

National Scientists and Economists Statement on Biofuels and Land Use

*A LETTER TO U.S. LEGISLATORS AND REGULATORS
Signatories Updated as of 10/23/2009*

As scientists and economists with relevant expertise, we are writing to recommend that indirect land use change is included in the lifecycle analyses of heat-trapping emissions from biofuels. This will encourage development of sustainable, low-carbon fuels that avoid conflict with food and minimize harmful environmental impacts.

Our comments are relevant to the federal Renewable Fuel Standard, biofuels legislation included in federal climate and energy legislation, and other federal, state or regional laws and regulations pertinent to biofuels. For policies like these to successfully reduce GHG emissions, it is critical to include all major sources of emissions, including indirect land use emissions from biofuels.

Recent peer-reviewed research indicates that conventional biofuels can directly or indirectly result in substantial heat-trapping emissions through the conversion of forests and grasslands to croplands to accommodate biofuel production. Increased demand for crops to make fuel results in higher global commodity prices that can induce farmers in other countries to plow up sensitive, high-carbon ecosystems--including rain forests in South America and Southeast Asia. Previous lifecycle analyses did not adequately account for these emissions, giving biofuels credit for greater carbon savings than actually achieved.

There are uncertainties inherent in estimating the magnitude of indirect land use emissions from biofuels, but assigning a value of zero is clearly not supported by the science. The data on land use change indicate that the emissions related to biofuels are significant and can be quite large. Grappling with the technical uncertainty and developing a regulation based on the best available science is preferable to ignoring a major source of emissions. Over time, greater accuracy and detail in a more refined analysis can be integrated into any well-constructed biofuels policy.

The need to address uncertainties applies to other areas the analysis as well, and we urge you to evaluate the increasing use of nitrogen fertilizers and herbicides associated with greater biofuel production. In particular, nitrogen fertilizers enhance the emission of nitrous oxide--a powerful greenhouse gas in Earth's atmosphere.

The timeframe of the lifecycle analysis has a major impact on the relative importance of emissions from land use change, with very long timeframes diluting the impact of land use change. Climate benefits attributed to biofuel production 50 to 100 years in the future are highly uncertain, and add unnecessary speculation to the analysis. The analytical timeframe should be limited to the foreseeable future, no more than a few decades,

anchored by the lifetime of fuel production facilities and the rate of technological change in agriculture, transportation and climate mitigation.

To spur innovation in low carbon fuels, sound biofuels policies must send an accurate signal to the growing clean energy market. Strategic investment decisions should be based upon the best available data of the carbon footprint of alternative fuels. Failure to include a major source of pollution, like indirect land use emissions, will distort the carbon market, suppress investment in truly low carbon fuels, and ultimately result in higher emissions.

We therefore urge that all future biofuels policies are based on the best science, including consideration of emissions from indirect changes in land use.

Sincerely,

Daniel Kammen, Ph.D.
Director
Renewable and Appropriate Energy Laboratory
Professor
Energy and Resources Group Goldman School of Public Policy
University of California, Berkeley

Pamela Matson, Ph.D.
Chester Naramore Dean of the School of Earth Sciences
Richard and Rhoda Goldman Professor of Environmental Studies
Stanford University
Member of the United States National Academy of Sciences

Thomas E. Lovejoy, Ph.D.
Heinz Center Biodiversity Chair
The H. John Heinz III Center for Science, Economics and the Environment
Fellow, American Association for the Advancement of Science

Stuart L. Pimm, Ph.D.
Doris Duke Professor of Conservation Ecology
Nicholas School of the Environment and Earth Sciences
Duke University
Fellow, American Academy of Arts and Sciences

William Schlesinger, Ph.D.
President
Cary Institute of Ecosystem Studies
Member of the United States National Academy of Sciences

Peter C. Frumhoff, Ph.D.
Director of Science and Policy
Chief Scientist, Climate Campaign
Union of Concerned Scientists

