

Paul Alan Dirmeyer

Last Update: 1 February 2019

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D.O.B.: 8 February 1964; El Paso, Texas, USA (U.S. Citizen)

Work Addresses:

Department of Atmospheric, Oceanic and Earth Sciences
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+1-703-993-5363
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Home Address:

13639 Highland Road
Clarksville MD 21029-1424
+1-301-854-3246

Employment:

2012-current: Full Professor in the Department of Atmospheric, Oceanic and Earth Sciences, George Mason University, Fairfax, Virginia.

2011-current: Senior Research Scientist at the Center for Ocean-Land-Atmosphere Studies.

2001-2010: Associate Research Scientist at the Center for Ocean-Land-Atmosphere Studies (a Center within the Institute of Global Environment and Society).

2006-2007: Assoc. Program Manager in Climate and Large-Scale Dynamics, ATM/GEO, National Science Foundation, Arlington, Virginia.

1993-2000: Research Scientist at the Center for Ocean-Land-Atmosphere Studies.

1993: Research Associate, Center for Ocean-Land-Atmosphere Interactions, Department of Meteorology, University of Maryland at College Park.

1989-1992: Graduate Research Assistant, Department of Meteorology, University of Maryland at College Park.

1986-1989: Graduate Fellow, Department of Meteorology, granted by the College of Graduate Studies and Research, University of Maryland at College Park.

1984-1986: Research Assistant, Department of Meteorology, Texas A&M University.

Education:

Ph.D. in Meteorology, December 1992, University of Maryland at College Park. Dissertation title: GCM Studies of the Influence of Vegetation on the General Circulation: The Role of Albedo in Modulating Climate Change.

M.S. in Meteorology, December 1988, University of Maryland at College Park. Thesis title: Stationary Solutions in a One-Layer Spectral Model.

B.S. in Meteorology (Magna Cum Laude), May 1986, Texas A&M University.

Major Honors:

American Geophysical Union (AGU) Fellow, 2017

European Geophysical Union (EGU) Senior Leonardo Lecturer, 2016

American Meteorological Society (AMS) Fellow, 2014

U. Maryland Dept. of Atmospheric and Oceanic Science Distinguished Alumnus, 2009

AMS Clarence Leroy Meisinger Award, 2006

Editor:

Journal for Advances in Modeling Earth Systems (JAMES) (2015-2018; Associate Editor 2008-2014)

Guest Editor:

International Journal of Climatology (2008-2010)

Journal of the Meteorological Society of Japan (1999).

Scientific Service Positions:

Co-Chair: Joint CLIVAR/GEWEX Monsoon Panel (2014-2017).

Chair: GEWEX Global Land Atmosphere System Study (GLASS) (2003-2005), *Member:* (2000-2006; 2011-).

Co-Lead: NOAA Subseasonal to Seasonal (S2S) Prediction Task Force (2016-).

Co-Organizer: "Managing Our Planet" Lecture Series, Woodrow Wilson International Center for Scholars with the Brazil Institute and the Environmental Change and Security Program (2017-).

Member: GEWEX Scientific Steering Group (2018-).

Liaison: World Meteorological Organization Seasonal to Subseasonal Prediction Project (S2S) from GEWEX/GLASS (2014-).

Member: GEWEX/GLASS Local Land-Atmosphere Coupling Study (LoCo; 2011-).

Member: Scientific Steering Committee; Land Surface, Snow and Soil Moisture Model Inter-comparison Project (LS3MIP; 2014-).

Member: American Meteorological Society (AMS) Atmospheric Research Awards (ARA) Committee (2015-2017).

Member: NOAA Modeling, Analysis, Predictions and Projections (MAPP) program Climate Model Development Task Force (2014-2017).

Member: NOAA Modeling, Analysis, Predictions and Projections (MAPP) program CMIP5 Task Force (2011-2014).

Chair: GEWEX Global Soil Wetness Project (GSWP) (1996-2007).

Member: Global Water Cycle Program (GWCP) Interagency Working Group (2006-2007).

Member: United States THORPEX Executive Committee (2006-2007).

Representative: NSF representative to the National Science and Technology Council, Committee on Environment and Natural Resources, Subcommittee on Water Availability and Quality.

Ex-Officio: NCAR Community Climate System Model Scientific Steering Committee (2006-2007).

