Stanford



Pamela Matson

Richard and Rhoda Goldman Professor of Environmental Studies and Senior Fellow at the Woods Institute, Emerita

Earth System Science

Curriculum Vitae available Online

Bio

BIO

PAMELA MATSON is an interdisciplinary sustainability scientist, former academic leader, and organizational strategist. She served as dean of Stanford University's School of Earth, Energy and Environmental Sciences from 2002-2017, building interdisciplinary departments and educational programs focused on resources, environment and sustainability, as well as co-leading university-wide interdisciplinary initiatives. In her role as the Goldman Professor of Environmental Studies and Senior Fellow in the Woods Institute for the Environment, she lead the graduate program on Sustainability Science and Practice. Her research addressed a range of environment and sustainability issues, including sustainability of agricultural systems, vulnerability and resilience of particular people and places to climate change, and characteristics of science that can contribute to sustainability transitions at scale. as an emerita faculty member, she continues to engage in questions related to transformational change for sustainability goals, and advises Stanford's efforts in that realm.

Dr. Matson served as chair of the board of the World Wildlife Fund-US and as a board member of the World Wildlife Fund-International and several university advisory boards. She served on the US National Academy of Science Board on Sustainable Development and co-wrote the National Research Council's volume Our Common Journey: A transition toward sustainability (1999); she also led the NRC committee on America's Climate Choices: Advancing the Science of Climate Change. She was the founding chair of the National Academies Roundtable on Science and Technology for Sustainability, and founding editor for the Annual Review of Environment and Resources. She is a past President of the Ecological Society of America. Her recent publications (among around 200) include the books 'Seeds of Sustainability: Lessons from the Birthplace of the Green Revolution' (2012) and 'Pursuing Sustainability' (2016).

Pam is an elected member of the National Academy of Science and the American Academy of Arts and Sciences, and is a AAAS Fellow. She received a MacArthur Foundation Award, contributed to the award of the Nobel Prize to the Intergovernmental Panel on Climate Change, among other awards and recognitions, and is an Einstein Fellow of the Chinese Academy of Sciences.

Dr. Matson holds a Bachelor of Science degree with double majors in Biology and Literature from the University of Wisconsin (Eau Claire), a Master degree in Environmental Science and Policy from Indiana University's School of Public and Environmental Affairs, a Doctorate in Forest Ecology from Oregon State University, and honorary doctorates from Princeton, McGill and Arizona State Universities. She spent ten years as a research scientist with NASA-Ames Research Center before moving to a professorship at the University of California Berkeley and, in 1997, to Stanford University.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Earth System Science

- Affiliate, Precourt Institute for Energy

ADMINISTRATIVE APPOINTMENTS

- Faculty Director for the Sustainability, Science, and Practice Master's Program, Stanford University, (2017-2023)
- Senior Fellow, Woods Institute for the Environment, (2005-2023)
- Naramore Dean of the School of Earth, Energy and Environmental Sciences, Stanford University, (2002-2017)
- Co-director Center for Environmental Science and Policy, Stanford University, (2000-2002)
- Sant Director of the Earth Systems Program, Stanford University, (1999-2002)
- Richard and Rhoda Goldman Professor in Environmental Sciences, Stanford University, (1997-2023)
- Professor, University of California, Berkeley, (1993-1998)
- Research Scientist, NASA-Ames Research Center, (1983-1993)
- Post-doctoral Fellow Department of Entomology, North Carolina State University, (1983-1983)

HONORS AND AWARDS

- Honorary Degree, University of Wisconsin Eau Claire (2023)
- Excellence in Teaching, Stanford Earth (2022)
- Foundation Fellow, International Science Council (2022)
- Faculty Women's Forum Deborah Rhode Lifetime Achievement Award, Stanford University (2021)
- Tellus Mater Distinguished Fellow, Cambridge University (2019)
- Honorary Doctorate, McGill University (2017)
- Honorary Doctorate, Princeton University (2017)
- Fellow, California Academy of Sciences (2015)
- Doctor of Science Honorary Degree, Arizona State University (2014)
- Honorary Member, British Ecological Society (2013)
- Sustainability Science Award, Ecological Society of America (2013)
- Top 100 Women of Influence, Silicon Valley Business Journal (2013)
- Fellow, Ecological Society of America (2012)
- Einstein Visiting Professor, Chinese National Academy (2011)
- Eminent Ecologist Award, Colorado State University (2009)
- Major contributor to Nobel Peace prize awarded to Intergovernmental Panel on Climate Change, Norwegian Nobel Committee (2007)
- The 2005 Richard W. Lyman Award, Stanford University (2005)
- McMurtry University Fellow for Undergraduate Education, McMurtry University (2002)
- National Associate, National Academy of Sciences (2002)
- Leopold Leadership Fellow, Leopold Leadership Program (1999)
- Richard and Rhoda Goldman Professorship, Stanford University (1999)
- Distinguished Alumni Award, Oregon State University (1998)
- School of Public and Environmental Affairs Distinguished Alumni Award, Indiana University (1998)
- AAAS Fellow, American Academy of Arts and Sciences (1997)
- Distinguished Alumni Award, University of Wisconsin-Eau Claire (1996)
- MacArthur Fellow, MacArthur Fellowship (1995-2000)

- Elected Member, National Academy of Sciences (1994)
- Exceptional Service Medal, NASA (1993)
- Elected Member, American Academy of Arts and Sciences (1992)
- Fellow, Ames (NASA) Associate (1992)
- Research Paper Award, Oregon State University (1984)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member and Chair, Emerita, World Wildlife Fund (2022 - present)
- External to Stanford, ---- (1992 - present)
- Member, ISC Board Subcommittee for Science, International Science Council (2021 - 2025)
- Ex-Officio, Board on International Scientific Organizations (2022 - 2025)
- Member, Board, World Resources Institute (2023 - 2025)
- Member and chair emerita, World Wildlife Fund (2022 - present)
- Member, ISC Governing Board, International Science Council (2021 - 2025)
- Chair, Advisory Board, Gund Institute (University of Vermont) (2018 - 2025)
- Member, National Council, World Wildlife Fund (2023 - present)
- Member, Flagship Institute of Sustainability, Strategic Planning Committee, Tohoku University (2022 - 2022)
- Chair, US Board of Trustees, World Wildlife Fund (2018 - 2022)
- Member, International Board of Directors, World Wildlife Fund (2018 - 2022)
- Member, Advisory Council, FutureEarth (2018 - 2020)
- Member, Board of Directors, FFAR (Foundation for Food and Agriculture Research) (2014 - 2015)
- Vice Chair, Board of Trustees, World Wildlife Fund (2012 - 2018)
- Member, Board of Trustees, ClimateWorks (2011 - 2020)
- Member, External Advisory Board for School of Global Environmental Sustainability, Colorado State University (2010 - 2016)
- Member, Advisory Board, National Park System (2010 - 2012)
- Member, Advisory Board, Climate Central, Inc. (2009 - 2012)
- Member, NAS Committee on America's Climate Choices, National Academy of Science (2009 - 2012)
- Member, NAS Committee on Climate, Energy and National Security, National Academy of Science (2009 - 2011)
- Member, NAS Science Ambassador Program Advisory Board, National Academy of Science (2009 - 2010)
- Member, NAS Certification Committee, National Academy of Science (2009 - 2009)
- Member, Board of Advisors, Global Institute of Sustainability, Arizona State University (2007 - 2021)
- Member, Advisory Board, Department of Ecology and Evolutionary Biology, Princeton University (2007 - 2019)
- Member, Editorial Board, Proceedings of the National Academy of Sciences (2006 - 2015)
- Founding Editor and Editorial Board Member, Annual Review of Environment and Resources (2002 - 2015)
- Member, Board of Trustees, World Wildlife Fund (2003 - 2022)
- Founding Editor and Editorial Board Member, Annual Review of Energy and the Environment (2001 - 2015)
- Founding Co-Chair, NAS Roundtable on Science and Technology for Sustainability, National Academy of Sciences (2001 - 2009)
- Advisory Committee for Environmental Program, Luce Foundation (2001 - 2007)
- Chair, Section on Ecology and Environmental Sciences, National Academy of Sciences (2001 - 2004)
- President, Ecological Society of America (2001 - 2003)