Over 200 Signatories to the National Scientists and Economists Statement on Biofuels and Land Use Include:

Kenneth Arrow, Ph.D.
Professor Emeritus
Economics
Stanford University
Nobel Memorial Prize in Economics
Lead Author for Intergovernmental
Panel on Climate Change

Mick DeGraeve, Ph.D.
President
Great Lakes Environmental Center

Leslie Duram, Ph.D.
Professor and Chair
Geography and Environmental
Resources
Southern Illinois University

James Fay, Ph.D.
Professor Emeritus
Massachusetts Institute of
Technology

David Foster, Ph.D.
Director
Harvard Forest
Harvard University

Karen Glennemeier, Ph.D.
Science Director
National Audubon Society-Chicago
Region

Healy Hamilton, Ph.D.
Director
Center for Biodiversity Research
California Academy of Sciences

Kenneth H. Keller, Ph.D.
President Emeritus, University of
Minnesota
National Academy of Engineering,
member
Washington, D.C.

Michael O'Hare, Ph.D.
Professor
Public Policy
Goldman School of Public Policy
University of California, Berkeley

James Phillips, Ph.D.
Professor and Chair
Chemistry
University of Wisconsin - Eau Claire

Steven Running, Ph.D.
Regents Professor
Numerical Terradynamic Simulation
Group
University of Montana
Author for Intergovernmental Panel
on Climate Change

Peter Reich, Ph.D.
Regents Professor
Forest Resources
University of Minnesota

Full List of Signatories to the National Scientists and Economists Statement on Biofuels and Land Use (by state):

ALASKA

M. Sydonia Bret-Harte,
Ph.D.
Biology
Institute of Arctic
University of Alaska
Fairbanks

ALABAMA

David Campbell, Ph.D.
Biology
University of Alabama

ARKANSAS

Stephen Manning, Ph.D.
Professor
Biology
Arkansas State University,
Beebe

ARIZONA

Diane Austin, Ph.D.
Associate Research
Anthropologist
University of Arizona
Bureau of Applied Research
in Anthropology

Mark Edwards, Ph.D.
Professor
Agribusiness
Arizona State University

Matthew Hurteau, Ph.D.
Post Doctoral Research
Associate
Merriam-Powell Center
Northern Arizona University

George Koch, Ph.D.
Professor
Biological Sciences
Northern Arizona University

CALIFORNIA

Richard Ambrose, Ph.D.
Professor
Environmental Health
Sciences
University of California, Los
Angeles

Linda Anderson, Ph.D.
Paleoceanography
Felton, CA

Kenneth Arrow, Ph.D.
Professor Emeritus
Economics
Stanford University

James Barsimantov, Ph.D.
Environmental Studies
University of California,
Santa Cruz

James Bouldin, Ph.D.
Plant Sciences
University of California,
Davis

Holger Brix, Ph.D.
Assistant Researcher
Department of Atmospheric
and Oceanic Science
University of California, Los
Angeles

Elliott Campbell, Ph.D.
Engineering
Merced, CA

Alan Cunningham, Ph.D.
Chemistry
Carmel Valley, CA

Susan Fischer, Ph.D.
Environmental Health
Sciences
Sacramento, CA

Jed Fuhrman, Ph.D.
Professor
Biological Sciences
McCulloch-Crosby Chair of
Marine Biology
University of Southern
California

Paul Gepts, Ph.D.
Professor
Plant Sciences
University of California,
Davis

Alexander Gershenson, Ph.D.
Adjunct Professor
Environmental Studies
San Jose State University

Holly Gibbs, Ph.D.
Smith Conservation Research
Scholar
Food Security &
Environment Program
Stanford University

Sarah Gilman, Ph.D.
Visiting Assistant Professor
Joint Science Department
The Claremont Colleges
Daniel Gluesenkamp, Ph.D.
Biology
San Francisco, CA