Ex-Officio: NCAR Community Climate System Model Advisory Board (2006-2007).

Member: GEWEX Modelling and Prediction Panel (GMPP) (2003-2005).

Ex-Officio: GEWEX Radiation Panel (GRP) (2003-2005).

Ex-Officio: GRP Working Group on Data Management and Analysis (2004-2005).

Member: IGBP Integrated Land Ecosystem-Atmosphere Process Study (ILEAPS) Scientific Steering Committee (2004-2005).

Representative: GEWEX representative to the Integrated Land Ecosystem Atmosphere Processes Study (ILEAPS) (2003-2005).

Member: AMS Committee on Hydrology (2002-2005).

Member: Global Water Cycle Program (GWCP) Science Steering Group (2002-2005).

Member: International Satellite Land-Surface Climatology Project (ISLSCP) Science Panel (1997-2005).

Member: US-CLIVAR Pan American Panel (1999-2003).

Member: NCAR Climate System Model -- Land Model Working Group, CLM Development Group (1998-2001).

Member: EOS International Working Group (IWG), EOS IWG Land Panel, EOS IWG Hydrometeorology Panel, LBA Science Team (1998-2002)

Academic Service Positions:

Chair: College of Science Promotion and Tenure Committee, George Mason University (2017-2018);
Secretary: (2015-2016); *Member:* (2015-2018).

Member: Graduate Exam Committee for Climate Dynamics (2011-)

Panelist: Multidisciplinary Research (MDR) Seed Grant Review Panel (July 2015).

Member: Mason Water Forum (2012-).

Contract Faculty Member: Climate Dynamics Program, George Mason University (Virginia) (2003-2005).

Adjunct Member of the Graduate Faculty: George Mason University (Virginia) (2000, 2002).

Special Member of the Graduate Faculty: University of Maryland at College Park (2000-2002).

Multiple search committees for academic faculty and post-doctoral hires.

Teaching:

Sp2012-current: CLIM714 Land-Climate Interactions. George Mason University.

Su2015: CLIM408 Senior Research

F2012, Sp 2015: CLIM996 Land-Climate Directed Reading. George Mason University.

Su2004, Su2016: Land-Climate Interactions. Targeted Training Activity, Course on Climate Dynamics for Climate Research Institutes and University Lecturers, International Center for Theoretical Physics, Miramare-Trieste, Italy.

Sp2004, Sp2005: CLIM714 Land-Climate Interactions. George Mason University.

F2000, F2002: CSI759 Land-Climate Interactions. George Mason University.

Mentoring (Students):

O. Reale (co-advisor) Ph.D. in Meteorology 1996: *Modeling the Effects on Climate Caused by the Changes in Vegetation from the Roman Classical Period.* U. Maryland College Park.

L. Della Vedova de Oliveira Pinto (summer sponsor) 2001: Ph.D. in Atmospheric Sciences 2003, U. São Paulo, Brazil, Dept. of Atmospheric Sciences.

