: perturbation of the polar radiation budget. *Annals of the New York Academy of Sciences,* **338**, 533-539.

Shih S.-I., Lee W.-J., Lin L.-F., Huang J.-Y., Su J.-W., and Chang-Chien G.-P. (2008) Significance of biomass open burning on the levels of polychlorinated dibenzo-p-dioxins and dibenzofurans in the ambient air. *Journal of Hazardous Materials,* **153**, 276-284.

Shindell D., Lamarque J.-F., Unger N., Koch D., Faluvegi G., Bauer S., Ammann M., Cofala J., and Teich H. (2008a) Climate forcing and air quality change due to regional emissions reductions by economic sector. *Atmospheric Chemistry and Physics,* **8**, 7101-7113, doi: 10.5194/acp-8-7101-2008.

Shindell D.T., Chin M., Dentener F., Doherty R.M., Faluvegi G., Fiore A.M., Hess P., Koch D.M., MacKenzie I.A., Sanderson M.G., Schultz M.G., Schulz M., Stevenson D.S., Teich H., Textor C., Wild O., Bergmann D.J., Bey I., Bian H., Cuvelier C., Duncan B.N., Folberth G., Horowitz L.W., Jonson J., Kaminski J.W., Marmer E., Park R., Pringle K.J., Schroeder S., Szopa S., Takemura T., Zeng G., Keating T.J., and Zuber A. (2008b) A multi-model assessment of pollution transport to the Arctic. *Atmospheric Chemistry and Physics,* **8**, 5353-5372, doi: 10.5194/acp-8-5353-2008.

Shindell D. and Faluvegi G. (2009) Climate response to regional radiative forcing during the twentieth century. *Nature Geoscience,* **2**, 4, 294-300, doi: 10.1038/ngeo473.

Shindell D.T., Faluvegi G., Koch D.M., Schmidt G.A., Unger N., and Bauer S.E. (2009) Improved attribution of climate forcing to emissions. *Science,* **326**, 5953, 716-718, doi: 10.1126/science.1174760.

Shindell D., Faluvegi G., Walsh M., Anenberg S.C., Van Dingenen R., Muller N.Z., Austin J., Koch D., and Milly G. (2011) Climate, health, agricultural and economic impacts of tighter vehicle-emission standards. *Nature Climate Change,* **1**, 1, 59-66, doi: 10.1038/nclimate1066.

Shindell D., Kuylenstierna J.C.I., Vignati E., van Dingenen R., Amann M., Klimont Z., Anenberg S.C., Muller N., Janssens-Maenhout G., Raes F., Schwartz J., Faluvegi G., Pozzoli L., Kupiainen K., Höglund-Isaksson L., Emberson L., Streets D., Ramanathan V., Hicks K., Oanh N.T.K., Milly G., Williams M., Demkine V., and Fowler D. (2012) Simultaneously Mitigating Near-Term Climate Change and Improving Human Health and Food Security. *Science*, **335**, 6065, 183-189, doi: 10.1126/science.1210026.

Shine K.P., Fuglestvedt J.S., Hailemariam K., and Stuber N. (2005) Alternatives to the global warming potential for comparing climate impacts of emissions of greenhouse gases. *Climatic Change,* **96**.

Shine K.P., Berntsen T.K., Fuglestvedt J.S., Skeie R.B., and Stuber N. (2007) Comparing the climate effect of emissions of short- and long-lived climate agents. *Philosophical Transactions of the Royal Society A,* **365** (1856), 1903-1914, doi: 10.1098/rsta.2007.2050.

Shine K.P. (2009) The global warming potential--the need for an interdisciplinary retrial. An editorial comment. *Climatic Change,* **96**, 467-472, doi: 10.1007/s10584-009-9647-6.

Shiraiwa M., Kondo Y., Iwamoto T., and Kita K. (2009) Amplification of light absorption of black carbon by organic coating. *Aerosol Science and Technology,* **44**, 1, 46 - 54.

Simon H., L. B., Bhave P.V., Divita F., Hsu Y., Luecken D., Mobley J.D., Pouliot G.A., Reff A., Sarwar G., and Strum M. (2010) The development and uses of EPA's SPECIATE database. *Atmospheric Pollution Research,* **1**, 196-296.

Sinha B. (2002) The Indian stove programme: an insider's view – the role of society, politics, economics and education. *Boiling Point,* **48**, 23-26.

Sinton J.E., Smith K.R., Peabody J.W., Yaping L., Xiliang Z., Edwards R., and Quan G. (2004) An assessment of programs to promote improved household stoves in China. *Energy for Sustainable Development,* **8**, 3, 33-52, doi: 10.1016/S0973-0826(08)60465-2.

Skeie R.B., Berntsen T., Myhre G., Pedersen C.A., Ström J., Gerland S., and Ogren J.A. (2011) Black carbon in the atmosphere and snow, from pre-industrial times until present. *Atmospheric Chemistry and Physics,* **11**, 6809-6836, doi: 10.5194/acp-11-6809-2011.

Slater J.F., Currie L.A., Dibb J.E., and Benner B.A., Jr. (2002) Distinguishing the relative contribution of fossil fuel and biomass combustion aerosols deposited at Summit, Greenland through isotopic and molecular characterization of insoluble carbon. *Atmospheric Environment,* **36**, 4463-4477.

Slowik J.G., E. C., Han J.-H., Davidovits P., Onasch T.B., Jayne J.T., Williams L.R., Canagaratna M.R., Worsnop D.R., Chakrabarty R.K., Moosmuller H., Arnott W.P., Schwarz J.P., Gao R.-S., Fahey D.W., Kok G.L., and Petzold A. (2007) An inter-comparison of instruments measuring black carbon content of soot particles. *Aerosol Science and Technology,* **41**, 3, 295-314.