Healy Hamilton, Ph.D.
Director
Center for Biodiversity
Research
California Academy of
Sciences

John Holtzclaw, Ph.D.
Energy and Global Warming
Analysis
San Francisco, CA

Bruce Kendall, Ph.D.
Associate Professor
Applied Ecology
Donald Bren School of
Environmental Science &
Management
University of California,
Santa Barbara

Bill Kinney, Ph.D.
Emerging fuels and
Technology
California Energy
Commission

David Leahy, Ph.D.
Chemistry
Stanford University

Sherman Lewis, Ph.D.
Professor Emeritus
Hayward Area Planning
Association

Michael Loik, Ph.D.
Professor
Environmental Studies
University of California,
Santa Cruz

Robert Meese, Ph.D.
Environmental Science &
Policy
Davis, CA

Michael O'Hare, Ph.D.
Professor
Public Policy
Goldman School of Public
Policy
University of California,
Berkeley

Steven Morgan, Ph.D.
Environmental Science &
Policy
Bodega Bay, CA

Susanne Moser, Ph.D.
University of California,
Santa Cruz

Dustin Mulvaney, Ph.D.
Postdoctoral Fellow
Environmental Studies
University of California,
Santa Cruz

Richard Plevin,
Ph.D. Candidate
Energy and Resources Group
University of California,
Berkeley

Mary Price, Ph.D.
Professor Emeritus
Biology
University of California,
Riverside

William Prothero, Ph.D.
Earth Science &
Oceanography
Santa Barbara, CA

Deepak Rajagopal, Ph.D.
Candidate
Environmental Economics &
Policy
Berkeley, CA

Stanley Scher, Ph.D.
Forestry Science
Berkeley, CA

Klaus Scott, M.S.
Air Pollution Specialist
Emission Inventory Branch
State of California-Air
Resources Board

Raymond Smith, Ph.D.
Professor Emeritus
University of California,
Santa Barbara

Mathias van Thiel, Ph.D.
Research Scientist (Retired)
Lawrence Livermore
National Laboratory

Richard Walker, Ph.D.
Geography & Natural
Resources
Berkeley, CA

Stephen Weitz, Ph.D.
Biochemistry
Oakland, CA

Howard Wilshire, Ph.D.
Land Use Specialist
Sebastopol, CA

Amber Wise, Ph.D.
Health and the Environment
University of California, San
Francisco

Gordon Wolfe, Ph.D.
Professor
Biological Sciences
California State University,
Chico

Angus Wright, Ph.D.
Professor Emeritus
Environmental Studies
California State University,
Sacramento

COLORADO

Ron Alberty, Ph.D.
Atmospheric Sciences
Boulder, CO

Robert Cifelli, Ph.D.
Atmospheric Science
Fort Collins, CO

Jason Delborne, Ph.D.
Science & Technology Policy
Golden, CO

Jim Ebersole, Ph.D.
Professor
Biology
Colorado College

Elisabeth Holland, Ph.D.
Senior Scientist
Atmospheric Chemistry
National Center for
Atmospheric Research

Charles Howe, Ph.D.
Professor
Economics & Behavioral
Science
University of Colorado-
Boulder

Ned Nikolov, Ph.D.
Ecologist / Ecosystem
Modeler
Rocky Mountain Research
Station
US Forest Service

Patrick Ryan, Ph.D.
Professor
Arts & Sciences
Johnson & Wales University

Diana Wall, Ph.D.
School of Global
Environmental Sustainability
Colorado State University

Karl Zeller, Ph.D.
Retired Chief Fire Weather
Research
USDA Forest Service
Research
Rapid Weather, Inc.