- Member, Board of Trustees, National Park Conservation Association (2000 - 2007)
- Member, National Academy of Sciences Temporary Nominating Group on Global and Human Environmental Science, National Academy of Sciences (2000 - 2004)
- Member, Coordinating Committee on the Sustainability Transition, National Academies of Science (2000 - 2002)
- President Elect, Ecological Society of America (2000 - 2001)
- Co-Chair, Section 27, National Academy of Sciences (1998 - 2001)
- Lead Author, Working Group 1, Chapter 4, IPCC (Intergovernmental Panel on Climate Change) (1998 - 2001)
- Liaison, Section 27, National Academy of Sciences (1998 - 2001)
- Member, Science Advisory Committee, Organization of Tropical Studies (1998 - 2001)
- Editorial Board, Annual Review of Energy and Environment (1998 - 2000)
- Member, International SCOPE project on nitrogen transport and transformations, SCOPE (1998 - 2000)
- Program Committee for the XVI International Botanical Congress, International Botanical Congress (1998 - 1999)
- Editorial Board, Ecosystems (1997 - 2002)
- Member, Vice Chair and Executive Committee Member, Scientific Advisory Committee, International Geosphere-Biosphere Program (1997 - 2001)
- Member, Advisory Committee, Natural Resource Ecology Laboratory (1996 - 2000)
- Member, U.S. National Committee, Scientific Committee on Problems of the Environment (SCOPE) (1996 - 1999)
- Member, Board of Trustees, Institute of Ecosystem Studies (1995 - 2004)
- Member, Board on Sustainable Development, National Academy of Sciences (1995 - 2000)
- Chair, Sustainable Biosphere Initiative Steering Committee, Ecological Society of America (1994 - 2000)
- Editorial Board, Ecological Applications (1994 - 2000)
- Member, Boreal Ecosystem-Atmosphere Exchange Study Advisory Committee, NASA (1994 - 1998)
- Member, Mission to Planet Earth Advisory Committee, NASA (1994 - 1997)
- Editorial Board, Global Change Biology (1994 - 1997)
- Member, Advisory Board, Aspen Global Change Institute (1992 - 2012)
- Visiting committee or review committee member, MIT, Cornell, Princeton, Utah, Colorado State, Colorado, etc
- Stanford:, __ (1997 - present)
- Chair, Provost's Committee on Sustainability, Stanford University (2012 - 2017)
- Member, Advisory Council, Woods Institute for the Environment (2006 - 2017)
- Science Director, Leopold Leadership Program, Stanford University (2004 - 2017)
- Stanford Environmental Initiative Leader, Stanford University (2004 - 2011)
- Ex Officio member of Stanford University Academic Senate, Stanford University (2002 - 2017)
- Member, Executive Committee of the Emmett Interdisciplinary Program in Environment and Resources, Stanford University (2001 - 2006)
- Sophomore Advisor, Stanford University (2001 - 2006)
- Chair, Ad hoc Committee for a Interdisciplinary Environmental Studies Graduate Program, Stanford University (2000 - 2001)
- Member, Provost's Task Force on University Needs, Stanford University (2000 - 2001)
- Provost's Committee on Environment, Stanford University (1999 - 2004)
- Provost's Committee to form Stanford Institute for the Environment, Stanford University (1999 - 2003)
- Director, Earth Systems Program, Stanford University (1999 - 2002)
- Dean of the School of Education Search Committee, Stanford University (1999 - 2000)
- Institute for International Studies Search Committee, Stanford University (1998 - 2001)

- Acting Director, Earth Systems Program, Stanford University (1998 - 1999)
- Goldman Honors Program faculty member, Stanford University (1997 - 2002)
- Sexual Harassment Advisor, School of Earth Sciences, Stanford University (1997 - 2001)
- Invited lectures, seminars, and speeches:, __ (1997 - present)
- Keynote Address, Resilience 2011 Conference, Arizona State University, Tempe (2011 - 2011)
- Betty Klepper Lecture, Crop Science Society of America Meeting, Long Beach, Crop Science Society of America (2010 - 2010)
- Distinguished Lecturer, University of Hawaii, Honolulu (2010 - 2010)
- Keynote speaker, Wallace Stegner Center for Land, Resources and the Environment Annual Symposium, University of Utah (2010 - 2010)
- Session speaker, Annual Meeting in San Francisco, American Geophysical Union (2010 - 2010)
- Invited speaker, "Climate Change: Global Risks, Challenges and Decisions" in Copenhagen, Denmark, University of Copenhagen and the International Alliance of Research Universities (2009 - 2009)
- Participant, NSF Conference "Towards a Science of Sustainability", National Science Foundation (2009 - 2009)
- Presenter at Symposium during AAAS Annual Meeting. Invited lecture at the University of Texas, Austin., The American Academy of Arts and Sciences (2008 - 2008)
- Speaker at Three Symposia at AAAS Annual Meeting in San Francisco. Invited lectures at Columbia University, Lamont-Doherty Earth Observatory, Duke University and Oregon State University., The American Academy of Arts and Sciences (2007 - 2007)
- Plenary Lecture at AAAS Annual Meeting, St. Louis. Invited lectures at Arizona State University, the U.S. Geological Survey and the Long-Term Ecological Research (LTER) All-Scientists Meeting. Panelist at Society of Petroleum Engineering Annual Technical Conference and Exhibition., The American Academy of Arts and Sciences (2006 - 2006)
- Invited lecturer, The University of Wisconsin, Eau Claire, and the University of Virginia, Charlottesville (2005 - 2005)
- Invited lecturer, University of Georgia, Athens, Brown University and Woods Hole Marine Biological Laboratory. (2004 - 2004)
- Invited lecturer, Yale University, Massachusetts Institute of Technology and Princeton University (2003 - 2003)
- Invited Seminars: Stanford Think Again in Washington, Vancouver,, Stanford Think Again (2002 - 2002)
- Invited Seminars, University of Illinois, Harvard University, UC Davis, University of Wisconsin, Stanford University (2001 - 2001)
- Invited Seminars, Carnegie Institution Global Ecology Lecturer, World Affairs Council of Northern California, Institute of Ecosystem Studies, Royal Swedish Academy of Sciences, National Academy of Sciences Presidents' Circle, Stanford Law School, Peninsula Geological Association (2000 - 2000)
- Invited Seminars, Carnegie Institution Capital Science Lecture, International Botanical Congress, UC Davis, IGBP Congress keynote speaker, University of Connecticut Teale Lecturer, Penn State Life Sciences Consortium Colloquium, State University of New York (1999 - 1999)
- Invited testimony, California Senate Environmental Quality Committee (1999 - 1999)
- Invited Seminars, National Academy of Sciences Symposium, USDA Anniversary Celebration, UCSC Resources in Environmental Education Program, SCOPE 10th General Assembly, University of Minnesota Lindeman Lecturer (1998 - 1998)
- Invited Seminars, Oregon State University; University of Texas, Austin; Colorado State University, Eminent Ecologists Series (3 seminars); UC Santa Cruz; Stanford University; Lawrence Berkeley National Laboratory; Greater Yellowstone Coalition, Boseman (1997 - 1997)

PROGRAM AFFILIATIONS

- Center for Latin American Studies

PROFESSIONAL EDUCATION

- Ph.D., Oregon State University , Forest Ecology (1983)
- M.S., Indiana University , Environmental Science (1980)
- B.S., University of Wisconsin-Eau Claire , Biology (magna cum laude) (1975)

LINKS

- Matson Sustainability Science Research Laboratory: http://pangea.stanford.edu/researchgroups/matsonlab/
- Pursuing Sustainability: http://pursuingsustainability.org

Research & Scholarship

PROJECTS

- Progress, Challenges, and Opportunities for Sustainability Science: A Workshop - The National Academies of Sciences, Engineering, and Medicine (11/30/2021 - 12/2/2021)
- The Nobel Prize Summit: - Nobel Foundation (4/26/2022 - 4/28/2022)

Teaching

COURSES

2024-25

- Pursuing Sustainability: Managing Complex Social Environmental Systems: SUST 210 (Aut)