Smallwood G.J., Snelling D.R., Gülder Ö.L., Clavel D., Gareau D., Sawchuck R.A., and Graham L. (2001) Transient particulate matter measurements from the exhaust of a direct injection spark ignition automobile. SAE paper 2001-01-3581.

SMAQMD (2009) Rule 421, mandatory episodic curtailment of wood and other solid fuel burning. Staff report by the Sacramento Metropolitan Air Quality Management District. Available on the Internet at *http://www.airquality.org/bod/2009/SepRule421HearingAttD-StaffReport.pdf*.

Smith D.M., Griffin J.J., and Goldberg E.D. (1973) Elemental Carbon in Marine Sediments: A Baseline for Burning. *Nature of Climate Change,* **241**, 268-270.

Smith K.R., Samet J.M., Romieu I., and Bruce N. (2000a) Indoor air pollution in developing countries and acute lower respiratory infections in children. *Thorax,* **55**, 6, 518-532.

Smith K.R., Uma R., Zhang J., Rasmussen R.A., and Khalil M.A.K. (2000b) Household stoves in India, greenhouse gases from small-scale combustion devices in developing countries, phase IIa. EPA/600/R-00-052, June. Available on the Internet at *http://www.epa.gov/nrmrl/pubs/600r00052/600R00052.pdf*.

Smith K.R., Mehta S., and Maeusezahl-Feuz M. (2004) Indoor air pollution from household use of solid fuels. In *Comparative Quantification of Health Risks: Global and Regional Burden of Disease Due to Selected Major Risk Factors*, M. Ezzati, A.D. Lopez, A. Rodgers, and C.J.L. Murray, eds., World Health Organization, Geneva, Switzerland, 1435-1493.

Smith K.R. and Haigler E. (2008) Co-benefits of climate mitigation and health protection in energy systems: scoping methods. *Annual Review Public Health,* **29**, 11-25.

Smith K.R., McCracken J.P., Weber M.W., Hubbard A., Jenny A., Thompson L.M., Balmes J., Diaz A., Arana B., and Bruce N. (2011) Effect of reduction in household air pollution on childhood pneumonia in Guatemala (RESPIRE): a randomised controlled trial. *The Lancet,* **378**, 9804, 1717-1726, doi: 10.1016/S0140-6736(11)60921-5.

Smith S.J. and Wigley T.M.L. (2006) Multi-gas forcing stabilization with the MiniCAM. *The Energy Journal,* Special Issue Number 3: Multigas Mitigation and Climate Policy, 373-391.

Snyder D.C. and Schauer J.J. (2007) An inter-comparison of two black carbon aerosol instruments and a semi-continuous elemental carbon instrument in the urban environment. *Aerosol Science and Technology,* **41**, 463-474.

Sorensen M., Daneshvar B., Hansen M., Dragsted L., Hertel O., Knudsen L., and Loft S. (2003) Personal $PM_{2.5}$ exposure and markers of oxidative stress in blood. *Environmental Health Perspectives,* **111**, 161-165.

Spira-Cohen A., Chen L.C., Kendall M., Lall R., and Thurston G.D. (2011) Personal exposures to traffic-related air pollution and acute respiratory health among Bronx schoolchildren with asthma. *Environmental Health Perspectives,* **119**, 4, 559-565, doi: 10.1289/ehp.1002653.

Sram R.J., Binkova B., Dejmek J., and Bobak M. (2005) Ambient air pollution and pregnancy outcomes: a review of the literature. *Environmental Health Perspectives,* **113**, 375-382.

Stanek L.W., Sacks J.D., Dutton S.J., and Dubois J.-J.B. (2011) Attributing health effects to apportioned components and sources of particulate matter: An evaluation of collective results. *Atmospheric Environment,* **45**, 32, 5655-5663, doi: 10.1016/j.atmosenv.2011.07.023.

Stanhill G. and Cohen S. (2001) Global dimming: a review of the evidence for a widespread and significant reduction in global radiation with discussion of its probable causes and possible agricultural consequences. *Agricultural and Forest Meteorology,* **107**, 255-278.

STAPPA (2006) Controlling fine particulate matter under the Clean Air Act: a menu of options. Report by the State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officers (now National Association of Clean Air Agencies, NACAA), March.

Stier P., Seinfeld J.H., Kinne S., Feichter J., and Boucher O. (2006) Impact of nonabsorbing anthropogenic aerosols on clear-sky atmospheric absorption. *Journal of Geophysical Research,* **111**, D18201, doi: 10.1029/2006JD007147.

Stohl A., Andrews E., Burkhart J.F., Forster C., Herber A., Hoch S.W., Kowal D., Lunder C., Mefford T., Ogren J.A., Sharma S., Spichtinger N., Stebel K., Stone R., Strom J., Torseth K., Wehrli C., and Yttri K.E. (2006) Pan-arctic enhancements of light absorbing aerosol concentrations due to North American boreal forest fires during summer 2004. *Journal Geophysical Research,* **111**, D22214: 10.1029/2006JD007216.

Stohl A., Berg T., Burkhart J.F., Fjæraa A.M., Forster C., Herber A., Hov Ø., Lunder C., McMillan W.W., Oltmans S., Shiobara M., Simpson D., Solberg S., Stebel K., Ström J., Tørseth K., Treffeisen R., Virkkunen K., and Yttri K.E. (2007) Arctic smoke – record high air pollution levels in the European Arctic due to agricultural fires in Eastern Europe in spring 2006. *Atmospheric Chemistry and Physics,* **7**, 511-534, doi: 10.5194/acp-7-511-2007.

Strack J.E., Pielke R.A., Sr., and Liston G. (2007) Arctic tundra shrub invasion and soot deposition: Consequences for spring snowmelt and near-surface air temperatures. *Journal of Geophysical Research,* **112**, G04S44, doi:10.1029/2006JG000297.

