

Kathryn Grace

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Education

PhD Geography, University of California, Santa Barbara, 2008

Dissertation: "Three Essays on Fertility and Family Planning in Guatemala"

MA Statistics, University of California, Santa Barbara, 2006

MSPH Biostatistics, Tulane University School of Public Health, 2004

BA Theoretical Mathematics, University of California, Berkeley, 2002

Minor in French Language and Culture

Appointments

2018-	Associate Professor, Department of Geography, Environment and Society, University of Minnesota, Twin Cities
2016- 2018	Assistant Professor, Department of Geography, Environment and Society, University of Minnesota, Twin Cities
2012-present	Research Scientist, Climate Hazards Group, University of California at Santa Barbara
2012-2015	Assistant Professor, Department of Geography, University of Utah
2009-2012	Postdoctoral Researcher, Climate Hazards Center, University of California at Santa Barbara
2008-2009	Postdoctoral Fellow, Max Planck Institute for Demographic Research

Affiliations and Visiting Appointments

2016-present	Affiliate, Minnesota Population Center
2016-present	Graduate Faculty in Population Studies, Minnesota Population Center
Summer 2020	Visiting Researcher, Institut National d'Etudes Demographiques, France (postponed due to Covid-19)
Summer 2020	Visiting Researcher, Stockholm University Demography Unit, Sweden (postponed due to Covid-19)
Summer 2019	Visiting Researcher, Max Planck Institute for Demographic Research, Germany
Summer 2018	Visiting Researcher, Stockholm University Demography Unit, Sweden
Summer 2017	Visiting Researcher, Stockholm University Demography Unit, Sweden
Summer 2016	Visiting Researcher, Institut National d'Etudes Demographiques, France
Summer 2015	Visiting Researcher, Institut National d'Etudes Demographiques, France
Summer 2013	Visiting Researcher, Vienna Institute for Demography, Austria
Summer 2013	Visiting Researcher, University of Ouagadougou, Burkina Faso
2012-present	Affiliate, Broom Center for Demography, University of California at Santa Barbara
2013-2015	Affiliate, Latin American Studies Program, University of Utah

Additional Training

- 2014 University of Utah Pediatric Grant Writing Workshop in Deer Valley
- 2009 University of Rome – Spatial Econometrics Advanced Institute
- 2009 Max Planck Institute for Demographic Research – Fertility Analysis and Modeling
- 2008 University of Texas – Dallas Summer Spatial Filtering Workshop
- 2005 Stanford Workshop in Formal Demography

Fellowships and Honors

University of Minnesota College of Liberal Arts Scholar of the College, 2019-2022
Institut National d’Etudes Demographiques Visiting Researcher Fellowship, 2020
Institut National d’Etudes Demographiques Visiting Researcher Fellowship, 2015
Demographic and Health Survey (DHS) Population and Reproductive Health Fellowship, 2007
University of California Graduate Opportunity Fellowship, 2004-05 & 2007-08
University of California Department of Geography Block Grant Funding, 2006
Tulane University School of Public Health Dean’s Grant, 2004
Tulane University Public Health Traineeship Award, 2003
University of California Faculty Wives Scholarship, 2001
University of California Education Abroad Program Scholarship, 1999

Grants and Awards (funding amounts reflect amount received by UMN)

- \$15,000 *The Impacts Of Extreme Weather On Older Adults Time Use* Life Course Center of the University of Minnesota, Pilot Grant Program
PI: Sarah Flood, Jesse Berman, Kathryn Grace, Dave Van Riper
Award Period: 2020-2021
- \$150,000 *Geospatial, Farming Systems, and Digital Tools Consortium building a new era of Predictive Agricultural Innovation to improve the livelihood of smallholder farmers* Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification (SIIL), USAID
PI: Ignacio Ciampitti, Kansas State University
UMN co-PI: Kathryn Grace
Award Period: 2020-2024
- \$300,000 *The impact of urban and peri-urban agriculture on hydrometeorology, urban food security and human health* NASA Research Opportunities in Space and Earth Sciences (subaward from \$1,300,000 grant)
PI: Christopher Hain
Co-Investigator: Kathryn Grace
Award Period: 2020-2023
- \$2,205,854 *IPUMS-PMA: Integrated Public Health Microdata Series for PMA2020* Bill & Melinda Gates Foundation
PI: Elizabeth Heger Boyle
Co-Investigator: Kathryn Grace, Matt Sobek, Devon Kristainsen
Award Period: 2020-2023