- A. Sudradjat (co-advisor) Ph.D. in Civil Engineering 2002: *Source-sink analysis of precipitation supply to large river basins*. U. Maryland College Park.
- T. D'Orgeval (summer sponsor) 2003: Ph.D. student, l'Université de Paris, France, Dept. Earth Sciences.
- E. Lehmann (co-advisor) M.S. 2004: George Mason University, Virginia, School of Computational Sciences.
- G. Dunn (summer mentor) 2004: *National Intel semi-finalist*. Science, Mathematics, Computer Science Magnet Program, Montgomery Blair High School, Silver Spring, Maryland.
- B. Holbert (summer mentor) 2005: Science, Mathematics, Computer Science Magnet Program, Montgomery Blair High School, Silver Spring, Maryland.
- G. Abramowitz (examiner) Ph.D. in Physical Geography 2006: *Techniques in model-data fusion: bias identification and validation in land surface models*. Macquarie University, Australia.
- T. D'Orgeval (examiner) Ph.D. in Earth Sciences 2006: *Impact du changement climatique sur le cycle de l'eau en Afrique de l'Ouest : Modélisation et incertitudes*. l'Université de Paris 6, France.
- S. Materia (visitor sponsor) 2007-8: Ph.D. in Earth Science 2009: Istituto Nazionale di Geofisica e Vulcanologia / Centro Euro-Mediterraneo per i Cambiamenti Climatici, Bologna, Italy.
- A. K. Sahoo (committee member) Ph.D. in Computational Sciences 2008: *Remote sensing, land surface models and data assimilation technique for soil moisture estimation*. George Mason University, Virginia.
- X. Feng (committee member) Ph.D. in Climate Dynamics 2010: *New methods for estimating seasonal potential climate predictability*. George Mason University, Virginia.
- M. T. Yilmaz (committee member) Ph.D. in Earth System and Geoinformation Sciences 2010: *Improving Land Data Assimilation Performance with a Water Budget Constraint*. George Mason University, Virginia, Dept. of Climate Dynamics.
- K. Arsenault (committee member) Ph.D. in Climate Dynamics 2011: *Impact Of Model And Observation Error On Assimilating Snow Cover Fraction Observations*. George Mason University, Virginia, Dept. of Atmospheric, Oceanic and Earth Sciences.
- L. Xu (research supervisor) Ph.D. in Climate Dynamics 2011: *Snow Cover As A Source Of Climate Predictability: Mechanisms Of Snow-Atmosphere Coupling*. George Mason University, Virginia, Dept. of Atmospheric, Oceanic and Earth Sciences.
- O. A. Tuinenburg (committee member) Ph.D. 2013: *Atmospheric Effects of Irrigation in Monsoon Climate: The Indian Subcontinent*. Wageningen University, the Netherlands.
- A. M. Badger (academic and research advisor) Ph.D. in Climate Dynamics 2015: *The Role of Large-Scale Land-Use Change on the Global Climate Response and Sensitivity to Amazon Deforestation*. George Mason University, Virginia, Dept. of Atmospheric, Oceanic and Earth Sciences.
- M. J. Mbu (committee member) Ph.D. in Geography and Geoinformation Science, 2015 George Mason University, Virginia.
- X. Feng (committee member) Ph.D. in Climate Dynamics 2016, George Mason University, Virginia, Dept. of Atmospheric, Oceanic and Earth Sciences.
- H. Norton (academic and research advisor) Ph.D. in Climate Dynamics, George Mason University, Virginia, Dept. of Atmospheric, Oceanic and Earth Sciences.
- J. Wu (academic and research advisor) Ph.D. in Climate Dynamics, George Mason University, Virginia, Dept. of Atmospheric, Oceanic and Earth Sciences.
- A. Heidari (research advisor) Ph.D. in Geography and Geoinformation Science, George Mason University, Virginia.

D. Benson (research advisor) M.S. in Earth System Science, George Mason University, Virginia.

Mentoring (Post-Docs):

V. Vuruputur (U. Minnesota, 1998-2001), V. Misra (Florida State U., 1999-2001), M. Zhao (Macquarie U., 2002-2004), Z. Guo (Ohio State U., 2002-2004), X. Gao (U. Arizona, 2002-2005), J. Wei (Georgia Tech U., 2007-2009), S. Kumar (Purdue U., 2011-2013), A. Tawfik (U. Michigan, 2012-2014), S. Halder (U. Pune, 2013-2016), L. Chen (Texas A&M U., 2015-present).

Current Support:

North American Heat Wave Predictability: Assessing the Role of Land Surface Initialization on S2S and NMME Model Forecasts 2016-2019

P.I.: Paul A. Dirmeyer (GMU)

Lead-PI: Trenton Ford (SIU)

National Oceanic and Atmospheric Administration (NA16oAR4310095)

1 July 2016 - 30 June 2019

EaSM-3: Land Use Change and Land Atmosphere Feedback Processes as Regulators of Regional Climate Change

P.I.: Paul A. Dirmeyer (GMU)

Co-PIs: David Lawrence and Richard Neale (NCAR)

National Science Foundation (AGS-1419445)

1 August 2014 - 31 July 2019

Predictability and Prediction of Climate from Days to Decades

P.I.: James L. Kinter (GMU)

Co-Is: B. Cash, T. DelSole, P. Dirmeyer, B. Huang, B. Klinger, V. Krishnamurthy, J. Lu, E. Schneider, P. Schopf, J. Shukla, C. Stan, D. Straus

National Science Foundation (AGS-1338427), National Oceanic and Atmospheric Administration (NA14OAR4310160), and the National Aeronautics and Space Administration (NNX14AM19G)