Strawa A.W., Kirchstetter T.W., Hallar A.G., Ban-Weiss G.A., McLaughlin J.P., Harley R.A., and Lunden M.M. (2010) Optical and physical properties of primary on-road vehicle particle emissions and their implications for climate change. *Journal of Aerosol Science,* **41**, 36-50.

Streets D., Bond T., Lee T., and Jang C. (2004) On the future of carbonaceous aerosol emissions. *Journal of Geophysical Research,* **109**, doi: 10.1029/2004JD004902.

Streets D.G., Gupta S., Waldhoff S.T., Wang M.Q., Bond T.C., and Yiyun B. (2001) Black carbon emissions in China. *Atmospheric Environment,* **35**, 4281-4296.

Streets D.G., Bond T.C., Carmichael G.R., Fernandes S.D., Fu Q., He D., Klimont K., Nelson S.M., Tsai N.Y., and Wang M.Q. (2003a) An inventory of gaseous and primary aerosol emissions in Asia in the year 2000. *Journal of Geophysical Research,* **108**, D21, Art. No. 8809.

Streets D.G., Yarber K.F., Woo J.H., and Carmichael G.R. (2003b) Biomass burning in Asia: Annual and seasonal estimates and atmospheric emissions. *Global Biogeochemical Cycles* **17**, 4, 1099.

Streets D.G., Wu Y., and Chin M. (2006) Two-decadal aerosol trends as a likely explanation of the global dimming/brightening transition. *Geophysical Research Letters,* **33**, L15806, doi: 10.1029/2006GL026471.

Strydom C., Robinson C., Pretorius E., Whitcutt J.M., Marx J., and Bornman M.S. (2006) The effect of selected metals on the central metabolic pathways in biology: a review. *WaterSA,* **32**, 543-554.

Subramanian R., Kok G.L., Baumgardner D., Clarke A., Shinozuka Y., Campos T.L., Heizer C.G., Stephens B.B., de Foy B., Voss P.B., and Zaveri R.A. (2010) Black carbon over Mexico: The effect of atmospheric transport on mixing state, mass absorption cross-section, and BC/CO ratios. *Atmospheric Chemistry and Physics,* **10**, 1, 219-237.

Suglia S.F., Gryparis A., Schwartz J., and Wright R.J. (2008) Association between traffic-related black carbon exposure and lung function among urban women. *Environmental Health Perspectives,* **116**, 1333-1337.

Tagaris E., Liao K.-J., DeLucia A.J., Deck L., Amar P., and Russell A.G. (2009) Potential impact of climate change on air pollution-related human health effects. *Environmental Science & Technology,* **43**, 4979-4988.

Tankersley C.G., Campen M., Bierman A., Flanders S.E., Broman K.W., and Rabold R. (2004) Particle effects on heart-rate regulation in senescent mice. *Inhalation Toxicology,* **16**, 381-390.

Tankersley C.G., Bierman A., and Rabold R. (2007) Variation in heart rate regulation and the effects of particle exposure in inbred mice. *Inhalation Toxicology,* **19**, 621-629.

Tankersley C.G., Champion H.C., Takimoto E., Gabrielson K., Bedja D., Misra V., El-Haddad H., Rabold R., and Mitzner W. (2008) Exposure to inhaled particulate matter impairs cardiac function in senescent mice. *American Journal of Physiology – Regulatory, Integrative and Comparative Physiology,* **295**, R252-R263.

Ten Hoeve J.E., Remer L.A., and Jacobson M.Z. (2011) Microphysical and radiative effects of aerosols on warm clouds during the Amazon biomass burning season as observed by MODIS: impacts of water vapor and land cover. *Atmospheric Chemistry and Physics,* **11**, 3021-3036, doi: 10.5194/acp-11-3021-2011.

TF HTAP (2010) Hemispheric Transport of Air Pollution 2010, Part A: Ozone and Particulate Matter, F. Dentener, T. Keating, and H. Akimoto, eds., Prepared by the Task Force on Hemispheric Transport of Air Pollution, United Nations Economic Commission for Europe, Geneva, Switzerland, Air pollution studies No. 17 (ECE/EB.AIR/100). Available on the Internet at *http://www.htap.org/activities/2010_Final_Report/HTAP%202010%20Part%20A%20110407.pdf*.

Thevenon F., Anselmetti F.S., Bernasconi S.M., and Schwikowski M. (2009) Mineral dust and elemental black carbon records from an Alpine ice core (Colle Gnifetti glacier) over the last millennium. *Journal of Geophysical Research,* **114**, D17102, doi: 10.1029/2008JD011490.

Thomas R., Frederick E., Krabill W., Manizade S., and Martin C. (2006) Progressive increase in ice loss from Greenland. *Geophysical Research Letters,* **33**, L10503, doi: 10.1029/2006GL026075.

Thompson L. (2010) Understanding global climate change: paleoclimate perspective from the world's highest mountains. *Proceedings of the American Philosophical Society,* **154**, 133-157.

Thurston G.D., Ito K., Mar T., Christensen W.F., Eatough D.J., Henry R.C., and Kim E. (2005) Workgroup report: workshop on source apportionment of particulate matter health effects: an intercomparison of results and implications. *Environmental Health Perspectives,* **113**, 1768-1774.

Tolbert P.E., Klein M., Peel J.L., Sarnat S.E., and Sarnat J.A. (2007) Multipollutant modeling issues in a study of ambient air quality and emergency department visits in Atlanta. *Journal of Exposure Science and Environmental Epidemiology,* **17**, S2, S29-S35, doi: 10.1038/sj.jes.7500625.

Torres O., Bhartia P.K., Herman J.R., Sinyuk A., Ginoux P., and Holben B. (2002) A long-term record of aerosol optical depth from TOMS observations and comparison to AERONET measurements. *Journal of the Atmospheric Sciences,* **59**, 398-413.