2023-24

- Pursuing Sustainability: Managing Complex Social Environmental Systems: ESS 230, SUST 210 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Sierra Castaneda

Publications

PUBLICATIONS

- **What Is Endangered Now? Climate Science at the Crossroads** *AGU ADVANCES*
  Saleska, S. R., Wofsy, S. C., Battisti, D., Easterling, W. E., Field, C., Fung, I., Hansen, J. E., Harte, J., Kirk-Davidoff, D., Matson, P. A., McWilliams, J. C., Overpeck, J. T., Russell, et al
  2025; 6 (3)
- **CLIMATE-CHANGE-INDUCED TEMPORAL VARIATION IN PRECIPITATION INCREASES NITROGEN LOSSES FROM INTENSIVE CROPPING SYSTEMS: ANALYSIS WITH A TOY MODEL** *FRONTIERS OF AGRICULTURAL SCIENCE AND ENGINEERING*
  Vitousek, P. M., Chen, X., Cui, Z., Liu, X., Matson, P. A., Ortiz-monasterio, I., Robertson, G., Zhang, F.
  2022; 9 (3): 457-464
- **Systems-level partnerships for sustainability at scale** *NATURE SUSTAINABILITY*
  Matson, P.
  2021
- **A Core Curriculum for Sustainability Leadership** *SUSTAINABILITY*
  Novy, J., Banerjee, B., Matson, P.
  2021; 13 (19)
- **Globalization of nitrogen deposition and ecosystem response: A 20-year perspective : This article belongs to Ambio's 50th Anniversary Collection. Theme: Eutrophication.** *Ambio*
  Hall, S. J., Lohse, K. A., Matson, P. A.
  2021
- **Rainfall intensification increases nitrate leaching from tilled but not no-till cropping systems in the US Midwest** *AGRICULTURE ECOSYSTEMS & ENVIRONMENT*
  Hess, L. J. T., Hinckley, E. S., Robertson, G., Matson, P. A.
  2020; 290
- **Natural climate solutions are not enough.** *Science (New York, N.Y.)*
  Anderson, C. M., DeFries, R. S., Litterman, R., Matson, P. A., Nepstad, D. C., Pacala, S., Schlesinger, W. H., Shaw, M. R., Smith, P., Weber, C., Field, C. B.

2019; 363 (6430): 933–34

- **Interdisciplinary Teaching About Earth and the Environment for a Sustainable Future Foreword** *INTERDISCIPLINARY TEACHING ABOUT EARTH AND THE ENVIRONMENT FOR A SUSTAINABLE FUTURE*
  Matson, P.
  edited by Gosselin, D. C., Egger, A. E., Taber, J. J.
  2019: VII-VIII

- **Rainfall Intensification Enhances Deep Percolation and Soil Water Content in Tilled and No-Till Cropping Systems of the US Midwest** *VADOSE ZONE JOURNAL*
  Hess, L. J. T., Hinckley, E. S., Robertson, G., Hamilton, S. K., Matson, P. A.
  2018; 17 (1)

- **Evolution of the knowledge system for agricultural development in the Yaqui Valley, Sonora, Mexico.** *Proceedings of the National Academy of Sciences of the United States of America*
  McCullough, E. B., Matson, P. A.
  2016; 113 (17): 4609-14

- **Linking knowledge with action in the pursuit of sustainable water-resources management.** *Proceedings of the National Academy of Sciences of the United States of America*
  Jacobs, K., Lebel, L., Buizer, J., Addams, L., Matson, P., McCullough, E., Garden, P., Saliba, G., Finan, T.
  2016; 113 (17): 4591-6

- **Evidence for a historic change occurring in China** *Environmental Science and Technology*
  Liu, X., Vitousek, P., Chang, Y., Zhang, W., Matson, P., Zhang, F.
  2016; 50: 505-506

- **Pursuing Sustainability: A Guide to the Science and Practice**
  Matson, P. A., Clark, W. C., Andersson, K.
  Princeton University Press.2016

- **Towards seaport resilience for climate change adaptation: Stakeholder perceptions of hurricane impacts in Gulfport (MS) and Providence (RI)** *Progress in Planning*
  Becker, A., Matson, P., Fischer, M., Mastrandrea, M.
  2014

- **Agricultural Nutrient Use and Its Environmental Consequences** *The Evolving Sphere of Food Security*
  Vitousek, P. M., Matson, P. A.
  edited by Naylor, R. L.
  Oxford University Press.2014: 269–285

- **Energy in the Context of Sustainability** *DAEDALUS*
  Bierbaum, R. M., Matson, P. A.
  2013; 142 (1): 146-161

- **From Global Environmental Change to Sustainability Science: Ecosystem Studies in the Yaqui Valley, Mexico** *Fundamentals of Ecosystem Science*
  Matson, P. A.
  edited by Weathers, K. C., Strayer, D. L., Likens, G. E.
  Academic Press, Elsevier.2013: 233–241

- **Planetary Opportunities: A Social Contract for Global Change Science to Contribute to a Sustainable Future** *BIOSCIENCE*
  DeFries, R. S., Ellis, E. C., Chapin, F. S., Matson, P. A., Turner, B. L., Agrawal, A., Crutzen, P. J., Field, C., Gleick, P., Kareiva, P. M., Lambin, E., Liverman, D., Ostrom, et al
  2012; 62 (6): 603-606

- **Seeds of Sustainability: Lessons from the Birthplace of the Green Revolution in Agriculture**
  edited by Matson, P. A.
  Island Press, Washington DC.2012

- **Transformations, transport, and potential unintended consequences of high sulfur inputs to Napa Valley vineyards** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Hinckley, E. S., Matson, P. A.
  2011; 108 (34): 14005-14010

- **Integrated soil-crop system management for food security** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Chen, X., Cui, Z., Vitousek, P. M., Cassman, K. G., Matson, P. A., Bai, J., Meng, Q., Hou, P., Yue, S., Roemheld, V., Zhang, F.
  2011; 108 (16): 6399-6404

- **Short-term fates of high sulfur inputs in Northern California vineyard soils** *NUTRIENT CYCLING IN AGROECOSYSTEMS*
  Hinckley, E. S., Fendorf, S., Matson, P.
  2011; 89 (1): 135-142

- **Principles of Terrestrial Ecosystem Ecology**
  Chapin III, F. S., Matson, P. A., Vitousek, P.
  Springer: New York.2011

- **Narrowing the agronomic yield gap with improved nitrogen use efficiency: a modeling approach** *ECOLOGICAL APPLICATIONS*
  Ahrens, T. D., Lobell, D. B., Ortiz-Monasterio, J. I., Li, Y., Matson, P. A.
  2010; 20 (1): 91-100

- **Linking knowledge with action in the pursuit of sustainable water-resource management** *Proceedings of the National Academy of Sciences*
  Jacobs, K., Lebel, L., Buizer, J., Addams, L., Matson, P., McCullough, E., Garden, P., Saliba, G., Finan, T.
  2010

- **America's Climate Choices: Advancing the Science of Climate Change** *National Research Council of the National Academies Committee (Matson, co-chair)*
  Matson, P. A.
  National Aacademy Press, Washington, DC.2010

- **The Sustainability Transition** *ISSUES IN SCIENCE AND TECHNOLOGY*
  Matson, P.
  2009; 25 (4): 39-42

- **Nutrient Cycling and Biogeochemistry** *Princeton Guide to Ecology*
  Vitousek, P. M., Matson, P. A.
  edited by Levin, S. A.
  Princeton University Press.2009

- **Nutrient Balances in Agricultural Development** *Science*
  Vitousek, P. M., Naylor, R., Crews, T., David, M. B., Drinkwater, L. E., Holland, E., Jones, P. J., Katzenberger, J., Martinelli, L. A., Matson, P. A., Nziguheba, G., Ojima, D., Palm, et al
  2009; 324 (5934): 1519-1520

- **A synthesis of nitrogen transformations and transfers from land to the sea in the Yaqui Valley agricultural region of Northwest Mexico** *WATER RESOURCES RESEARCH*
  Ahrens, T. D., Beman, J. M., Harrison, J. A., Jewett, P. K., Matson, P. A.
  2008; 44

- **Ecosystem services: From theory to implementation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Daily, G. C., Matson, P. A.
  2008; 105 (28): 9455-9456

