

Biographic sketches of the Authors

Suraj Ahuja is currently a Province Air Quality Specialist for the Forest Service supporting air program for the eight northern national forests in California. He has worked for the Forest Service for twenty years in the Southwest and Pacific Southwest Region in various positions. He holds a Ph.D. from the University of California at Davis. He also has Air Quality Certification from University of California (Extension), Davis. He has written various technical documents and papers for Forest-wide and Region-wide use.

Rocío Alonso received her Ph.D. in Ecology from the Universidad Autónoma of Madrid, Spain, in 1998. Since 1999 she has been working on the distribution of air pollutants in mountainous areas of California, first as a visiting Fulbright Scholar at the Pacific Southwest Research Station, USDA Forest Service, Riverside, and currently at the Center for Conservation Biology, University of California in Riverside. Her main research interests are the effects of air pollutants and climate change on forest ecosystems.

Michael J. Arbaugh is the Project Leader of the USDA Forest Service Research Project—Atmospheric Deposition Effects on the Western Forest Ecosystems. He earned a B.S. degree in Biology from the University of California, Riverside, in 1980; an M.S. degree in Statistics from the University of California, Riverside, in 1984 and a Ph.D. in Forest Ecology from Colorado State University, Ft. Collins, in 1995. His research interests include understanding the multiple air pollutant effects on ecosystems, long-term changes in forest composition, and passive air pollution monitor development and application to Class I areas.

Dennis D. Baldocchi is a Professor of Biometeorology at the University of California, Berkeley. He earned a B.S. degree in Atmospheric Sciences from the University of California, Davis, in 1977 and a Ph.D. degree in Bioenvironmental Engineering from the University of Nebraska in 1982. His main research interests are on the biological, physical and chemical processes that control trace gas fluxes between the terrestrial biosphere and atmosphere.

Andrzej Bytnerowicz is a Senior Scientist with the USDA Forest Service, Pacific Southwest Research Station in Riverside, California. He is also an Adjunct Professor at the Department of Environmental Sciences, University of California in Riverside. He earned M.S. degree in Food Chemistry from the Warsaw Agricultural University, Poland, in 1972, and Ph.D. in Natural Sciences from the Silesian University in Katowice, Poland, in 1981. His main research interests are atmospheric deposition to natural ecosystems and effects of air pollution on forests.

John J. Carroll is a Professor of Atmospheric Science in the Department of Land Air and Water Resources at the University of California, Davis. He earned a B.S. degree in Geology from City University of New York and an M.S. and Ph.D. in Meteorology at the University of California, Los Angeles. His research interests include measurements and modeling of atmospheric turbulence, atmospheric boundary-layer phenomena, physical climatology and air pollution transport, diffusion, and chemistry. He has held an academic appointment for the last 30 years and has worked as a consultant to aerospace companies, geothermal energy producers, Department of Defense, and federal, state, and local agencies concerned with air quality issues.

Chao-Jung Chien received a Ph.D. in Environmental Science at UNC Chapel Hill and has an undergraduate degree in Chemistry. He is a post-doctoral researcher in the modeling group at the University of California, Riverside, Bourns College of Engineering, Center for Environmental Research and Technology (CE-CERT), where he conducts experimental and modeling research in atmospheric chemistry.

Mark E. Fenn is a Research Plant Pathologist with the USDA Forest Service, Pacific Southwest Research Station in Riverside, California. He earned a B.S. degree in Plant Pathology from the University of Arizona in 1981 and a Ph.D. in Plant Pathology from the University of California, Riverside, in 1986. His main research interests include measuring nitrogen deposition and evaluating the ecological and environmental effects of air pollutants on forests and other ecosystems.

Witold Fraćzek has a M.S. in Hydrology from the University of Warsaw, Poland (1976) and another M.S. in environmental monitoring/remote sensing from the University of Wisconsin, Madison (1988). Since late 1988 he is working at Environmental Systems Research Institute in Redlands, California. His major area of expertise is the raster products of ESRI, including Grid and Spatial Analyst. He worked on several environmental modeling projects focused on hydrologic and air pollution modeling. He is working closely with the Geostatistical Analyst software development group from the beginning of integration of geostatistics into ArcGIS. Recently, in collaboration with USDA Forest Service, Witold has published several papers about the use of ESRI's Geostatistical Analyst to estimate ozone concentration and the effects of air pollution on mountainous forests.

Allen H. Goldstein is an Associate Professor of Biogeochemistry at the University of California at Berkeley. He received a B.S. in Chemistry and a B.A. in Politics from the University of California at Santa Cruz, and an M.S. and a Ph.D. in Chemistry from Harvard University. His research addresses interactions between atmospheric chemistry and terrestrial biogeochemistry, and

how these interactions influence biosphere–atmosphere exchange, determine atmospheric composition, and impact ecosystems.