Torres O., Tanskanen A., Veihelmann B., Ahn C., Braak R., Bhartia P.K., Veefkind P., and Levelt P. (2007) Aerosols and surface UV products from Ozone Monitoring Instrument observations: An overview. *Journal of Geophysical Research,* **112**, D24S47, doi: 10.1029/2007JD008809.

Trenberth K.E., Johnes P.D., Ambenje P., and al. E. (2007) Observations: surface and atmospheric climate change. In *Climate Change 2007: the Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller, eds., Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA.

Truce R. and Wilkison L. (2008) Enhanced Fine particle and mercury emission control using the Indigo Agglomerator. In the proceedings from the *11th International Conference on Electrostatic Precipitation, Hangzhou, China,*, K. Yan, ed., Zhejiang University Press.

Turpin B.J. and Lim H.-J. (2001) Species contributions to $PM_{2.5}$ mass concentrations: Revisiting common assumptions for estimating organic mass. *Aerosol Science and Technology,* **35**, 602- 610.

Twomey S. (1977) The influence of pollution on the shortwave albedo of clouds. Journal of the Atmospheric Sciences, 34, 7, 1149–52.

U.N. Foundation (2011) Igniting change: a strategy for universal adoption of clean cookstoves and fuels. Available on the Internet at *http://cleancookstoves.org/resources/key-documents/*.

U.S. Census Bureau (2004) 2002 Economic census: vehicle inventory and use survey. Census Bureau report EC02TV-US.

U.S. EPA (1992) Prescribed burning background document and technical information document for best available control measures.

U.S. EPA (1998) Interim air quality policy on wildland and prescribed fires. Report.

U.S. EPA (1999) Draft regulatory impact analysis. Report, EPA 420D-99-001, April.

U.S. EPA (2001) On-highway heavy-duty engine and vehicle standards and highway diesel fuel sulfur control requirements. *Federal Register,* **66**, 12, 5002-5193.

U.S. EPA (2002a) National Emissions Inventory data and documentation, CHIEF website. Available on the Internet at *http://www.epa.gov/ttn/chief/net/2002inventory.html*.

U.S. EPA (2002b) Health assessment document for diesel engine exhaust. Report by the National Center for Environmental Assessment Office of Research and Development, U.S. Environmental Protection Agency, Washington, D.C., EPA/600/8-90/057F. Available on the Internet at *http://oaspub.epa.gov/eims/eimscomm.getfile?p_download_id=36319*.

U.S. EPA (2003) EPA MOBILE6.2 model. Available on the Internet at *http://www.epa.gov/otaq/m6.htm*.

U.S. EPA (2004a) Final regulatory impact analysis: control of emissions from nonroad diesel engines. Report, EPA420-%-04-007. Available on the Internet at *http://www.epa.gov/ttn/ecas/ria.html*.

U.S. EPA (2004b) The particle pollution report: current understanding of air quality and emissions through 2003. EPA 454-R-04-002, December. Available on the Internet at *http://www.epa.gov/airtrends/aqtrnd04/pm.html*.

U.S. EPA (2004c) EPA's designations for $PM_{2.5}$ nonattainment areas in New England questions and answers. Available on the Internet at *http://www.epa.gov/ne/airquality/pdfs/pm25_qa.pdf*.

U.S. EPA (2005a) National Emissions Inventory data and documentation, CHIEF website. Available on the Internet at *http://www.epa.gov/ttn/chief/net/2005inventory.html*.

U.S. EPA (2005b) AirControlNET version 4.1 documentation report. Prepared for the U.S. Environmental Protection Agency by E.H. Pechan & Associates, Inc.

U.S. EPA (2006a) Diesel retrofit technology: an analysis of the cost-effectiveness of reducing particulate matter emissions from heavy-duty diesel engines through retrofits. Report, EPA420-S-06-002.

U.S. EPA (2006b) National ambient air quality standards for particulate matter; final rule. Federal Register, **71,** 61144. Available on the Internet at *http://www.epa.gov/ttn/naaqs/standards/pm/data/fr20061017.pdf*

U.S. EPA (2006c) 2006 regulatory impact analysis for the national ambient air quality standards for particle pollution. Report. Available on the Internet at *http://www.epa.gov/ttn/ecas/ria.html*.

U.S. EPA (2007) The cost-effectiveness of heavy-duty diesel retrofits and other mobile source emission reduction projects and programs. EPA420-B-07-006, May. Available on the Internet at *http://epa.gov/cleandiesel/documents/420b07006.pdf*.

U.S. EPA (2008a) Technology transfer network clearinghouse for inventories and emission factors, SPECIATE Version 4.2. Available on the Internet at *http://cfpub.epa.gov/si/speciate/ehpa_speciate_browse_details.cfm?ptype=P&pnumber=4737*.

U.S. EPA (2008b) NONROAD model (nonroad engines, equipment, and vehicles). Available on the Internet at *http://www.epa.gov/otaq/nonrdmdl.htm*.

U.S. EPA (2008c) Regulatory impact analysis: Control of emissions of air pollution from locomotive engines and marine compression-ignition engines less than 30 liters per cylinder; republication. *Federal Register,* **73**, 126 (EPA420-R-08-001a). Available on the Internet at *http://www.epa.gov/oms/regs/nonroad/420r08001a.pdf*.

U.S. EPA (2009a) Report to Congress: highlights of the Diesel Emissions Reduction Program. Report, EPA-420-R-09-006, August.

U.S. EPA (2009b) Integrated science assessment for particulate matter. Report by the U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139. Available on the Internet at *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546*.

U.S. EPA (2010a) Technical bulletin: diesel particulate filter general information. EPA420-F-10-029.