- **Reconciling carbon-cycle concepts, terminology, and methods** *ECOSYSTEMS*
  Chapin, F. S., Woodwell, G. M., Randerson, J. T., Rastetter, E. B., Lovett, G. M., Baldocchi, D. D., Clark, D. A., Harmon, M. E., Schimel, D. S., Valentini, R., Wirth, C., Aber, J. D., Cole, et al
  2006; 9 (7): 1041-1050

- **A case study of land reform and coastal land transformation in southern Sonora, Mexico** *LAND USE POLICY*
  Luers, A. L., Naylor, R. L., Matson, P. A.
  2006; 23 (4): 436-447
- **The influence of tropical plant diversity and composition on soil microbial communities** *MICROBIAL ECOLOGY*
  Carney, K. M., Matson, P. A.
  2006; 52 (2): 226-238
- **Business strategies for conservation on private lands: Koa forestry as a case study** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Goldstein, J. H., Daily, G. C., Friday, J. B., Matson, P. A., Naylor, R. A.
  2006; 103 (26): 10140-10145
- **Agricultural intensification: Will land spared from farming be land spared for nature?** *CONSERVATION BIOLOGY*
  Matson, P. A., Vitousek, P. M.
  2006; 20 (3): 709-710
- **Variations in soil N cycling and trace gas emissions in wet tropical forests** *OECOLOGIA*
  Holtgrieve, G. W., Jewett, P. K., Matson, P. A.
  2006; 146 (4): 584-594
- **Plant communities, soil microorganisms, and soil carbon cycling: Does altering the world belowground matter to ecosystem functioning?** *ECOSYSTEMS*
  Carney, K. M., Matson, P. A.
  2005; 8 (8): 928-940
- **Analysis of wheat yield and climatic trends in Mexico** *FIELD CROPS RESEARCH*
  Lobell, D. B., Ortiz-Monasterio, J. I., Asner, G. P., Matson, P. A., Naylor, R. L., Falcon, W. P.
  2005; 94 (2-3): 250-256
- **Consequences of nitrogen additions for soil losses from wet tropical forests** *ECOLOGICAL APPLICATIONS*
  Lohse, K. A., Matson, P.
  2005; 15 (5): 1629-1648
- **Effects of a diel oxygen cycle on nitrogen transformations and greenhouse gas emissions in a eutrophied subtropical stream** *AQUATIC SCIENCES*
  Harrison, J. A., Matson, P. A., Fendorf, S. E.
  2005; 67 (3): 308-315
- **Agricultural runoff fuels large phytoplankton blooms in vulnerable areas of the ocean** *NATURE*
  Beman, J. M., Arrigo, K. R., Matson, P. A.
  2005; 434 (7030): 211-214
- **People, land use and environment in the Yaqui Valley, Sonora, Mexico** *Population, Land Use, and Environment*
  Matson, P., Luers, A., Seto, K., Naylor, R., Ortiz-Monasterio, I.
  edited by Entwisle, B., Stern, P.
  National Research Council, Washington, DC.2005: 238–264
- **Diversity and composition of tropical soil nitrifiers across a plant diversity gradient and among land-use types** *ECOLOGY LETTERS*
  Carney, K. M., Matson, P. A., Bohannan, B. J.
  2004; 7 (8): 684-694
- **Global change and the earth system: A planet under pressure (Book Review)** *NATURE*
  Book Review Authored by: von Storch, H.
  2004; 429 (6989): 244-245
- **A method for quantifying vulnerability, applied to the agricultural system of the Yaqui Valley, Mexico** *GLOBAL ENVIRONMENTAL CHANGE-HUMAN AND POLICY DIMENSIONS*
  Luers, A. L., Lobell, D. B., Sklar, L. S., Addams, C. L., Matson, P. A.
  2003; 13 (4): 255-267

- **Erosion and the rejuvenation of weathering-derived nutrient supply in an old tropical landscape** *ECOSYSTEMS*
  Vitousek, P., Chadwick, O., Matson, P., Allison, S., Derry, L., Kettley, L., Luers, A., Mecking, E., Monastra, V., Porder, S.
  2003; 6 (8): 762-772
- **Nutrient losses over four million years of tropical forest development** *ECOLOGY*
  Hedin, L. O., Vitousek, P. M., Matson, P. A.
  2003; 84 (9): 2231-2255
- **Effect of land use change on soil carbon in Hawaii** *BIOGEOCHEMISTRY*
  Osher, L. J., Matson, P. A., Amundson, R.
  2003; 65 (2): 213-232
- **Patterns and controls of nitrous oxide emissions from waters draining a subtropical agricultural valley** *GLOBAL BIOGEOCHEMICAL CYCLES*
  Harrison, J., Matson, P.
  2003; 17 (3)
- **A framework for vulnerability analysis in sustainability science** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Turner, B. L., Kasperson, R. E., Matson, P. A., McCarthy, J. J., Corell, R. W., Christensen, L., Eckley, N., Kasperson, J. X., Luers, A., Martello, M. L., Polsky, C., Pulsipher, A., Schiller, et al
  2003; 100 (14): 8074-8079
- **Illustrating the coupled human-environment system for vulnerability analysis: Three case studies** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Turner, B. L., Matson, P. A., McCarthy, J. J., Corell, R. W., Christensen, L., Eckley, N., Hovelsrud-Broda, G. K., Kasperson, J. X., Kasperson, R. E., Luers, A., Martello, M. L., Mathiesen, S., Naylor, et al
  2003; 100 (14): 8080-8085
- **Nutrient status of tropical rain forests influences soil N dynamics after N additions** *ECOLOGICAL MONOGRAPHS*
  Hall, S. J., Matson, P. A.
  2003; 73 (1): 107-129
- **Agricultural sustainability and intensive production practices** *NATURE*
  Tilman, D., Cassman, K. G., Matson, P. A., Naylor, R., Polasky, S.
  2002; 418 (6898): 671-677
- **Policy implications of human-accelerated nitrogen cycling (Reprinted from Biogeochemistry, vol 52, pg 281-320, 2001)** *BIOGEOCHEMISTRY*
  Mosier, A. R., Bleken, M. A., Chaiwanakupt, P., Ellis, E. C., Freney, J. R., Howarth, R. B., Matson, P. A., Minami, K., Naylor, R., Weeks, K. N., Zhu, Z. L.
  2002; 57 (1): 477-516
- **The globalization of nitrogen deposition: Consequences for terrestrial ecosystems** *2nd International Nitrogen Conference*
  Matson, P., Lohse, K. A., Hall, S. J.
  ROYAL SWEDISH ACAD SCIENCES.2002: 113–19
- **Principles of Terrestrial Ecosystem Ecology**
  Chapin, F. S., Matson, P. A., Mooney, H. A.
  Springer-Verlag, New York.2002
- **Environmental variables controlling trace gas emissions from forests: Acid Precipitation and Nitrogen Deposition** *Trace Gas Exchange in Forest Ecosystems*
  Hall, S. J., Matson, P. A.
  edited by Papen, H., Gasche, R., Rennenberg, H.
  Kluwer Academic Publishers, The Netherlands.2002: 279–306
- **Carbon cycling and soil carbon storage in mesic to wet Hawaiian montane forests** *ECOLOGY*
  Schuur, E. A., Chadwick, O. A., Matson, P. A.
  2001; 82 (11): 3182-3196

