January 7, 2010

Mr. Bob Stallman, President American Farm Bureau Federation 600 Maryland Avenue, SW Washington, DC 20024

Dear Mr. Stallman:

As scientists concerned about the grave risks that climate change poses to the world and U.S. agriculture, we are disappointed that the American Farm Bureau has chosen to officially deny the existence of human-caused climate change when the evidence of it has never been clearer. Because the agriculture community has much to lose and gain based on the actions our nation takes to address climate change, we request an opportunity to meet with you to discuss the latest climate science and your organization's official climate change <u>position</u>.

A few weeks ago, 18 national science organizations, including the American Association for the Advancement of Science, the American Meteorological Society, and the Crop Sciences Society of America, sent a <u>letter</u> to the U.S. Senate stating that "human activities are the primary driver" of climate change and that "contrary assertions are inconsistent with an objective assessment of the vast body of peer-reviewed science."

These organizations are the latest to join with nearly every other major scientific institution and professional society around the world, including the U.S. National Academy of Sciences, the National Aeronautics and Space Administration, and the Intergovernmental Panel on Climate Change in concluding that human activity is causing global warming.

Last June, the United States Global Climate Research Project, a collaboration of 13 federal agencies, released a new climate <u>assessment</u> that stated, "global warming is unequivocal and primarily human-induced. Global temperature has increased over the past 50 years. This observed increase is due primarily to human-induced emissions of heat-trapping gases." William Hohenstein, the director of the Global Change Program at the Department of Agriculture, recently stated that climate change "is going to have profound effects on agriculture and forests around the world."

A key finding from the federal assessment is that the agricultural benefits of a longer growing season and higher carbon dioxide levels will be more than offset by the impacts of unabated climate change. Those impacts include more frequent heat waves that reduce crop yields and stress livestock, more numerous heavy rainfall events that prevent spring planting and flood fields, and more widespread pest and weed infestations that require costly pesticides and herbicides to keep them in check. The report also found that faster evaporation rates and more sustained droughts would reduce water supplies vital to agriculture in the plains states and the west.

Climate change is already changing our world. According to the National Climatic Data Center (NOAA), the ten hottest years on record (since comprehensive temperature records began in 1880) have all occurred since 1990. Even though this year has been relatively cool in some parts of the United States, 2009 is on track to be the 6<sup>th</sup> warmest year on record in terms of global average temperature, and this decade will be the warmest on record.

While it is true that Earth experiences natural warming and cooling cycles, scientists have accounted for these cycles in their analyses and in their models of the physics, chemistry, and biology affecting the Earth's climate system. The evidence clearly shows that the primary cause of the observed warming in recent decades is a result of increased concentrations of heat-trapping gases in the atmosphere, which come from human activity.

Given this vast scientific consensus on climate change, we are disappointed that the American Farm Bureau has taken the inaccurate and marginalized stance that "there is no generally agreed upon scientific assessment on the exact impact or extent of carbon emissions from human activities, their impact on past decades of warming or how they will affect future climate changes."

Your organization's position does not reflect the consensus opinion of the science community or the scientific literature. Your stance represents the position taken by a relatively small number of climate change deniers, whose opinions and misrepresentations of the scientific data are typically not published in peer-reviewed scientific literature, but are instead shared in arenas that are not subject to rigorous scientific review.

The need to take climate change action is more urgent than ever. The latest science indicates that many climate impacts are happening faster than previously projected. Fortunately, we can still avoid the worst consequences if we take action soon. With that in mind, we hope to meet with you in the next few weeks to discuss this important matter.

Dr. Wuebbles will contact you soon about scheduling a meeting.

Sincerely,

Gabriel Filippelli, Ph.D. Chair, Department of Earth Sciences Indiana University-Purdue University, Indianapolis (IUPUI) Indianapolis, IN

Lee E. Frelich, Ph.D. Director, Center for Hardwood Ecology University of Minnesota St. Paul, MN

Donald J. Wuebbles, Ph.D. The Harry E. Preble Professor of Atmospheric Sciences Department of Atmospheric Sciences University of Illinois, Urbana-Champaign Urbana, IL

# Climate Scientists' Letter to the American Farm Bureau

The original signers have been joined by the following scientists with expertise in relevant disciplines of climate science:

### Jimmy Adegoke, Ph.D.

Professor and Chair Geosciences University of Missouri-Kansas City Kansas City, MO

# Walter Auch, Ph.D.

Scientific Consultant Plant and Soil Science University of Vermont Burlington, VT

# Catherine Badgley, Ph.D.

Assistant Professor Ecology and Evolutionary Biology University of Michigan Chelsea, MI