Nancy E. Grulke received the Ph.D. in Botany from University of Washington in 1983. She is currently a research plant physiologist at the Pacific Southwest Research Station, USDA Forest Service, in Riverside, California. She specializes in whole tree responses to atmospheric pollution (O₃, CO₂, N deposition) and drought stress in mixed conifer forests of California.

Meredith R. Kurpius received a B.S. in Natural Resources from Cornell University in 1995 and a Ph.D. in Environmental Science, Policy and Management from University of California, Berkeley, in 2001. Her Ph.D. work focused on ozone deposition to a Sierra Nevada ponderosa pine ecosystem. Since 1993 Meredith Kurpius has been working on terrestrial biogeochemistry and trace gas exchange with an emphasis on understanding the processes controlling trace gas exchange between the atmosphere and Earth's surface at local and regional scales through measurement and modeling. Currently she is researching carbon dynamics in forested ecosystems at Oregon State University, with an emphasis on above-canopy carbon dioxide fluxes.

E. Henry Lee received Ph.D. in Statistics from Iowa State University in 1981. He is currently a statistician at the US Environmental Protection Agency, Western Ecology Division, Corvallis, Oregon. He specializes in modeling the effects of criteria air pollutants on terrestrial ecosystems and the associated uncertainties in prediction across larger spatial and temporal scales, and spatial statistics of regionalized variables of interest in risk characterization. His work on ozone exposure indices has helped the Agency to develop alternative secondary National Ambient Air Quality Standards for ozone in order to protect vegetative and natural ecosystems.

F. Michael McCorison is a Air Quality Specialist with the USDA Forest Service. He completed a Bachelor of Science Degree in Forestry at the University of Minnesota, St. Paul, and a Master of Science Degree in Wildland Water quality at the University of Minnesota, Minneapolis. His research and management interests include changes in nutrient cycling patterns in the soil, water and air interfaces, and prescribed and wildfire air and water issues.

Paul R. Miller is a Certified Professional Plant Pathologist who received his B.S. degree in General Agronomy from Colorado State University, an M.S. in Botany and Plant Pathology, and a Ph.D. in Plant Pathology from the University of California, Berkeley. He has more than 30 years of experience as a research plant pathologist with the USDA Forest Service, Pacific Southwest Experiment Station, Riverside, California, and as a Research Associate at the Air Pollution Research Center, University of California, Riverside. Nearly one-third of that time was devoted to the Sierra Nevada and oxidant air pollution.

Interests included the severity of injury to stands and the response of conifers, mostly pines, to ozone exposure at several time scales. Since retirement in 1999 he has continued to write about ozone air pollution problems worldwide and carries out an investigation of literature about poorly substantiated claims of a widespread forest decline due to gaseous air pollutants and acidic substances.

Richard A. Minnich received a Ph.D. from the University of California, Riverside. He is a Professor in the Department of Earth Sciences, University of California, Riverside. His research focuses on the fire ecology of mediterranean ecosystems of California and northern Baja California. Studies operate at the landscape-scale to establish fire regime properties of ecosystems, including fire size, frequency and return intervals, denudation of vegetation, postfire successions, and how fire disturbances exert selection in the distribution of plant communities. Documentation and quantification of these properties requires the use of remote sensing and geographic information systems, complimented by field sampling. Studies compare fire regimes under different management systems in southern California and Mexico, emphasizing Californian chaparral and conifer forest.

Mohammad Omary received a Ph.D. in Agricultural Engineering at Clemson University and B.S. and M.S. degrees in Mechanical Engineering at the Israel Institute of Technology. He is a Principal Development Engineer at the University of California, Riverside, Bourns College of Engineering, Center for Environmental Research and Technology (CE-CERT), where he develops models of emissions of atmospheric pollutants.

Pamela E. Padgett received Ph.D. from the University of California, Riverside. She is a Research Plant Physiologist with the Atmospheric Deposition Unit, USDA Forest Service in Riverside, California, since 1997. Her research interests include mineral nutrition and plant metabolism, atmospheric deposition of nitrogenous pollutants and their effects on plants and ecosystems, interaction between ozone and nitrogenous pollutants, and plant community dynamics in semi-arid ecosystems.

Jeanne A. Panek is a Forest Physiologist at the University of California, Berkeley. The main focus of her research is the interaction between atmospheric deposition, climate, and physiological response in forest ecosystems. Her current work involves the role of drought in the stomatal control of ozone uptake in Sierra Nevada forests. She earned a B.A. in Biology from Princeton University in 1984 and a dual Ph.D. in Forest Science and Plant Physiology at Oregon State University in 1995.

Mark A. Poth serves as the Director for the Natural Resources and Environment Division of the USDA National Research Initiative competitive grants program. The division includes programs in soils, water, ecosystems and plant

response to the environment. He has a B.A. in Microbiology and an M.A. in Botany from California State University, Fullerton, and a Ph.D. in Soil Science from the University of California, Riverside.