- **Net primary productivity and nutrient cycling across a mesic to wet precipitation gradient in Hawaiian montane forest.** *Oecologia*
  Schuur, E. A., Matson, P. A.
  2001; 128 (3): 431-442
- **Identifying the agricultural imprint on the global N2O budget using stable isotopes** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Perez, T., Trumbore, S. E., Tyler, S. C., Matson, P. A., Ortiz-Monasterio, I., Rahn, T., Griffith, D. W.
  2001; 106 (D9): 9869-9878
- **Physical and biogeochemical controls over terrestrial ecosystem responses to nitrogen deposition** *BIOGEOCHEMISTRY*
  Asner, G. P., Townsend, A. R., Riley, W. J., Matson, P. A., Neff, J. C., Cleveland, C. C.
  2001; 54 (1): 1-39
- **Environment and development - Sustainability science** *SCIENCE*
  Kates, R. W., Clark, W. C., Corell, R., Hall, J. M., Jaeger, C. C., Lowe, I., McCarthy, J. J., Schellnhuber, H. J., Bolin, B., Dickson, N. M., Faucheux, S., Gallopin, G. C., Grubler, et al
  2001; 292 (5517): 641-642
- **Policy implications of human-accelerated nitrogen cycling** *BIOGEOCHEMISTRY*
  Mosier, A. R., Bleken, M. A., Chaiwanakupt, P., Ellis, E. C., Freney, J. R., Howarth, R. B., Matson, P. A., Minami, K., Naylor, R., Weeks, K. N., Zhu, Z. L.
  2001; 52 (3): 281-320
- **Environmental challenges for the twenty-first century: Interacting challenges and integrative solutions** *ECOLOGY LAW QUARTERLY*
  Matson, P.
  2001; 27 (4): 1179-1190
- **Atmospheric chemistry and greenhouse gases** *Climate Change 2001: The Scientific Basis*
  Prather, M., Ehhalt, D., Dentener, F., Derwent, R., Dlugokencky, E., Holland, E., Isaksen, I., Katima, J., Kirchoff, V., Matson, P., Midgely, P., Want, M.
  edited by Houghton et al
  Cambridge University Press, Cambridge, UK.2001
- **Land use change: Global effects of local changes** *Earth System Science: Patterns and Processes*
  Schuur, E. G., Matson, P. A.
  edited by Ernst, W. G.
  Cambridge University Press, Cambridge UK.2001
- **Earth system science: An integrated approach** *Environment: Science and Policy for Sustainable Development*
  Steffen, W., Tyson, P., Jager, J., Matson, P., Moore, B., Oldfield, F., Richardson, K., Schellnhuber, J., J., Turner, B., Wasson, R.
  2001; 43 (8): 21-27
- **Nitrogen leaching and soil nitrate, nitrite, and ammonium levels under irrigated wheat in Northern Mexico** *NUTRIENT CYCLING IN AGROECOSYSTEMS*
  Riley, W. J., Ortiz-Monasterio, I., Matson, P. A.
  2001; 61 (3): 223-236
- **The atmospheric commons** *Symposium on Protecting the Commons - A Framework for Resource Management in the Americas*
  Harrison, J., Matson, P.
  ISLAND PRESS.2001: 219–239
- **Matson panel: Questions & answers** *ECOLOGY LAW QUARTERLY*
  Lee, K. N., Fortmann, L., Matson, P., Guruswamy, L., Beebe, P.
  2001; 27 (4): 1251-1260
- **Distinguishing nitrification and denitrification sources of N2O in a Mexican wheat system using N-15** *ECOLOGICAL APPLICATIONS*
  Panek, J. A., Matson, P. A., Ortiz-Monasterio, I., Brooks, P.
  2000; 10 (2): 506-514
- **NLOSS: A mechanistic model of denitrified N2O and N-2 evolution from soil** *SOIL SCIENCE*
  Riley, W. J., Matson, P. A.

2000; 165 (3): 237-249

- **Biogenic Trace Gas Exchange** *Methods in Ecosystem Science*
  Matson, P. A., Goldstein, A.
  edited by Sala, O., Jackson, R., Mooney, H., Howarth, R.
  Springer-Verlag, New York.2000
- **Nitrogen oxide emissions after nitrogen additions in tropical forests** *NATURE*
  Hall, S. J., Matson, P. A.
  1999; 400 (6740): 152-155
- **The globalization of N deposition: ecosystem consequences in tropical environments** *BIOGEOCHEMISTRY*
  Matson, P. A., McDowell, W. H., Townsend, A. R., Vitousek, P. M.
  1999; 46 (1-3): 67-83
- **Confronting climate change in California: Ecological impacts on the Golden State**
  Field, C. B., Dailey, G. C., Davis, F. W., Gaines, S., Matson, P. A., Melack, J., Miller, N. L.
  Union of Concerned Scientists, Cambridge, MA and Ecological Society of America, Washington, DC.1999
- **Our Common Journey: A transition toward sustainability** *National Research Council Board on Sustainable Development*
  Matson et al, P. A.
  National Academy Press, Washington, DC.1999
- **Integration of environmental, agronomic, and economic aspects of fertilizer management** *SCIENCE*
  Matson, P. A., Naylor, R., Ortiz-Monasterio, I.
  1998; 280 (5360): 112-115
- **Within-system element cycles, input-output budgets, and nutrient limitation** *7th Cary Conference*
  Vitousek, P. M., Hedin, L. O., Matson, P. A., Fownes, J. H., Neff, J.
  SPRINGER.1998: 432–451
- **Mangrove biodiversity and ecosystem function** *International Workshop on Biodiversity and Ecosystem Function in Marine Ecosystems*
  Field, C. B., Osborn, J. G., Hoffmann, L. L., Polsenberg, J. F., Ackerly, D. D., Berry, J. A., Bjorkman, O., Held, Z., Matson, P. A., Mooney, H. A.
  WILEY-BLACKWELL PUBLISHING, INC.1998: 3–14
- **Human alteration of the global nitrogen cycle: Sources and consequences** *ECOLOGICAL APPLICATIONS*
  Vitousek, P. M., Aber, J. D., Howarth, R. W., Likens, G. E., Matson, P. A., Schindler, D. W., Schlesinger, W. H., Tilman, D.
  1997; 7 (3): 737-750
- **NOx emissions from soils and its consequences for the atmosphere and biosphere** *Nutrient Cycling in Agroecosystems*
  Matson, P.
  1997; 48: 1-6
- **Agricultural intensification and ecosystem properties** *Science*
  Matson, P. A., Parton, W. J., Power, A. G., Swift, M.
  1997; 277: 504-509
- **Fertilization practices and soil variations control nitrogen oxide emissions from tropical sugar cane** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Matson, P. A., BILLOW, C., Hall, S., Zachariassen, J.
  1996; 101 (D13): 18533-18545
- **Nitrous oxide emission controls and inorganic nitrogen dynamics in fertilized tropical agricultural soils** *SOIL SCIENCE SOCIETY OF AMERICA JOURNAL*
  Davidson, E. A., Matson, P. A., Brooks, P. D.
  1996; 60 (4): 1145-1152
- **High spectral resolution reflectance of douglas fir grown under different fertilization treatments: Experiment design and treatment effects** *REMOTE SENSING OF ENVIRONMENT*
  Dungan, J., Johnson, L., BILLOW, C., Matson, P., MAZZURCO, J., Moen, J., VANDERBILT, V.
  1996; 55 (3): 217-228

- **Process modeling of controls on nitrogen trace gas emissions from soils worldwide** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Potter, C. S., Matson, P. A., Vitousek, P. M., Davidson, E. A.
  1996; 101 (D1): 1361-1377

- **Nitrogen trace gas responses to fertilization in sugar cane ecosystems** *Journal of Geophysical Research*
  Matson, P. A., Billow, C., Hall, S., Zachariesson, J.
  1996; 101: 18533-18546

- **NOx emissions from soil: Implications for air quality modeling in agricultural regions** *ANNUAL REVIEW OF ENERGY AND THE ENVIRONMENT*
  Hall, S. J., Matson, P. A., Roth, P. M.
  1996; 21: 311-346

- **Trace gas emissions in a tropical deciduous forest ecosystem** *Tropical Deciduous Forest Ecosystems*
  Matson, P. A., Vitousek, P. M., Bullock, R.
  edited by Mooney, H., Medina, C.
  Springer-Verlag, New York.1996

- **High spectral resolution reflectance of Douglas-fir grown under different fertilization treatments: experiment design and treatment effects** *Remote Sensing of Environment*
  Dungan, J. L., Johnson, L. F., Billow, C. R., Matson, P. A., Mazzurco, J., Moen, J., Vanderbilt, V. C.
  1996; 55: 217-228

- **NOx emission from soil: implications for air quality modeling in agricultural regions** *Annual Review of Energy and Environment*
  Hall, S. J., Matson, P. A., Roth, P.
  1996; 21: 311-46