# Richard Baker, Ph.D.

Professor Emeritus Geosciences University of Iowa Atalissa, IA

# William Bland, Ph.D.

Professor and Chair Soil Science University of Wisconsin-Madison Madison, WI

## Jim Bouldin, Ph.D.

Research Ecologist Plant Sciences University of California, Davis Davis, CA

# **Robert Brecha, Ph.D.** Professor

Physics University of Dayton Yellow Springs, OH

# Christopher Cole, Ph.D.

Professor Science and Mathematics University of Minnesota Morris, MN

# Jeffrey Gaffney, Ph.D.

Professor and Chair Chemistry University of Arkansas at Little Rock Little Rock, AR

# Paul Gepts, Ph.D.

Professor Crop and Ecosystem Sciences University of California, Davis Davis, CA

# Sarah Green, Ph.D.

Professor and Chair Chemistry Michigan Technological University Calumet, MI

# Katherine Gross, Ph.D.

Director, Kellogg Biological Station Plant Biology Michigan State University East Lansing, MI

## Kevin Gurney, Ph.D.

Associate Professor Earth and Atmospheric Sciences Purdue University West Lafayette, IN

## Noel Gurwick, Ph.D.

Senior Scientist Food and Environment Program Union of Concerned Scientists Washington, D.C.

## Jessica Hellmann, Ph.D.

Assistant Professor Biological Sciences University of Notre Dame South Bend, IN

## Pierre-Andre Jacinthe, Ph.D.

Assistant Professor Earth Sciences Indiana University-Purdue University Indianapolis, IN

Institutional affiliation for identification purposes only

# Climate Scientists' Letter to the American Farm Bureau

Laura L. Jackson, Ph.D. Professor Biology University of Northern Iowa Cedar Falls, IA

#### Stephen Jackson, Ph.D.

Professor of Botany Director of the Program in Ecology University of Wyoming Laramie, WY

### Wesley Jarrell, Ph.D.

Professor and Interim Director Natural Resources and Environmental Sciences University of Illinois, Urbana-Champaign Urbana, IL

### Lucinda Johnson, Ph.D.

Interim Center Director Natural Resources Research Institute University of Minnesota Duluth, MN

#### James Kasting, Ph.D.

Distinguished Professor Geosciences Pennsylvania State University University Park, PA

#### Kaoru Kitajima, Ph.D.

Associate Professor Biology University of Florida Gainesville, FL

#### George Kling, Ph.D.

Robert G. Wetzel Professor of Ecology Ecology and Evolution University of Michigan Ann Arbor, MI

# **Richard Lindroth, Ph.D.**

Professor Entomology University of Wisconsin-Madison Madison, WI

#### John Magnuson, Ph.D.

Emeritus Professor Zoology and Limnology Center for Limnology University of Wisconsin-Madison Madison, WI

### Nathan Mantua, Ph.D.

Research Associate Professor Aquatic and Fishery Sciences University of Washington Seattle, WA

#### Knute Nadelhoffer, Ph.D.

Director, UM Biological Station Ecology and Evolutionary Biology University of Michigan Ann Arbor, MI

## Raymond Najjar, Ph.D.

Associate Professor Meteorology Pennsylvania State University University Park, PA

#### Steve O'Kane, Jr., Ph.D.

Professor Biology University of Northern Iowa Cedar Falls, IA

#### Michael Palmer, Ph.D.

Regents Professor Botany Oklahoma State University Stillwater, OK

# Peter Raven, Ph.D.

President Missouri Botanical Gardens St. Louis, MO

# G. Philip Robertson, Ph.D.

University Distinguished Professor Crop and Soil Sciences Michigan State University Plainwell, MI

## Climate Scientists' Letter to the American Farm Bureau

#### Donald Ross, Ph.D.

Research Associate Professor Plant and Soil Science University of Vermont Waltham, VT

### Dork Sahagian, Ph.D.

Professor Environmental Initiative Lehigh University Bethlehem, PA

# George Seielstad, Ph.D.

Senior Research Scientist Bay Area Environmental Research Institute Missoula, MT

### Rebecca Sherry, Ph.D.

Research Assistant Professor Botany and Microbiology University of Oklahoma Norman, OK

### Gerald Smith, Ph.D.

Professor Emeritus Museum of Zoology University of Michigan Chelsea, MI

# David W. Stahle, Ph.D.

Distinguished Professor Geosciences University of Arkansas Favetteville, AR

#### Hank Stevens, Ph.D.

Professor Botany Miami University Oxford, OH

## John Vandermeer, Ph.D.

Asa Gray Distinguished University Professor Ecology and Evolutionary Biology University of Michigan Ann Arbor, MI

## Donald Waller, Ph.D.

Professor Botany and Environmental Studies University of Wisconsin-Madison Madison, WI

## **Michelle Wander**

Associate Professor Natural Resources and Environmental Sciences University of Illinois, Urbana-Champaign Urbana, IL

### Thomas Yuill, Ph.D.

Director and Professor Emeritus Nelson Institute for Environmental Studies University Wisconsin-Madison Madison, WI

# Donald Zak, Ph.D.

Collegiate Professor School of Natural Resources and Environment University of Michigan Ann Arbor, MI