U.S. EPA (2010b) Regulatory impact analysis: Amendments to the national emission standards for hazardous air pollutants and new source performance standards (NSPS) for the portland cement manufacturing industry: Final report. Available on the Internet at *http://www.epa.gov/ttn/ecas/regdata/RIAs/portlandcementfinalria.pdf*.

U.S. EPA (2010c) Final rulemaking to establish light-duty vehicle greenhouse gas emission standards and corporate average fuel economy standards regulatory impact analysis. (EPA-420-R-10-009). Available on the Internet at *http://www.epa.gov/otaq/climate/regulations/420r10009.pdf*.

U.S. EPA (2010d) WebFIRE information. Available on the Internet at *http://cfpub.epa.gov/webfire/*.

U.S. EPA (2010e) MOVES2010 model. Available on the Internet at *http://www.epa.gov/otaq/models/moves*.

U.S. EPA (2010f) Methods for measurement of filterable PM_{10} and $PM_{2.5}$ and measurement of condensable PM emissions from stationary sources. *Federal Register,* **75**, 244. Available on the Internet at *http://origin.www.gpo.gov/fdsys/pkg/FR-2010-12-21/pdf/2010-30847.pdf*.

U.S. EPA (2010g) Regulatory impact analysis: control of emissions of air pollution from category 3 marine diesel engines. Report.

U.S. EPA (2010h) Final regulatory impact analysis (RIA) for the SO_2 national ambient air quality standards (NAAQS). Available on the Internet at *http://www.epa.gov/ttn/ecas/regdata/RIAs/fso2ria100602full.pdf*.

U.S. EPA (2010i) Our nation's air: status and trends through 2008. Report prepared by the Office of Air Quality Planning and Standards, Air Quality Assessment Division, Research Triangle Park, NC, February. Available on the Internet at *http://www.epa.gov/airtrends/2010/report/fullreport.pdf*.

U.S. EPA (2011a) Regulatory impact analysis: national emission standards for hazardous air pollutants for industrial, commercial, and institutional boilers and process heaters. Available on the Internet at *http://www.epa.gov/ttn/ecas/regdata/RIAs/boilersriafinal110221_psg.pdf*.

U.S. EPA (2011b) Reducing black carbon emissions from the industrial, transportation, and residential sectors in South Asia. Draft report prepared for the U.S. Environmental Protection Agency, Research Triangle Park, NC, by Stratus Consulting, Boulder, CO, EPA Contract GS-10F-0229K.

U.S. EPA (2011c) The benefits and costs of the clean air act from 1990 to 2020. Final report, revision A by the U.S. Environmental Protection Agency, Office of Air and Radiation, Washington, DC, April. Available on the Internet at *http://www.epa.gov/oar/sect812/feb11/fullreport.pdf*.

U.S. EPA (2011d) Policy assessment for the review of the PM NAAQS. Final report by the U.S. Environmental Protection Agency Office of Air Quality Planning and Standards, Health and Environmental Impacts Division, Research Triangle Park, NC, April. Available on the Internet at *http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_2007_pa.html*.

U.S. EPA (2011e) Regulatory impact analysis for the federal implementation plans to reduce interstate transport of fine particulate matter and ozone in 27 states; correction of SIP approvals for 22 states. Available on the Internet at *http://www.epa.gov/airtransport/pdfs/FinalRIA.pdf*.

UNDP (2007) Improving kiln efficiency for the brick making industry in Bangladesh - PDF B Phase. Report by the United Nations Development Programme Global Environment Facility, BDG/04/014.

UNDP (2010) Technical and financial fact sheet. By the United Nations Development Programme Bangladesh. Available on the Internet at *http://www.undp.org.bd/projects/prodocs/IKEBMI/Technical%20Fact%20Sheet.pdf*.

UNEP (2008a) Atmospheric brown clouds: regional assessment report with focus on Asia. Report by the United Nations Environment Programme, Nairobi, Kenya. Available on the Internet at *http://www.unep.org/pdf/ABCSummaryFinal.pdf*.

UNEP (2008b) Final report of the sixteenth meeting of the forum of ministers of the environment of Latin America and the Caribbean. Santo Domingo, Dominican Republic, UNEP/LAC-IGWG.XVI/9, January 27-February 1.

UNEP (2011) Near-term protection and clean air benefits: actions for controlling short-lived climate forcers. By the United Nations Environment Programme, ISBN: 978-92-807-3232-0, November. Available on the Internet at *http://www.unep.org/publications/ebooks/slcf/*.

UNEP and WMO (2011a) Integrated assessment of black carbon and tropospheric ozone. By the United Nations Environment Programme and World Meteorological Organization. Available on the Internet at *http://www.unep.org/dewa/Portals/67/pdf/BlackCarbon_report.pdf*.

UNEP and WMO (2011b) Integrated assessment of black carbon and tropospheric ozone: summary for decision makers. By the United Nations Environment Programme and World Meteorological Organization, UNEP/GC/26/INF/20. Available on the Internet at *http://www.unep.org/dewa/Portals/67/pdf/BlackCarbon_SDM.pdf*.

Unger N., Shindell D.T., and Wang J.S. (2009) Climate forcing by the on-road transportation and power generation sectors. *Atmospheric Environment,* **43**, 3077-3085.

Unger N., Bond T.C., Wang J.S., Koch D.M., Menon S., Shindell D.T., and Bauer S. (2010) Attribution of climate forcing to economic sectors. *Proceedings of the National Academy of Sciences,* **107**, 8.

USAID (2007) Fuel-efficient stove programs in IDP settings - summary evaluation report, Uganda. By the U.S. Agency for International Development. Available on the Internet at *http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/sectors/files/uganda_final_summary.pdf*.

USAID (2010a) Black carbon emissions in Asia: sources, impacts, and abatement options. By the U.S. Agency for International Development, April.

USAID (2010b) Evaluation of manufactured wood-burning stoves in Dadaab refugee camps, Kenya. By the U.S. Agency for International Development.