- **ECOLOGICAL CONTROLS OVER MONOTERPENE EMISSIONS FROM DOUGLAS-FIR (PSEUDOTSUGA-MENZIESII)** *ECOLOGY*
  Lerdau, M., Matson, P., Fall, R., Monson, R.
  1995; 76 (8): 2640-2647

- **MAPPING THE LAND-SURFACE FOR GLOBAL ATMOSPHERE-BIOSPHERE MODELS - TOWARD CONTINUOUS DISTRIBUTIONS OF VEGETATIONS FUNCTIONAL-PROPERTIES** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  DeFries, R. S., Field, C. B., Fung, I., Justice, C. O., Los, S., Matson, P. A., Matthews, E., Mooney, H. A., Potter, C. S., Prentice, K., Sellers, P. J., Townshend, J. R., Tucker, et al
  1995; 100 (D10): 20867-20882

- **Biogenic Trace gases: Measuring Emissions from Soil and Water**
  edited by Matson, P. A., Harriss, R. C.
  Blackwell Scientific Publishing, Cambridge, UK.1995

- **Nitrogen fertilizer management: consequences for N2O and NO emissions in Mexican irrigated wheat** *9th Nitrogen Workshop, Technische Universit, Braunschweig, Germany,*
  Ortiz-Monasterio, J. I., Matson, P. A., Panek, J., Naylor, R. L.
  1995: 513–534

- **SEASONAL PATTERNS AND REMOTE SPECTRAL ESTIMATION OF CANOPY CHEMISTRY ACROSS THE OREGON TRANSECT** *ECOLOGICAL APPLICATIONS*
  Matson, P., Johnson, L., BILLOW, C., Miller, J., Pu, R. L.
  1994; 4 (2): 280-298

- **Seasonal biochemical changes in coniferous forest canopies and their response to fertilization** *Tree Physiology*
  Billow, C., Matson, P., Yoder, B.
  1994; 14: 564-574

- **ACCOMPLISHMENTS AND FUTURE CHALLENGES - AN IGAC PANEL DISCUSSION** *1st Scientific Conference of the International-Global-Atmospheric-Chemistry (IGAC)-Project*
  Crutzen, P., Galbally, I., Matson, P., Rodhe, H., Sanhueza, E., Prinn, R., Zimmerman, P., Brasseur, G., Su, W. H., Lelieveld, J., Akimoto, H.
  PLENUM PRESS DIV PLENUM PUBLISHING CORP.1994: 249–257

- **Evaluation of soild database attributes in a terrestrial carbon cycle model: implications for global change research** *Environmental Systems Analysis*
  Potter, C. S., Matson, P. A., Vitousek, P. M.
  edited by Michener, W. K.
  Taylor and Francis, UK.1994

- **ACCOMPLISHMENTS AND FUTURE CHALLENGES - AN IGAC PANEL DISCUSSION** *1st Scientific Conference of the International-Global-Atmospheric-Chemistry (IGAC)-Project*
  Crutzen, P., Galbally, I., Matson, P., Rodhe, H., Sanhueza, E., Prinn, R., Zimmerman, P., Brasseur, G., Su, W. H., Lelieveld, J., Akimoto, H.
  PLENUM PRESS DIV PLENUM PUBLISHING CORP.1994: 249–257

- **TERRESTRIAL ECOSYSTEM PRODUCTION - A PROCESS MODEL-BASED ON GLOBAL SATELLITE AND SURFACE DATA** *GLOBAL BIOGEOCHEMICAL CYCLES*
  Potter, C. S., Randerson, J. T., Field, C. B., Matson, P. A., Vitousek, P. M., Mooney, H. A., Klooster, S. A.
  1993; 7 (4): 811-841

- **DEVELOPING AN INTEGRATED APPROACH** *FOOD POLICY*
  Naylor, R., Matson, P.
  1993; 18 (3): 249-251

- **NUTRIENT LIMITATIONS TO PLANT-GROWTH DURING PRIMARY SUCCESSION IN HAWAII-VOLCANOS-NATIONAL-PARK** *BIOGEOCHEMISTRY*
  Vitousek, P. M., Walker, L. R., WHITEAKER, L. D., Matson, P. A.
  1993; 23 (3): 197-215

- **Prospects for Scaling** *Scaling Physiological Properties*
  Caldwell, M., Matson, P. A., Wessman, C. A., Gamon, J. A.
  edited by Field, C., Ehlringer, J.
  Academic Press, New York.1993: 223–229

- **AGRICULTURE, THE GLOBAL NITROGEN-CYCLE, AND TRACE GAS FLUX** *10TH INTERNATIONAL SYMP ON ENVIRONMENTAL BIOGEOCHEMISTRY*
  Vitousek, P. M., Matson, P. A.
  CHAPMAN & HALL.1993: 193–208

- **Statistical methods: An upgrade for ecologists** *Ecology*
  Matson, P. A., Potvin, C., Travis, J.
  1993; 74: 1615-1617

- **Food, conservation, and global environmental change: Is compromise possible?** *Eos*
  Naylor, R., Matson, P. A.
  1993; 74: 178-179

- **PROCESSES REGULATING SOIL EMISSIONS OF NO AND N2O IN A SEASONALLY DRY TROPICAL FOREST** *ECOLOGY*
  Davidson, E. A., Matson, P. A., Vitousek, P. M., Riley, R., Dunkin, K., GARCIAMENDEZ, G., Maass, J. M.
  1993; 74 (1): 130-139

- **TROPICAL FORESTS AND TRACE GASES - POTENTIAL INTERACTIONS BETWEEN TROPICAL BIOLOGY AND THE ATMOSPHERIC SCIENCES** *BIOTROPICA*
  Vitousek, P. M., Matson, P. A.
  1992; 24 (2): 233-239

- **EFFECTS OF HARVEST INTENSITY, SITE PREPARATION, AND HERBICIDE USE ON SOIL-NITROGEN TRANSFORMATIONS IN A YOUNG LOBLOLLY-PINE PLANTATION** *FOREST ECOLOGY AND MANAGEMENT*
  Vitousek, P. M., ANDARIESE, S. W., Matson, P. A., Morris, L., Sanford, R. L.
  1992; 49 (3-4): 277-292

- **RESPONSES OF TERRESTRIAL ECOSYSTEMS TO THE CHANGING ATMOSPHERE - A RESOURCE-BASED APPROACH** *ANNUAL REVIEW OF ECOLOGY AND SYSTEMATICS*
  Field, C. B., Chapin, F. S., Matson, P. A., Mooney, H. A.