CONNECTICUT

Suzanne O'Connell, Ph.D.
Geosciences &
Paleoceanography
Middletown, CT

FLORIDA

Matt Cohen, Ph.D.
Assistant Professor
Forest Resources and
Conservation
University of Florida

Bruce Cowell, Ph.D.
Integrative Biology
University of South Florida

David Enfield, Ph.D.
Climate Researcher
Cooperative Institute for
Marine & Atmospheric
Science
University of Miami

Michael J. Lynch, Ph.D.
Professor
Criminology
University of South Florida

Gustav Paulay, Ph.D.
Professor/Curator
Florida Museum of Natural History
University of Florida

Henry Thomas, D.P.A.
Director
The Florida Center
Political Science
University of North Florida

GEORGIA

Jeb Byers, Ph.D.
Associate Professor
Odum School of Ecology
University of Georgia

Krisztian Magori, Ph.D.
Postdoctoral Researcher
Odum School of Ecology
University of Georgia

HAWAII

Christopher Lepczyk, Ph.D.
Assistant Professor
Natural Resources &
Environmental Management
University of Hawaii at
Manoa

Michael Parke, Ph.D.
Environmental Planning &
Natural Resources
Management
Honolulu, HI

ILLINOIS

Charles Boyce, Ph.D.
Botany & Paleontology
Chicago, IL

Leslie Duram, Ph.D.
Professor and Chair
Geography and
Environmental Resources
Southern Illinois University

Karen Glennemeier, Ph.D.
Science Director
National Audubon Society-
Chicago Region

Russell Kohnken, Ph.D.
Science Department
Evanston Township High
School

Susan Meiers, Ph.D.
Biological Sciences
Western Illinois University

Zewei Miao, Ph.D.
Environmental & Biomass-
Bioenergy Modeling
Urbana, IL

John Molburg, Ph.D.
Energy & Environmental
Policy Scientist
Minooka, IL

Silvia Secchi, Ph.D.
Assistant Professor
Agribusiness Economics
Southern Illinois University

Matthew Shapiro, Ph.D.
Assistant Professor
Social Sciences
Illinois Institute of
Technology

Simon Silver, Ph.D.
Professor
Microbiology and
Immunology
University of Illinois,
Chicago

Leroy Wehrle, Ph.D.
Professor Emeritus
Economics
University of Illinois at
Springfield

Donald Wuebbles, Ph.D.
Professor
Atmospheric Sciences
University of Illinois

INDIANA

James Bever, Ph.D.
Plant Ecology
Bloomington, IN

Jeffrey Dukes, Ph.D.
Assistant Professor
Forestry and Natural
Resources
Purdue University

David F Parkhurst, Ph.D.
Professor Emeritus
Public & Environmental
Affairs
Indiana University

Scott Robeson, Ph.D.
Professor and Chair
Geography
Indiana University

IOWA

Marc Armstrong, Ph.D.
Professor
CLAS Collegiate Fellow
Geography
University of Iowa

Richard Baker, Ph.D.
Professor Emeritus
Geoscience
University of Iowa

Russ Benedict, Ph.D.
Associate Professor
Biology
Central College

George Malanson, Ph.D.
Coleman-Miller Professor
Geography
University of Iowa

Kirk Moloney, Ph.D.
Plant Ecology
Ames, IA

Bill Simpkins, Ph.D.
Professor
Hydrogeology
Geological and Atmospheric
Sciences
Iowa State University

MASSACHUSETTES

Eric Davidson, Ph.D.
Senior Scientist
The Woods Hole Research
Center

Allison Dunn, Ph.D.
Assistant Professor
Physical Geography
& Earth Sciences
Worcester State College

James Fay, Ph.D.
Professor Emeritus
Massachusetts Institute of
Technology

David Foster, Ph.D.
Director
Harvard Forest
Harvard University

Robert Gamache, Ph.D.
Professor
Environment, Earth, and
Atmospheric Sciences
University of Massachusetts
Lowell

Dorothy Read, Ph.D.
Professor Emeritus
Biology
University of Massachusetts
Dartmouth