1 May 2014 – 30 April 2019

Improving Subseasonal to Seasonal Forecast Skill of North American Precipitation and Surface Air Temperature Using A Multi-Model Strategy

P.I.: Zhichang Guo (GMU)

Co-PI: Paul Dirmeyer (GMU)

National Oceanic and Atmospheric Administration (NA16oAR4310072)

1 July 2016 - 30 June 2019

Understanding the sources of US drought predictability using seasonal reforecasts of sixty years (1958-2017) initialized with multiple land analyses

P.I.: Bohua Huang (GMU)

Co-PI: Paul Dirmeyer, Chul-Su Shin (GMU), Arun Kumar (NOAA/NCEP/CPC)

National Oceanic and Atmospheric Administration (NA17oAR4310144)

1 July 2017 - 30 June 2020

Prior Support:

Diagnosis and Validation of Land-Atmosphere Feedback in Two Global Models

P.I.: Paul A. Dirmeyer (GMU)

Co-Is: Joseph Santanello (NASA/GSFC), Michael Bosilovich (NASA/GSFC), and Michael Ek (NOAA/NCEP/EMC)

National Aeronautics and Space Administration (NNX13AQ21G)

16 August 2013 - 15 August 2018

Ocean-Land-Atmosphere Coupling and Initialization Strategies to Improve CFSv2 and Monsoon Prediction

P.I.: J. Kinter (GMU)

Co-Is: Paul A. Dirmeyer, Bohua Huang, Edwin Schneider

Indian Ministry of Earth Sciences

1 June 2013 – 31 May 2017

Predictability of the Physical Climate System

P.I.: J. Kinter (COLA)

Co-PIs: T. DelSole, P. Dirmeyer, B. Huang, B. Klinger, V. Krishnamurthy, E. Schneider, J. Shukla, D. Straus (COLA)

National Science Foundation (ATM-0830068), National Oceanic and Atmospheric Administration (NA09OAR4310058), and the National Aeronautics and Space Administration (NNX09AN50G)

1 September 2009 – 31 August 2014

Enabling High-Resolution Input Data in the Land Surface Component of the KIAPS Numerical Weather Prediction System

P.I.: James L. Kinter (GMU)

Co-PI: Paul A. Dirmeyer

Korea Institute for Atmospheric Prediction Systems

17 February 2014 – 5 December 2014

Improving the Initialization of Soil Moisture in Numerical Weather Prediction – Phase 2

P.I.: James L. Kinter (COLA)

Co-Is: Paul A. Dirmeyer, Zhichang Guo, Daniel Paolino and J. Shukla

Korea Institute For Atmospheric Prediction Systems

8 April 2013 – 16 December 2013

Weather and climate analysis of water vapor transport and surface interactions coupling to precipitation processes

P.I.: Michael G. Bosilovich (NASA/GSFC)

Co-Is: Paul A. Dirmeyer, (COLA), Arlindo Da Silva (GSFC), and Julio Bacmeister (GSFC)

National Aeronautics and Space Administration (NNX09AI84G)

1 June 2009 - 31 May 2014 (NCE)

Improving the Initialization of Soil Moisture in Numerical Weather Prediction

P.I.: James L. Kinter (COLA)

Co-Is: Paul A. Dirmeyer, Zhichang Guo, and Daniel Paolino

Korea Institute for Atmospheric Prediction Systems

1 September 2012 – 28 February 2013

Investigation of land-atmosphere predictability using a multi-model strategy

P.I.: Paul A. Dirmeyer (COLA)

Co-Is: Vasubandhu Misra, Zhichang Guo (COLA)

National Oceanic and Atmospheric Administration (NA06OAR4310067)

1 June 2006 - 31 May 2010 (NCE)

P.I.: Vasubandhu Misra (COLA)

Co-Is: Paul A. Dirmeyer, Mei Zhao (BMRC); Carolina Vera (U. Buenos Aires)

National Oceanic and Atmospheric Administration (NA07OAR4310221)

1 August 2007 - 31 July 2010

Experimental High Resolution Seasonal Climate and Hydrologic Prediction and Predictability Studies of the Pan-American and South American Monsoons from Intra-Seasonal to Seasonal Scales