USAID (2011) In-home emissions of greenhouse pollutants from rocket and traditional biomass cooking stoves in Uganda. By the U.S. Agency for International Development. Available on the Internet at *http://iapnews.wordpress.com/2011/05/05/usaid-emissions-of-greenhouse-pollutants-from-rocket-and-traditional-biomass-cooking-stoves-in-uganda/*.

USDA (2010) USDA Arctic black carbon initiative. Fact sheet by the U.S. Department of Agriculture (USDA), Washington, D.C., September.

USEIA (2010) Electric power annual (with data for 2008). By the U.S. Energy Information Administration, January 21.

USEIA (2011) International energy outlook. By the U.S. Energy Information Administration, DOE/EIA-0484(2011), September.

Val Martin M., Logan J.A., Kahn R.A., Leung F.-Y., Nelson D.L., and Diner D.J. (2010) Smoke injection heights from fires in North America: analysis of 5 years of satellite observations. *Atmospheric Chemistry and Physics*, **10**, 1491-1510, doi: 10.5194/acp-10-1491-2010.

van Setten B.A.A.L., Makkee M., and Moulijn J.A. (2001) Science and technology of catalytic diesel particulate filters. *Catalysis Reviews,* **43**, 4, 489–564.

van Vuuren D., den Elzen M., Lucas P., Eickhout B., Strengers B., van Ruijven B., Wonink S., and van Houdt R. (2007) Stabilizing greenhouse gas concentrations at low levels: an assessment of reduction strategies and costs. *Climatic Change,* **81**, 119-159, doi: 10.1007/s10584-006-9172-9.

Venkatachari P., Zhou L., Hopke P.K., Schwab J.J., Demerjian K.L., Weimer S., Hogrefe O., Felton D., and Rattigan O. (2006) An intercomparison of measurement methods for carbonaceous aerosol in the ambient air in New York City. *Aerosol Science and Technology,* **40**, 788-795.

Venkataraman C., Sagar A.D., Habib G., Lam N., and Smith K.R. (2010) The Indian National Initiative for Advanced Biomass Cookstoves: the benefits of clean combustion. *Energy for Sustainable Development,* **14**, 63-72, doi: 10.1016/j.esd.2010.04.005.

Vignati E., Karl M., Krol M., Wilson J., Stier P., and Cavalli F. (2010) Sources of uncertainties in modeling black carbon at the global scale. *Atmospheric Chemistry and Physics,* **10**, 2595-2611, doi: 10.5194/acp-10-2595-2010.

Virkkula A., Mäkelä T., Hillamo R., Yli-Tuomi T., Hirsikko A., Hämeri K., and Koponen I.K. (2007) A simple procedure for correcting loading effects of Aethalometer data. *Journal of the Air & Waste Management Association,* **57**, 10, 1214-1222.

Walgraeve C., Demeestere K., Dewulf J., Zimmermann R., and Van Langenhove H. (2010) Oxygenated polycyclic aromatic hydrocarbons in atmospheric particulate matter: Molecular characterization and occurrence. *Atmospheric Environment,* **44**, 1831-1846.

Wang C. (2004) A modeling study on the climate impacts of black carbon aerosols. *Journal of Geophysical Research,* **109**, D03106 (D3), doi: 10.1029/2003JD004084.

Wang C. (2007) Impact of direct radiative forcing of black carbon aerosols on tropical convective precipitation. *Geophysical Research Letters,* **34**, L05709 (5), doi: 10.1029/2006GL028416.

Ward T.J., Palmer C.P., Bergauff M., Jayanty R.K.M., and Noonan C.W. (2011) Organic/elemental carbon and woodsmoke tracer concentrations following a community-wide woodstove changeout program. *Atmospheric Environment,* **45**, 5554-5560 (31), doi: 10.1016/j.atmosenv.2011.05.005.

Warneke C., Bahreini R., Brioude J., Brock C.A., de Gouw J.A., Fahey D.W., Froyd K.D., Holloway J.S., Middlebrook A., Miller L., Montzka S., Murphy D.M., Peischl J., Ryerson T.B., Schwarz J.P., Spackman J.R., and Veres P. (2009) Biomass burning in Siberia and Kazakhstan as an important source for haze over the Alaskan Arctic in April 2008. *Geophysical Research Letters,* **36**, L02813 (2), doi: 10.1029/2008GL036194.

Warneke C., Froyd K.D., Brioude J., Bahreini R., Brock C.A., Cozic J., de Gouw J.A., Fahey D.W., Ferrare R., Holloway J.S., Middlebrook A.M., Miller L., Montzka S., Schwarz J.P., Sodemann H., Spackman J.R., and Stohl A. (2010) An important contribution to springtime Arctic aerosol from biomass burning in Russia. *Geophysical Research Letters,* **37**, L01801 (1), doi: 10.1029/2009GL041816.

Warren S.G. and Clarke A.D. (1990) Soot in the atmosphere and snow surface of Antarctica. *Journal of Geophysical Research*, **95** (D2), 1811–1816, doi: 10.1029/JD095iD02p01811.

Warren S.G. and Wiscombe W.J. (1980) A model for the spectral albedo of snow, II: snow containing atmospheric aerosols. *Journal of the Atmospheric Sciences,* **37**, 2734-2745.

Warren S.G., Brandt R.E., and Grenfell T.C. (2006) Visible and near-ultraviolet absorption spectrum of ice from transmission of solar radiation into snow. *Applied Optics,* **45**, 5320-5334 (21), doi: 10.1364/AO.45.005320.

Watmough S.A., Hutchinson T.C., and Dillon P.J. (2004) Lead dynamics in the forest floor and mineral soil in south-central Ontario. *Biogeochemistry,* **71**, 43-68.