MAINE

Mark Battle, Ph.D.
Associate Professor
Physics & Astronomy
Bowdoin College

Ivan J. Fernandez, Ph.D.
Professor
Soil Science
University of Maine

John Lemons, Ph.D.
Professor
Biology & Environmental
Science
University of New England

MARYLAND

Marc Imlay, Ph.D.
Conservation Biologist
Anacostia Watershed Society

David Inouye, Ph.D.
Professor
Biology
University of Maryland

Robert Lawrence, Ph.D.
Environmental Health
Sciences
Baltimore, MD

Roni Neff, Ph.D.
Research Director
Center for a Livable Future
Environmental Health
Sciences
Johns Hopkins Bloomberg
School of Public Health

MICHIGAN

Catherine Badgley, Ph.D.
Ecology & Evolutionary
Biology
University of Michigan

Mick DeGraeve, Ph.D.
President
Great Lakes Environmental
Center

Sarah Green, Ph.D.
Professor and Chair
Chemistry
Michigan Technological
University

David Hickey, Ph.D.
Professor (Retired)
Geology
Lansing Community College

David Karowe, Ph.D.
Professor
Biological Sciences
Western Michigan University

K. Murray, Ph.D.
Professor
Biology
Hope College

Edward Parson, Ph.D.
Professor
Law, Natural Resources &
Environment
University of Michigan

Karel Rogers, Ph.D.
Plio-Pleistocene Climate
Reconstruction
Allendale, MI

Barry Soloman, Ph.D.
Professor
Sustainable Futures Institute
Michigan Technological
University

MINNESOTA

John Abraham, Ph.D.
Associate Professor
Mechanical Engineer
School of Engineering
University of St. Thomas

David Andow, Ph.D.
Professor
Entomology
University of Minnesota

Evan Hazard, Ph.D.
Professor Emeritus
Biology
Bemidji State University

Jason Hill, Ph.D.
Resident Fellow
Institute on the Environment
University of Minnesota

Arne Kildegaard, Ph.D.
Associate Professor
Economics & Management
University of Minnesota

Erik Nelson, Ph.D.
Department of Applied
Economics
University of Minnesota

Kent Olson, Ph.D.
Professor
Applied Economics
University of Minnesota

Jennifer Powers, Ph.D.
Ecology
St. Paul, MN

Peter Reich, Ph.D.
Regents Professor
Forest Resources
University of Minnesota

Kathleen Shea, Ph.D.
Professor
Biology
St. Olaf College

MISSOURI

Stephen Mudrick, Ph.D.
Associate Professor Emeritus
Soil Environmental &
Atmospheric Science
University of Missouri
Columbia

MONTANA

David Roberts, Ph.D.
Ecology
Bozeman, MT

Steven Running, Ph.D.
Regents Professor
Numerical Terradynamic
Simulation Group
University of Montana

NEVADA

Michael Robinson, Ph.D.
Curriculum, Teaching and
Learning
University of Nevada, Reno

NEW JERSEY

Alan Robock, Ph.D.
Professor II
Environmental Sciences
Rutgers University

Judith Weis, Ph.D.
Professor
Biological Sciences
Rutgers University

NEW MEXICO

Dennis Clason, Ph.D.
Applied Statistics &
Environmental Design
Las Cruces, NM

Vincent Gutschick, Ph.D.
Director
Global Change Consulting
Consortium, Inc

Kristine Johnson, Ph.D.
Animal Conservation
Biology
Albuquerque, NM

Rebecca Summer, Ph.D.
Geomorphology
Silver City, NM

Rebecca Summer, Ph.D.
Soil Sciences
Silver City, NM

Heather Throop, Ph.D.
Assistant Professor
Biology
New Mexico State University

NEW YORK

David Borton, Ph.D.
Physics
Troy, NY

Harold Burstyn, Ph.D.
Adjunct Professor
Syracuse University

M. Jahi Chappell, Ph.D.
Postdoctoral Associate
Science & Technology
Studies
Cornell University

Todd Ellis, Ph.D.
Assistant Professor
Meteorology
Department of Earth Sciences
SUNY College at Oneonta