Predictability of Earth's Climate

P.I.: J. Shukla (COLA)

Co-PIs: J. Kinter, E. Schneider, P. Schopf, D. Straus, T. DelSole, P. Dirmeyer, B. Huang, and B. Kirtman (COLA)

National Science Foundation (ATM-0332910), National Oceanic and Atmospheric Administration (NA16-OGP2248), and the National Aeronautics and Space Administration (NAG5-11656)

1 January 2004 - 31 December 2008

Demonstrating the Value of NASA Research Satellite Data, Data Assimilation Products and Models for Improving Seasonal Prediction of Tropical Climate

P.I.: James L. Kinter III (COLA)

Co-PIs: Paul A. Dirmeyer, Bohua Huang, Ben P. Kirtman, V. Krishnamurthy, Vasubandhu Misra, Paul Schopf, David M. Straus, and Mei Zhao (COLA), Siegfried Schubert (NASA/GSFC), Cort Willmott (University of Delaware), Menas Kafatos (George Mason University)

National Aeronautics and Space Administration (NNG06GB54G)

15 December 2005 - 14 December 2008

Intergovernmental Personnel Act (IPA) Assignment to the National Science Foundation

National Science Foundation ATM-06-10629

1 January 2006 – 15 August 2007

Collaborative Research: Characterizing Land Surface Memory to Advance Climate Prediction

P.I.: Paul A. Dirmeyer (COLA) {Role of PI was surrendered for NSF IPA in Dec 2005}

Co-PIs: Timothy DelSole (COLA),

Collaborators: Kaye L. Brubaker (U. Maryland College Park), C. Adam Schlosser (MIT)

National Science Foundation EAR-0233320

1 July 2003 - 30 June 2007

Land Information Systems

P.I.: Paul R. Houser (NASA/GSFC)

Co-Is: C. Peters-Lidard (Ga. Tech), P. Dirmeyer (COLA), S. Denning (CSU), K. Mitchell (NOAA/NCEP), E. Wood (Princeton), K. Bender (Northwest H.S.), and B. Doty (COLA)

National Aeronautics and Space Administration NAG5-12274

1 March 2002 - 31 May 2005

Multi-model Investigations of Climate in the Global Land-Atmosphere System

P.I.: Paul A. Dirmeyer (COLA)

Co-PIs: Paul R. Houser, Randal D. Koster (NASA/GSFC)

National Aeronautics and Space Administration NAG5-11579

1 Feb 2002 - 31 Jan 2005

Analysis of Atmospheric Water Cycling over the United States

P.I.: Kaye L. Brubaker (U. Maryland)

Co-I.: Paul A. Dirmeyer (COLA)

National Oceanic and Atmospheric Administration NA96GP0353

1 August 1999 - 31 July 2002

Coupled High-Resolution Ocean-Land-Atmosphere Simulation of Seasonal-Interannual Climate Variability over Amazonia

P.I.: Paul A. Dirmeyer (COLA)

Co-Is: Benjamin P. Kirtman (COLA), Charles J. Vörösmarty (U. New Hampshire)

Collaborators: José Marengo (CPTEC, Brazil), Humberto R. da Rocha (U. São Paulo)

National Aeronautics and Space Administration NAG5-8416

15 March 1999 - 14 March 2002

Predictability and Variability of the Present Climate

P.I.: J. Shukla (COLA)

Co-PIs: J. Kinter, E. Schneider, P. Schopf, and D. Straus (COLA)

Co-Is: D. DeWitt, P. Dirmeyer, B. Huang, and B. Kirtman (COLA)

National Science Foundation (ATM-9814295), National Oceanic and Atmospheric Administration (NA96GP0056), and the National Aeronautics and Space Administration (NAG5-8202)

1 March 1999 - 29 February 2004

The Global Soil Wetness Project

P.I.: Paul A. Dirmeyer (COLA)

Collaborators: Pavel Kabat (Winand Staring Centre, Netherlands)

A. J. Dolman (Winand Staring Centre, Netherlands)

National Aeronautics and Space Administration NAG8-1526

1 April 1998 - 31 March 2001

Integrating Climate, Hydrologic and Decision-Support Models for Regional Assessments

P.I.: Paul A. Dirmeyer (COLA)

Co-PIs: James L. Kinter (COLA), Peter P. Rogers (Harvard U.)