1992; 23: 201-235

- **SOIL-NITROGEN CYCLING AND NITROUS-OXIDE FLUX IN A ROCKY-MOUNTAIN DOUGLAS-FIR FOREST - EFFECTS OF FERTILIZATION, IRRIGATION AND CARBON ADDITION** *BIOGEOCHEMISTRY*
  Matson, P. A., Gower, S. T., Volkmann, C., BILLOW, C., GRIER, C. C.
  1992; 18 (2): 101-117
- **Soil nitrogen cycling and nitrous oxide fluxes in fertilized Rocky Mountain Douglas-fir forests** *Biogeochemistry*
  Matson, P. A., Gower, S. T., Volkmann, C., BIllow, C., Grier, C. C.
  1992; 18: 101-117
- **Management effects on soil nitrogen transformations in a young loblolly pine plantation** *Forest Ecology and Management*
  Vitousek, P. M., Andariese, S. W., Matson, P. A., Morris, L., Sanford, R. L.
  1992; 49: 277-292
- **The relative contributions of top-down and bottom-up forces in population and community ecology** *Ecology*
  Matson, P. A., Hunter, M. D.
  1992; 73: 723
- **Biogeochemistryand perspectives on change** *Ecology*
  Matson, P. A.
  1992; 73: 712-713
- **Ratio dependent predator-prey theory** *Ecology*
  Matson, P. A., Berryman, A.
  1992; 73: 1529
- **WHAT DOES REMOTE-SENSING DO FOR ECOLOGY** *ECOLOGY*
  Roughgarden, J., Running, S. W., Matson, P. A.
  1991; 72 (6): 1918-1922
- **Nitrogen transformations and nitrous oxide flux in a tropical deciduous forest in México.** *Oecologia*
  García-Méndez, G., Maass, J. M., Matson, P. A., Vitousek, P. M.
  1991; 88 (3): 362-366
- **EFFECTS OF TROPICAL DEFORESTATION ON GLOBAL AND REGIONAL ATMOSPHERIC CHEMISTRY - COMMENT** *CLIMATIC CHANGE*
  Vitousek, P. M., Matson, P. A.
  1991; 19 (1-2): 159-162
- **SOIL EMISSIONS OF NITRIC-OXIDE IN A SEASONALLY DRY TROPICAL FOREST OF MEXICO** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Davidson, E. A., Vitousek, P. M., Matson, P. A., Riley, R., GARCIAMENDEZ, G., Maass, J. M.
  1991; 96 (D8): 15439-15445
- **THE SUSTAINABLE BIOSPHERE INITIATIVE - AN ECOLOGICAL RESEARCH AGENDA - A REPORT FROM THE ECOLOGICAL-SOCIETY-OF-AMERICA** *ECOLOGY*
  Lubchenco, J., Olson, A. M., Brubaker, L. B., Carpenter, S. R., HOLLAND, M. M., Hubbell, S. P., Levin, S. A., MacMahon, J. A., Matson, P. A., Melillo, J. M., Mooney, H. A., Peterson, C. H., Pulliam, et al
  1991; 72 (2): 371-412
- **Interactions of behavioral and evolutionary ecology in changing environments** *Ecology*
  Gordon, D. M., Matson, P. A.
  1991; 72: 1179
- **ANNUAL NITROUS-OXIDE FLUX AND SOIL-NITROGEN CHARACTERISTICS IN SAGEBRUSH STEPPE ECOSYSTEMS** *BIOGEOCHEMISTRY*
  Matson, P. A., Volkmann, C., COPPINGER, K., Reiners, W. A.
  1991; 14 (1): 1-12
- **Trace gas emissions by plants: A summary** *Trace Gas Emission by Plants*
  Matson, P. A.
  edited by Sharkey, T., Holland, E., Mooney, H. A.

Academic Press, San Diego, CA.1991: 341–343

- **The sustainable biosphere initiative: An ecological research agenda** *Ecology*
  Lubchenco, J., Olson, A., Brubaker, L., Carpenter, S., Holland, M., Hubbell, S., Levin, S., MacMahon, J., Matson, P., Melillo, J., Mooney, H., Peterson, C., Pulliam, et al
  1991; 72: 371-412

- **GRADIENT ANALYSIS OF ECOSYSTEMS** *3RD CARY CONF ON COMPARATIVE ANALYSES OF ECOSYSTEMS*
  Vitousek, P. M., Matson, P. A.
  SPRINGER-VERLAG.1991: 287–298

- **The future of remote sensing in ecological studies** *Ecology*
  Matson, P. A., Usting, S. L.
  1991; 72: 1917

- **Annual nitrous oxide flux and soil nitrogen characteristics in sagebrush steppe ecosystems** *Biogeochemistry*
  Matson, P. A., Volkmann, C., Coppinger, K., Reiners, W. A.
  1991; 1: 1-12

- **ECOSYSTEM APPROACH TO A GLOBAL NITROUS-OXIDE BUDGET** *BIOSCIENCE*
  Matson, P. A., Vitousek, P. M.
  1990; 40 (9): 667-671

- **C in Hawaiian Metrosideros polymorpha: a case of internal resistance?** *Oecologia*
  Vitousek, P. M., Field, C. B., Matson, P. A.
  1990; 84 (3): 362-370

- **SOURCES OF VARIATION IN NITROUS-OXIDE FLUX FROM AMAZONIAN ECOSYSTEMS** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Matson, P. A., Vitousek, P. M., Livingston, G. P., SWANBERG, N. A.
  1990; 95 (D10): 16789-16798

- **VARIATION IN FOLIAR DELTA-C-13 IN HAWAIIAN METROSIDEROS-POLYMORPHA - A CASE OF INTERNAL RESISTANCE** *OECOLOGIA*
  Vitousek, P. M., Field, C. B., Matson, P. A.
  1990; 84 (3): 362-370

- **Remote sensing and trace gas fluxes** *Remote Sensing of Biosphere Functioning*
  Matson, P. A., Vitousek, P. M.
  edited by Hobbs, R., Mooney, H. A.
  Springer-Verlag, New York.1990: 157–167

- **The use of urban gradients in ecological studies** *Ecology*
  Matson, P. A.
  1990; 71: 1231

- **The Amazon boundary layer experiment: Wet season 1987** *Journal of Geophysical Research*
  Harris, R. C., Garstang, M., Wofsy, S. C., Beck, S. M., Bendura, R. J., Coelho, J. R., Drewry, J. W., Hoell, J. M., Matson, P. A., McNeal, J. R., Mollon, L. C., Navarro, R. L., Rabine, et al
  1990; 95: 16721-16736

- **Terrestrial Biosphere Exchange with Global Atmospheric Chemistry**
  edited by Matson, P. A., Ojima, D. S.
  IGBP Report No. 13. Stockholm 103pp..1990

- **Use of the exotic tree Myrica faya by native and exotic birds in Hawaii Volcanoes National Park** *Pacific Science*
  Woodward, S., Vitousek, P. M., Matson, P.
  1990; 44: 88-93

- **Plant-soil interactions during primary succession at Hawaii Volcanoes National Park** *Oecologica*
  Matson, P. A.

1990; 85: 241-246

- **Statistical analysis of ecological response to large-scale perturbabion** *Ecology*
  Matson, P. A., Carpenter, S.
  1990; 71: 2037
- **NITROUS OXIDE FLUX FROM DRY TROPICAL FORESTS** *GLOBAL BIOGEOCHEMICAL CYCLES*
  Vitousek, P., Matson, P., Volkmann, C., Maass, J., Garcia, G.
  1989; 3 (4): 375-382
- **RELATIONSHIPS BETWEEN SOIL MICROBIAL PROPERTIES AND ABOVE-GROUND STAND CHARACTERISTICS OF CONIFER FORESTS IN OREGON** *BIOGEOCHEMISTRY*
  Myrold, D. D., Matson, P. A., Peterson, D. L.
  1989; 8 (3): 265-281
- **NITROGEN AVAILABILITY AND NITRIFICATION DURING SUCCESSION - PRIMARY, SECONDARY, AND OLD-FIELD SERES** *PLANT AND SOIL*
  Vitousek, P. M., Matson, P. A., VANCLEVE, K.
  1989; 115 (2): 229-239
- **ESTIMATING BIOGEOCHEMICAL FLUXES ACROSS SAGEBRUSH-STEPPE LANDSCAPES WITH THEMATIC MAPPER IMAGERY** *REMOTE SENSING OF ENVIRONMENT*
  Reiners, W. A., Strong, L. L., Matson, P. A., Burke, I. C., Ojima, D. S.
  1989; 28: 121-?
- **Nitrous oxide fluxes from seasonally dry tropical forests** *Global Biogeochemical Cycles*
  Vitousek, P. M., Matson, P. A., Volkmann, C., Maass, M., Garcia, G.
  1989; 3: 375-382
- **Estimating biogeochemical fluxes across sagaebrush-steppe landscape with thematic mapper imagery** *Remote Sensing of Environment*
  Reiners, W. A., Strong, L. L., Matson, P. A., Burke, I. C., Ojima, D. S.
  1989; 28: 121-129
- **Relationships among soil microbial properties and above ground stand characteristics of conifer forests in Oregon** *Biogeochemistry*
  Myroid, D. D., Matson, P. A., Peterson, D. L.
  1989; 8: 265-281
- **Nitrous oxide flux following tropical land clearing** *Global Biogeochemical Cycles*
  Luizao, F., Matson, P., Livingston, G., Luizao, R., Vitousek, P.
  1989; 3: 281-285
- **Nitrous oxide flux following tropical land clearing** *Global Biogeochemical Cycles*
  Luizao, F., Matson, P., Livingston, G., Luizao, R., Vitousek, P.
  1989; 3: 281-285
- **Elevational and age gradients in hawaiian montane rainforest: foliar and soil nutrients.** *Oecologia*
  Vitousek, P. M., Matson, P. A., Turner, D. R.
  1988; 77 (4): 565-570
- **NITROUS-OXIDE FLUX AND NITROGEN TRANSFORMATIONS ACROSS A LANDSCAPE GRADIENT IN AMAZONIA** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Livingston, G. P., Vitousek, P. M., Matson, P. A.
  1988; 93 (D2): 1593-1599
- **NITROGEN TRANSFORMATIONS IN A RANGE OF TROPICAL FOREST SOILS** *SOIL BIOLOGY & BIOCHEMISTRY*
  Vitousek, P. M., Matson, P. A.
  1988; 20 (3): 361-367
- **Prediction of leaf chemistry by the use of visible and near infrared reflectance spectroscopy** *Remote Sensing of Environment*
  Card, D. H., Peterson, D. L., Matson, P. A., Aber, J. D.
  1988; 26: 123-147