Richard Feldman, Ph.D.
Associate Professor
Environmental Science &
Policy
Marist College

Charles Greene, Ph.D.
Professor
Earth & Atmospheric
Sciences
Cornell University

Carl Leopold, Ph.D.
Plant Physiology & Ecology
Ithaca, NY

Catherine McGlynn, Ph.D.
Community Ecology &
Biological Invasions
Ithaca, NY

Megan O'Rourke, Ph.D.
Candidate
Ecology and Evolutionary
Biology
Cornell University

R. RAU, Ph.D.
Physics (Retired)
Brookhaven National
Laboratory

Janice Thies, Ph.D.
Crop & Soil Science
Ithaca, NY

Christina Tonitto, Ph.D.
Research Scientist
Ecology and Evolutionary
Biology
Cornell University

NORTH CAROLINA

Sandra Cooke, Ph.D.
Postdoctoral Lecturing
Fellow
Thompson Writing Program
Duke University

Daniel Graham, Ph.D.
Environmental Law and
Policy
Chapel Hill, NC

Peter Reynolds, Ph.D.
Complexity Theory &
Critical Point Phenomena
Durham, NC

Richard Gray, Ph.D.
Physics and Astronomy
Appalachian State University

John Mattox, Ph.D.
Professor
Natural Sciences
Fayetteville State University

Joe Poston, Ph.D.
Associate Professor
Biology
Catawba College

Seth Reice, Ph.D.
Associate Professor
Biology and Ecology
University of North Carolina

Thomas Struhsaker, Ph.D.
Research Scientist
Evolutionary Anthropology
Duke University

OHIO

Donald Geiger, Ph.D.
Ecological Restorationist
Biology
University of Dayton

David Gorchov, Ph.D.
Professor
Botany
Miami University

Jeffrey Johansen, Ph.D.
Biology
John Carroll University

Randy Mitchell, Ph.D.
Professor Biology
University of Akron

David Modarelli, Ph.D.
Professor
Chemistry
University of Akron

Gerald Sgro, Ph.D.
Research Adjunct
Biology
John Carroll University

OKLAHOMA

John Korstad, Ph.D.
Professor
Biology
Oral Roberts University

Kay Scheets, Ph.D.
Adjunct Assistant Professor
Botany
Oklahoma State University

Linda Wallace, Ph.D.
Professor
Botany & Microbiology
University of Oklahoma

OREGON

Kenneth Bergman, Ph.D.
Climate Science
Ashland, OR

Peter Bayley, Ph.D.
Fisheries & Wildlife
Oregon State University

Grant Law, Ph.D.
Center for Coastal Margin
Observation and Prediction
Oregon Health & Science
University

PENNSYLVANIA

John Cooper, Ph.D.
Professor (Retired)
Chemistry
Bucknell University

Robert Mason, Ph.D.
Environmental Studies
Temple University

Tim Pearce, Ph.D.
Natural History
Pittsburgh, PA

Edward Thornton, Ph.D.
Professor
Chemistry
University of Pennsylvania

Zicheng Yu, Ph.D.
Earth and Environmental
Sciences
Lehigh University

RHODE ISLAND

Marilyn Harlin, Ph.D.
Biological Sciences
Kingston, RI

James Lazell, Ph.D.
Founder
The Conservation Agency

Rainer Lohmann, Ph.D.
Assistant Professor
Graduate School of
Oceanography
University of Rhode Island

SOUTH DAKOTA

Kent Jensen, Ph.D.
Associate Professor
Wildlife and Fisheries
Sciences
South Dakota State
University

TENNESSEE

Gordon Burghardt, Ph.D.
Alumni Distinguished
Service Professor
Ecology & Evolutionary
Biology
University of Tennessee