National Science Foundation ATM-9712057

1 Sep 1997 - 31 Aug 2001

Reviewer for the following professional journals:

Science, Nature, Nature Geosci., Nature Comm., Nature Sci. Rep., Proc. Natl. Acad. Sci., Climate Dynamics, J. Hydrometeor., J. Climate, Mon. Wea. Rev., Bull. Amer. Meteor. Soc, J. Applied Meteor., Rev. Geophys., J. Geophys. Res., Water Resour. Res., Geophys. Res. Lett., Quart. J. Roy. Meteor. Soc., J. Hydrology, J. Meteor. Soc. of Japan, Atmosphere-Ocean, Biogeosci., Hydrol. Earth Syst. Sci., Earth Sys. Dyn., Geosci. Mod. Dev., Adv. Sci. Res., Rem. Sens. Env., Int. J. Climatol., Global and Planetary Change, Adv. Water Resour., Env. Res. Lett., Meteor. Atmos. Phys., Theoret. and Appl. Climatol., Intl. J. Appl. Earth Obs. Geoinf., Ann. NY Acad. Sci., npj Climate and Atmospheric Science, and Global Change Biology.

Reviewer for the following programs:

National Research Council (Committee to Review the GAPP Science and Implementation Plan), NOAA Global Change Program, CPPA, PACS, GCIP, GAPP, GOALS, CTB and MAPP programs; the National Science Foundation; NASA Earth Science Enterprise, Mission to Planet Earth, Land-Surface Hydrology, Global Water and Energy Cycle, Energy and Water System (NEWS), Earth Science Scholar, Earth Observing System, Seasonal-Interannual Prediction Project, and Modeling Analysis and Prediction programs; Department of Energy Regional and Global Model Analysis Activity and Early Career Program, the NCAR Scientific Computing Division; the Intergovernmental Panel on Climate Change; the Natural Environment Research Council (UK); the Netherlands Organisation for Scientific Research; Swiss National Science Foundation, and Deutsche Forschungsgemeinschaft.

Convener:

8th European Geophysical Union Leonardo Conference, "From Evaporation to Precipitation – The Atmospheric Moisture Transport", 25-27 October 2016, Ourense, Spain.

Alpine Summer School, Course XXIII on Land-Atmosphere Interactions, Valsavaranche, 22 June – 1 July 2015, Valle d'Aosta, Italy.

World Weather Open Science Conference 2014, 16-21 August, 2014, Montréal, Canada.

7th International Scientific Conference on the Global Water and Energy Cycle, 14-17 July, 2014, The Hague, The Netherlands.

Workshop on Land Surface Modeling in Support of NWP and Sub-Seasonal Climate Prediction, 5-6 December 2013, George Mason University Fairfax, Virginia, USA.

Workshop on Problems in Initializing Soil Wetness, 19 August 1994, Calverton, Maryland, USA.

Professional Organizations:

American Meteorological Society (AMS; 1985-present; **Fellow**).

American Geophysical Union (AGU; 1990-present; **Fellow**).

European Geophysical Union (EGU)

Full List of Awards:

American Geophysical Union (AGU) Fellow, 2017

EGU Senior Leonardo Lecturer, 2016

American Meteorological Society (AMS) Fellow, 2014

U. Maryland Dept. of Atmospheric and Oceanic Science Distinguished Alumnus, 2009

AMS Clarence Leroy Meisinger Award, 2006

NASA Software of the Year Award, 2005 (Land Information System (LIS) v. 4.0)

ISLSCP Award of Appreciation for work on the ISLSCP Initiative II Data Project, 2005.

ISLSCP Award of Appreciation for work as chairman of the Global Soil Wetness Project, 1996.

Meteorology Department: Global Change Essay Award for paper entitled, "Overview of global climate change: Causes and effects." 1990.

University of Maryland, Graduate Studies and Research: Graduate Fellowships; 1986/87, 1987/88 and 1988/89.

University of Maryland, Graduate Studies and Research: Conference Travel Award, 1989.

College of Geosciences, Texas A&M University: Outstanding Student Award, 1986.

Phi Kappa Phi, 1986.

Hobbies:

Woodworking, carpentry, gardening/landscaping, metalworking, music, photography, videography, graphic design, cooking, kayaking.