Watson J.G., Thurston G.D., Frank N.H., Lodge J.P., Wiener R.W., McElroy F.F., Kleinman M.T., Mueller P.K., and Chow J.C. (1995) Critical review discussion: measurement methods to determine compliance with ambient air quality standards for suspended particles. *Journal of the Air & Waste Management Association,* **45**, 666-684.

Watson J.G., Fujita E.M., Chow J.C., Zielinska B., Richards L.W., Neff W., and Dietrich D. (1998) Northern front range air quality study. Final report prepared for Colorado State University, Cooperative Institute for Research in the Atmosphere, Fort Collins, CO, by Desert Research Institute, Reno, NV, STI-996410-1772-FR, June. Available on the Internet at *http://www.dri.edu/images/stories/editors/eafeditor/Fujitaetal1998NFRAQSCMB.pdf*.

Watson J.G., Chow J.C., and Chen L.-W.A. (2005) Summary of organic and elemental carbon/black carbon analysis methods and intercomparisons. *Aerosol and Air Quality Research,* **5**, 1, 65-102.

Weingartner E., Saathoff H., Schnaiter M., Streit N., Bitnar B., and Baltensperger U. (2003) Absorption of light by soot particles: determination of the absorption coefficient by means of Aethalometers. *Journal of Aerosol Science,* **34**, 1445-1463.

Wellenius G.A., Yeh G.Y., Coull B.A., Suh H.H., Phillips R.S., and Mittleman M.A. (2007) Effects of ambient air pollution on functional status in patients with chronic congestive heart failure: a repeated-measures study. *Environmental Health,* **6**, 1-7.

Wesson K., Fann N., Morris M., Fox T., and Hubbell B. (2010) A multi–pollutant, risk–based approach to air quality management: case study for Detroit. *Atmospheric Pollution Research,* **1**, 4, 296-304.

White W.H. (2007) Shift in EC/OC split with 1 January 2005 TOR hardware upgrade. Available on the Internet at *http://vista.cira.colostate.edu/improve/Data/QA_QC/Advisory/da0016/da0016_TOR2005.pdf*

Widmann J.F., Duchez J., Yang J.C., Conny J.M., and Mulholland G.W. (2005) Measurement of the optical extinction coefficient of combustion-generated aerosol. *Journal of Aerosol Science,* **36**, 2, 283-289, doi: 10.1016/j.jaerosci.2004.09.005.

Wiedinmyer C. and Hurteau M.D. (2010) Prescribed fire as a means of reducing forest carbon emissions in the western United States. *Environmental Science & Technology,* ***44***, 1926-1932.

Wild M., Gilgen H., Roesch A., Ohmura A., Long C., Dutton E., Forgan B., Kallis A., Russak V., and Tsvetkov A. (2005) From dimming to brightening: decadal changes in solar radiation at the Earth's surface. *Science,* **308**, 847-850.

Wild M. (2009) Global dimming and brightening: a review. *Journal of Geophysical Research,* **114**, D00D16, doi: 10.1029/2008JD011470.

Wilker E.H., Baccarelli A., Suh H., Vokonas P., Wright R.O., and Schwartz J. (2010) Black carbon exposures, blood pressure, and interactions with single nucleotide polymorphisms in microRNA processing genes. *Environmental Health Perspectives,* **118**, 7, 943-948, doi: 10.1289/ehp.0901440.

Wilkerson J.T., Jacobson M.Z., Malwitz A., Balasubramanian S., Wayson R., Fleming G., Naiman A.D., and Lele S.K. (2010) Analysis of emission data from global commercial aviation: 2004 and 2006. *Atmospheric Chemistry and Physics,* **10**, 6391-6408.

Wilkinson P., Smith K.R., Davies M., Adair H., Armstrong B.G., Barrett M., Bruce N., Haines A., Hamilton I., Oreszczyn T., Ridley I., Tonne C., and Chalabi Z. (2009) Public health benefits of strategies to reduce greenhouse-gas emissions: household energy. *The Lancet,* **374**, 9705, 1917-1929, doi: 10.1016/S0140-6736(09)61713-X.

Winebrake J.J., Corbett J.J., Falzarano A., Hawker J.S., Korfmacher K., Ketha S., and Zilora S. (2008) Assessing energy, environmental, and economic tradeoffs in intermodal freight transportation. *Journal of the Air & Waste Management Association,* **58**, 1004-1013.

Winkler D., Hunt W., and McGill M. (2007) Initial performance assessment of CALIOP. *Geophysical Research Letters,* **34**, L19803, doi: 10.1029/2007GL030135.

Wiscombe W. and Warren S. (1980) A model for the spectral albedo of snow II. Snow containing atmospheric aerosols. *Journal of the Atmospheric Sciences,* **37**, 2734-2274.

Wise M.A., Calvin K.V., Thomson A.M., Clarke L.E., Bond-Lamberty B., Sands R.D., Smith S.J., Janetos A.C., and Edmonds J.A. (2009) Implications of limiting CO_2 concentrations for land use and energy. *Science,* **324**, 1183-1186.

Wolff G.T., Groblicki P.J., Cadle S.H., and Countiss (1982) Particulate carbon at various locations in the United States. In *Particulate Carbon: Atmospheric Life Cycle*, G.T. Wolff and R.L. Klimisch, eds., Plenum Press, New York, NY, 79-88.

World Bank (2010) Household Cookstoves, environment, health, and climate change: A new look at an old problem. Available on the Internet at *http://climatechange.worldbank.org/sites/default/files/documents/Household%20Cookstoves-web.pdf*

World Health Organization (2009) *Global health risks: mortality and burden of disease attributable to selected major risks*, WHO Press, Geneva, Switzerland Available on the Internet at *http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf*.

WRAP (2002) Non-burning management alternatives on agricultural lands in the western United States, Volume II: non-burning management alternatives and implementation plan strategies. Prepared for the Western Regional Air Partnership by Eastern Research Group, Inc.