TEXAS

Thomas La Point, Ph.D.
Environmental Science &
Ecological Risk Assessment
Denton, TX

Amy Dunham, Ph.D.
Assistant Professor
Ecology and Evolutionary
Biology
Rice University

Wendy Gordon, Ph.D.
ESI Fellow
University of Texas at Austin

Volker Rudolf, Ph.D.
Ecology & Evolutionary
Biology
Rice University

UTAH

Diane Davidson, Ph.D.
Professor Emeritus
Biology
University of Utah

William Newmark, Ph.D.
Research Curator
Utah Museum of Natural
History
University of Utah

Jack Sites, Jr., Ph.D.
Professor
Biology
Brigham Young University

VERMONT

Marc Lapin, Ph.D.
Terrestrial Ecology &
Conservation Biology
Middlebury College

Matthew Luck, Ph.D.
University of Vermont

William Williams, Ph.D.
Plant Physiological Ecology
Burlington, VT

VIRGINIA

Nancy Cowden, Ph.D.
Biology
Lynchburg College

Judith Lang, Ph.D.
Coral Reef Scientist
Ophelia, VA

Meredith Muth, Ph.D.
Candidate
Environmental Science
Charlottesville, VA

Elske Smith, Ph.D.
Astronomy
Richmond, VA

WASHINGTON

Theodore Anderson, Ph.D.
Research Associate Professor
Atmospheric Sciences
University of Washington

Sarah Hamman, Ph.D.
Biogeochemistry & Soil
Science
Olympia, WA

Eugene Rosa, Ph.D.
Edward R. Meyer Professor
of Environment
Sociology
Washington State University

Thomas Spiro, Ph.D.
Professor
Chemistry
University of Washington

Robert Vocke, Ph.D.
Natural Resource Science
Los Alamos National
Laboratory (Retired)

Charles F. Wurster, Ph.D.
Professor Emeritus
Environmental Sciences
College of Forestry
University of Washington

WASHINGTON, D.C.

Bruce Collette, Ph.D.
Fisheries Science
Washington, DC

Kelly Gravuer, M.S.
Plant Ecology & Botany
Washington, D.C.

Kenneth H. Keller, Ph.D.
Professor
Science and Technology
Policy
National Academy of
Engineering, member
Washington, D.C.

Jeremy Martin, Ph.D.
Senior Scientist
Union of Concerned
Scientists

WISCONSIN

James Boulter, Ph.D.
Assistant Professor
Chemistry
University of Wisconsin-Eau
Claire

Ankur Desai, Ph.D.
Assistant Professor
Atmospheric and Oceanic
Sciences
University of Wisconsin,
Madison

Tracey Holloway, Ph.D.
Environmental Studies
Madison, WI

Randall Jackson, Ph.D.
Agronomy
University of Wisconsin-
Madison

Thomas Jeffries, Ph.D.
Professor
Bacteriology
University of Wisconsin,
Madison

Doug LaFollette, Ph.D.
Environmental Policy
Madison, WI

James LaGro, Ph.D.
Professor
Urban & Regional Planning
University of Wisconsin,
Madison

Brent McCown, Ph.D.
Emeritus Gottschalk
Research Professor
Horticulture
University of Wisconsin-
Madison

James Phillips, Ph.D.
Professor and Chair
Chemistry
University of Wisconsin -
Eau Claire

Annemarie Schneider
Assistant Professor
Nelson Institute for
Environmental Studies
University of Wisconsin-
Madison

Donald Waller, Ph.D.
Professor
Botany & Environmental
Science
University of Wisconsin,
Madison

Stephen J. Ventura, Ph.D.
Professor
Environmental Studies &
Soil Science
University of Wisconsin,
Madison

WYOMING

Bart Geerts, Ph.D.
Atmospheric Science
Laramie, WY

Stephen Jackson, Ph.D.
Professor
Botany and Ecology
University of Wyoming