Elizabeth L. Plymale is the Team Leader of the USDA Forest Service Sierra Nevada Framework EIS Monitoring Team Atmospheric Group. She earned a B.S. degree in Natural Resource from California Polytechnic State University, San Luis Obispo, in 1991, and is currently working on her Masters in Resource Planning. Her research interests include multiple air pollutant effects on Class I and Class II wilderness areas, the effects of air toxics on ecosystems, and passive air pollution monitor development and application to monitoring in wilderness.

Haiganoush K. Preisler is a Mathematical Statistician at the Pacific Southwest Research Station, USDA Forest Service. She received her Ph.D. in Statistics from the University of California, Berkeley, in 1977 and her M.S. from the American University of Beirut, Lebanon, in 1972. Her current work focuses on the modeling and data analysis of environmental and forestry data.

Trent Procter is currently a Province Air Quality Specialist for the Forest Service. He provides air program management and technical assistance to 6 National Forests in the central and southern Sierra Nevada. He has 24 years of experience with the Forest Service and has served in his present position since 1988. He holds a B.S. in Natural Resource Management from Cal Poly, San Luis Obispo. His experience includes tracking the status and change of forest resource values that can be impacted by air pollution.

John Pronos received a B.S. degree in Forestry from the University of Illinois, Champaign-Urbana, and a Ph.D. from the University of Wisconsin, Madison, in Plant Pathology. After a one-year Post Doctoral Research Assistant position with the Cary Arboretum in Millbrook, New York, he joined the United States Department of Agriculture—Forest Service, Forest Insect and Disease Management Staff in San Francisco, California. John has remained with the same staff (now called Forest Health Protection) of the Forest Service since 1977 and currently works on the Stanislaus National Forest in Sonora, California. In addition to providing federal forest land managers with input on forest pathogens, he has a special interest in air pollution effects on forests and hazardous tree management.

Susan Schilling is an Information Technology Specialist with the Pacific Southwest Research Station, USDA Forest Service. She has worked for the Forest Service since 1987.

James O. Sickman is an Environmental Scientist with the California Department of Water Resources and is a Research Scientist with the Institute for

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Gretchen C. Smith is the National Ozone Advisor for the USDA Forest Service Forest Inventory and Analysis Program (FIA). She earned a B.S. degree in Forest Management from the University of Massachusetts in 1979, and a Ph.D. degree in Plant Pathology from Rutgers University in 1985, specializing in plant/pollutant interactions. Since 1988, Gretchen has been associated with the USDA Forest Service forest health monitoring initiatives including the investigation of red spruce and balsam fir decline in the Northeast and the North American Sugar Maple Decline Project. Currently located at the University of Massachusetts, she directs the implementation of the FIA national ozone biomonitoring program which is designed to assess the extent and severity and long-term trends of ozone stress on US forests.

Brent K. Takemoto is an Air Pollution Research Specialist in the California Air Resources Board's Office of the Health Advisor. His primary responsibilities and interests include environmental justice, air quality in the eastern Sierra, and ozone effects on plants in California. Prior to joining the Health Advisor's Office, Brent was a contract manager in the Board's Research Division where he coordinated the forest ecosystems research program to evaluate the effects of acidic deposition and ozone on mixed conifer forests in southern California. Brent received a Ph.D. in Biology from Bowling Green State University in Bowling Green, Ohio, in 1985. Prior to joining the Air Resources Board, he was a Postgraduate Researcher at the Statewide Air Pollution Research Center at the University of California, Riverside, from 1986 to 1989.

Gail Tonnesen received a Ph.D. in Environmental Engineering from the University of North Carolina (UNC) at Chapel Hill. Dr. Tonnesen is a Research Professor at the University of California, Riverside, Bourns College of Engineering, Center for Environmental Research and Technology (CE-CERT), and directs the air quality modeling program.

Patrick J. Temple received his Ph.D. in the Botany and Plant Sciences Department, University of California, Riverside, after which he joined the Statewide Air Pollution Research Center at UCR. His primary area of research was the effect of interacting stresses, particularly ozone and drought, on crop plants,

grass and shrublands, and forest tree species. He is currently a Certified Senior Ecologist and a consultant to the Atmospheric Deposition Program, USDA Forest Service, Pacific Southwest Research Station, Riverside, California, and to the Forest Service's Forest Health Monitoring Program. His current interests include the use of native plants and lichens as monitors of forest health and the effects of ozone and other air pollutants on Mediterranean ecosystems.

Zion Wang received a Ph.D. in Environmental Science and Engineering at UNC, Chapel Hill, and has B.S. and M.S. degrees in meteorology. He is a Senior Research Associate at the University of California, Riverside, Bourns College of Engineering, Center for Environmental Research and Technology (CE-CERT), where he carries out research and teaching in air quality modeling.