Wu J., Fu C., Xu Y., Tang J.P., Wang W., and Wang Z. (2008) Simulation of direct effects of black carbon aerosol on temperature and hydrological cycle in Asia by a Regional Climate Model. *Meteorology and Atmospheric Physics,* **100**, 179-193, doi: 10.1007/s00703-008-0302-y.

Xu B.-Q., Wang M., Joswiak D.R., Cao J.-J., Yao T.-D., Wu G.-J., Yang W., and Zhao H.-B. (2009a) Deposition of anthropogenic aerosols in a southeastern Tibetan glacier. *Journal of Geophysical Research,* **114**, D17209 (D17), doi: 10.1029/2008JD011510.

Xu B., Yao T., Liu X., and Wang N. (2006) Elemental and organic carbon measurements with a two-step heatinggas chromatography system in snow samples from the Tibetan Plateau. *Annals of Glaciology,* **43**, 1, 257-262, doi: 10.3189/172756406781812122.

Xu B., Cao J., Hansen J., Yao T., Joswia D.R., Wang N., Wu G., Wang M., Zhao H., Yang W., Liu X., and He J. (2009b) Black soot and the survival of Tibetan glaciers. *Proceedings of the National Academy of Sciences,* **106**, 22114-22118, doi: 10.1073/pnas.0910444106.

Yadav V.K., Prasad S., Patel D.K., Khan A.H., Tripathi M., and Shukla Y. (2010) Identification of polycyclic aromatic hydrocarbons in unleaded petrol and diesel exhaust emission. *Environmental Monitoring and Assessment,* **168**, 173-178.

Yang L., Xiaoye Z., Sunling G., Huizheng C., Dan W., Wenjun Q., and Junying U. (2006) Comparison of EC and BC and evaluation of dust aerosol contribution to light absorption in Xi'an, China. *Environmental Monitoring and Assessment,* **120**, 301-312, doi: 10.1007/s10661-005-9062-z.

Yttri K.E., Aas W., Bjerke A., Cape J.N., Cavalli F., Ceburnis D., Dye C., Emblico L., Facchini M.C., Forster C., Hanssen J.E., Hansson H.C., Jennings S.G., Maenhaut W., Putaud J.P., and Tørseth K. (2007) Elemental and organic carbon in PM_{10}: a one year measurement campaign within the European Monitoring and Evaluation Programme EMEP. *Atmospheric Chemistry and Physics,* **7**, 5711-5725, doi:10.5194/acp-7-5711-2007.

Yu H., Liu S.C., and Dickinson R.E. (2002a) Radiative effects of aerosols on the evolution of the atmospheric boundary layer. *Journal of Geophysical Research,* **107**, 4142 (D12), doi: 10.1029/2001JD000754.

Yu J.Z., Xu J., and Yang H. (2002b) Charring characteristics of atmospheric organic particulate matter in thermal analysis. *Environmental Science & Technology,* **36**, 4, 754-761.

Zanobetti A. and Schwartz J. (2006) Air pollution and emergency admissions in Boston, MA. *Journal of Epidemiology & Community Health,* **60**, 890-895.

Zanobetti A., Stone P.H., Speizer F.E., Schwartz J.D., Coull B.A., Suh H.H., Nearing B.D., Mittleman M.A., Verrier R.L., and D.R. G. (2009) T-wave alternans, air pollution and traffic in high-risk subjects. *American Journal of Cardiology,* **104**, 665-670.

Zeka A., Sullivan J.R., Vokonas P.S., Sparrow D., and Schwartz J. (2006) Inflammatory markers and particulate air pollution: characterizing the pathway to disease. *International Journal of Epidemiology,* **35**, 1347-1354.

Zhang Q., Streets D.G., Carmichael G.R., He K.B., Huo H., Kannari A., Klimont Z., Park I.S., Reddy S., Fu J.S., Chen D., Duan L., Lei Y., Wang L.T., and Yao Z.L. (2009) Asian emissions in 2006 for the NASA INTEX-B mission. *Atmospheric Chemistry and Physics*, **9**, 5131-5153, doi: 10.5194/acp-9-5131-2009.

Zhang Q., Streets D.G., He K., and Klimont Z. (2007) Major components of China's anthropogenic primary particulate emissions. *Environmental Research Letters,* **2**, 045027, doi: 10.1088/1748-9326/2/4/045027.

Zhang X.Y., Wang Y.Q., Zhang X.C., Guo W., and Gong S.L. (2008) Carbonaceous aerosol composition over various regions of China during 2006. *Journal of Geophysical Research,* **113**, D14111, doi: 10.1029/2007JD009525.

Zheng M., Cass G.R., Ke L., Wang F., Schauer J.J., Edgerton E.S., and Russell A.G. (2007) Source apportionment of daily fine particulate matter at Jefferson Street, Atlanta, GA, during summer and winter. *Journal of the Air & Waste Management Association,* **57**, 2, 228-242.

Zhi G., Peng C., Chen Y., Liu D., Sheng G., and Fu J. (2009) Deployment of coal briquettes and improved stoves: possibly an option for both environment and climate. *Environmental Science & Technology,* **43**, 15, 5586-5591.

Zhou J., Ito K., Lall R., Lippmann M., and Thurston G. (2011) Time-series analysis of mortality effects of fine particulate matter components in Detroit and Seattle. *Environmental Health Perspectives,* **119**, 4, 461-466.

Zhou Y. and Levy J.I. (2007) Factors influencing the spatial extent of mobile source air pollution impacts: a meta-analysis. *BMC Public Health,* **7**, 1, 89, doi: 10.1186/1471-2458-7-89.

Zhu Q. (2003) *Developments in particulate control*, IEA Clean Coal Centre (ISBN 92-9029-388-8).