- **Remote sensing of forest canopy and leaf biochemical content** *Remote Sensing of the Environment*
  Peterson, D. L., Aber, J. D., Matson, P. A., Card, D. J., Swanberg, N., Wessman, C., Spanner, M. A., Hlavka, C. A.
  1988; 24: 85-108
- **Aircraft-based measurements of biosphere-atmosphere gas exchange** *Ecology*
  Matson, P. A., Harriss, R. C.
  1988; 69: 1318-1325
- **EXCHANGE OF MATERIALS BETWEEN TERRESTRIAL ECOSYSTEMS AND THE ATMOSPHERE** *SCIENCE*
  Mooney, H. A., Vitousek, P. M., Matson, P. A.
  1987; 238 (4829): 926-932
- **BIOLOGICAL INVASION BY MYRICA-FAYA ALTERS ECOSYSTEM DEVELOPMENT IN HAWAII** *SCIENCE*
  Vitousek, P. M., Walker, L. R., WHITEAKER, L. D., MUELLERDOMBOIS, D., Matson, P. A.
  1987; 238 (4828): 802-804
- **HERBICIDE TREATMENT EFFECTS ON PROPERTIES OF MOUNTAIN BIG SAGEBRUSH SOILS AFTER 14 YEARS** *SOIL SCIENCE SOCIETY OF AMERICA JOURNAL*
  Burke, I. C., Reiners, W. A., STURGES, D. L., Matson, P. A.
  1987; 51 (5): 1337-1343
- **NITROGEN TRANSFORMATIONS FOLLOWING TROPICAL FOREST FELLING AND BURNING ON A VOLCANIC SOIL** *ECOLOGY*
  Matson, P. A., Vitousek, P. M., Ewel, J. J., Mazzarino, M. J., Robertson, G. P.
  1987; 68 (3): 491-502
- **Net primary production: original calculations.** *Science*
  Vitousek, P. M., Ehrlich, P. R., EHRLICH, A. H., Matson, P. A.
  1987; 235 (4790): 730a-?
- **The use of airborne imaging spectrometer data to determine experimentally-induced variation in coniferous canopy chemistry** *Third Airborne Imaging Spectrometer Data Analysis Workshop*
  Swanberg, N. A., Matson, P. A.
  1987: 70–74 70–74
- **DENITRIFICATION IN A CLEAR-CUT LOBLOLLY-PINE (PINUS-TAEDA L) PLANTATION IN THE SOUTHEASTERN UNITED-STATES** *PLANT AND SOIL*
  Robertson, G. P., Vitousek, P. M., Matson, P. A., Tiedje, J. M.
  1987; 97 (1): 119-129
- **Susceptibility indices in loblolly pine vary with silvicultural treatment** *Forest Ecology and Management*
  Matson, P. A., Hain, F. P., Mawby, W.
  1987; 22: 107-118
- **Biogeochemical Cycling in Sagebrush Ecosystems** *Thematic Mapper Research in the Earth Sciences Workshop*
  Matson, P. A., Strong, L. L., Reiners, W. A.
  1987: 85–90
- **Dentrification in a clearcut loblolly pine plantation in the Southeastern U.S.: Differences related to harvest intensity, site preparation, and silvicultural practice** *Plant and Soil*
  Robertson, G. P., Vitousek, P. M., Matson, P. A., Tiedje, J. M.
  1987; 97: 119-129
- **Ecosystem responses to forest dieback: Decomposition, nutrient availability, and tree vigor** *Forestry*
  Waring, R. H., Cromack, Jr., I., Matson, P. A., Boone, R. D., Stafford, S. G.
  1987; 60: 219-227
- **Cross-system comparisons of soil nitrogen transformationas and nitrous oxide flux in tropical forest ecosystems** *Global Biogeochemical Cycles*
  Matson, P. A., Vitousek, P. M.
  1987; 1: 163-170

- **Herbicide treatment effects on properties of mountain big sagebrush soils after 14 years** *Soil Science Society of America Journal*
  Burke, I. C., Reiners, W. A., Sturges, D. L., Matson, P. A.
  1987; 51: 1337-1343
- **HUMAN APPROPRIATION OF THE PRODUCTS OF PHOTOSYNTHESIS** *BIOSCIENCE*
  Vitousek, P. M., Ehrlich, P. R., EHRLICH, A. H., Matson, P. A.
  1986; 36 (6): 368-373
- **Site fertility affects seasonal carbon reserves in loblolly pine** *Tree Physiology*
  Birk, E. M., Matson, P. A.
  1986; 2: 17-27
- **Biogeochemical processes in sagebrush ecosystems** *Thematic Mapper Research in Earth Sciences Workshop*
  Matson, P. A.
  1986: 279–93
- **DISTURBANCE, NITROGEN AVAILABILITY, AND NITROGEN LOSSES IN AN INTENSIVELY MANAGED LOBLOLLY-PINE PLANTATION** *ECOLOGY*
  Vitousek, P. M., Matson, P. A.
  1985; 66 (4): 1360-1376
- **Factors contributing to southern pine beetle host resistance** *Integrated Pest Management Research Symposium*
  Hain, F. P., Cook, S. P., Matson, P. A., Wilson, K. G.
  edited by Branham, S. J., Thatcher, R. C.
  1985
- **Nitrate losses from disturbed forests: Causes of delayed nitrate production in two Indiana forests** *Forest Science*
  Vitousek, P. M., Matson, P. A.
  1985; 31: 122-131
- **Intensive harvest and site preparation decrease nitrogen availability in young plantations** *The Southern Journal of Applied Forestry*
  Vitousek, P. M., Matson, PA.
  1985; 9: 120-125
- **High resolution spectrometry of leaf and canopy chemistry for biogeochemical cycling** *Airborne Imaging Spectrometer Data Analsysis Symposium,*
  Spanner, M. A., Peterson, D. L., Acevedo, W., Matson, P. A.
  1985
- **MECHANISMS OF NITROGEN-RETENTION IN FOREST ECOSYSTEMS - A FIELD EXPERIMENT** *SCIENCE*
  Vitousek, P. M., Matson, P. A.
  1984; 225 (4657): 51-52
- **Natural Disturbance and Nitrogen Mineralization: Wave-Form Dieback of Mountain Hemlock in the Oregon Cascades** *Ecology*
  Matson, P. A., Boone, R. D.
  1984; 65: 1511-1516
- **Effects of nutrient and light limitation on mountain hemlock: Susceptibility to laminated root rot** *Ecology*
  Matson, P. A., Waring, R. H.
  1984; 65: 1517-1524
- **Host conifer defense strategies: A hypothesis** *First IUFRO Conference on the Role of Host-Pest Interaction in the Population Dynamics of Forest Insects*
  Matson, P. A., Hain, F. P.
  1983
- **Impacts of management practices on soil nitrogen status (in 'Maintaining Site Productivity in Pine Plantation Management')** *Appalachian Society of American Foresters Ann Mtg*
  Vitousek, P. M., Allen, H. L., Matson, P. A.
  1983: 25–39

- **An evaluation of an ion exchange resin bag method for assessing forest soil nitrogen availability** *Soil Science Society of America Journal*
  Binkley, D., Matson, P. A.
  1983; 47: 1050-1052
- **Nitrogen mineralization and nitrification potentials following clearcutting in the Hoosier National Forest, Indiana** *Forest Science*
  Matson, P. A., Vitousek, P. M.
  1981; 27: 781-791