\$3,105,548	<p><i>Microdata for Research on Aging in the Global South</i> National Institutes of Health</p> <p>PI: Steve Ruggles</p> <p>Co-Investigator: Lara Cleveland, Kathryn Grace, Matt Sobek</p> <p>Award Period: 2019-2024</p>
\$79,857	<p><i>Connecting West Africa users to cutting edge resources: Integrating satellite observations and sub-seasonal climate forecasts to enhance agricultural and pastoral water-management decision-making using 21st century agro-pastoral water deficit predictions</i> NASA Research Opportunities in Space and Earth Sciences SERVIR (subaward from \$700,000 grant)</p> <p>PI: Shraddhanand Shukla</p> <p>Co-Investigator: Kathryn Grace</p> <p>Award Period: 2020-2023</p>
\$118,000	<p><i>Modelling Early Risk Indicators to Anticipate Malnutrition - MERIAM</i> United Kingdom Department of International Development (DFID) (subaward from \$3,000,000 grant)</p> <p>PI: Kathryn Grace (Minnesota)</p> <p>Award Period: 2019-2021</p>
\$38,671	<p><i>The Impact of Exposure to Heatwaves Across the Reproductive Life Course</i> UMN Talle Faculty Research Awards</p> <p>PI: Kathryn Grace</p> <p>Award Period: 2019-2021</p>
\$157,141	<p><i>Early identification and forecasts of reduced-yield agricultural seasons in the Developing World</i> US Agency for International Development (USAID) (subaward from \$1,808,000 grant)</p> <p>PI: Gregory Husak (University of California, Santa Barbara)</p> <p>Co-Investigator: Kathryn Grace (Minnesota lead)</p> <p>Award Period: 2019-2024</p>
\$5,047,150	<p><i>International Integrated Microdata Series</i> National Science Foundation</p> <p>PI: Steven Ruggles</p> <p>Co-PI: Kathryn Grace, Elizabeth Heger Boyle, Deborah Levison, Ragui Assad</p> <p>Award Period: 2020-2025</p>
\$899,358	<p><i>Integrating and Disseminating PMA2020 Data: Towards Greater Access to Family Planning for Women in High Fertility Countries</i> Bill & Melinda Gates Foundation</p> <p>PI: Elizabeth Heger Boyle</p> <p>Co-Investigator: Kathryn Grace (from 2018)</p> <p>Award Period: 2017-2020</p>
\$40,000	<p><i>Hotspotting Cardiometabolic Disparities for Simulated Advances in Population Care</i> National Institute on Aging, National Institutes of Health, R01 AG052533 (subaward from \$1,500,000 grant)</p> <p>PI: Bjorn Westgard (University of Minnesota Medical School)</p> <p>Co-Investigator: Kathryn Grace (Minnesota)</p> <p>Award Period: 2018-2022</p>
\$400,492	<p><i>Understanding multi-scale resilience options for climate vulnerable Africa; Innovations at the Nexus of Food, Energy and Water Systems (INFEWS)</i> National Science Foundation (subaward from \$2,799,021 grant)</p> <p>PI: Benjamin Zaitchick (Johns Hopkins)</p> <p>PI: Kathryn Grace (Minnesota lead)</p> <p>Award Period: 2016-2020</p>

\$4,000	<p><i>A comparative analysis of the relationship between climate variability, agricultural specialization and children's health: evidence from Kenya and Mali</i>; Minnesota Population Center Collaborative grant</p> <p>PI: Maryia Bahktsiyarava (graduate student) and co-PI: Kathryn Grace</p> <p>Award Period: 2016-2017</p>
\$1,575	<p><i>Can migrants' use of cell phones reduce the climate vulnerability of their communities of origin?</i>; Institute on the Environment (IonE) minigrant</p> <p>PI: Kathryn Grace, Jude Mikal, Jack DeWaard</p> <p>Award Period: 2016-2017</p>
\$88,000	<p><i>Estimating Micro-level Livelihood Characteristics for Vulnerability Mapping Using Household-level Surveys and Remotely Sensed Data</i>; Kimetrica, a subcontract through US Agency for International Development</p> <p>PI: Kathryn Grace</p> <p>Award Period: 2016</p> <p>note: funding reduced during project period to \$16,000 because of changes in available funds to Kimetrica</p>
\$10,000	<p><i>Mining Impacts: Andean Nation Development of Environmental/Economic Solutions</i>; University of Utah's Global Learning Across the Disciplines</p> <p>co-PI: Kathryn Grace</p> <p>Award Period: 2015</p>
\$21,000	<p><i>Children's health, water source and agricultural production in a context of climate change: a spatial case study of Burkina Faso</i>; University of Utah Primary Childrens Hospital Fellowship</p> <p>PI: Kathryn Grace, Mentor: Ken Smith</p> <p>Award Period: 2015</p>
\$12,000	<p><i>Central American Fertility in Los Angeles Translation: Informing Statistical Models with Qualitative Context</i>; University of California, Center for New Racial Studies</p> <p>co-PI: Kathryn Grace</p> <p>Award Period: 2013-2014</p>
\$178,000	<p><i>Using Very High Resolution Remotely Sensed Data to Measure Cultivated Area and Land Use in High Fertility Countries</i>; United States Geological Service (subaward from \$1,000,000 award to UCSB Climate Hazards Group, Famine Early Warning Systems)</p> <p>PI: Kathryn Grace</p> <p>Award Period: 2012-2018</p>
\$274,000	<p><i>Examining the Links Between Agriculture and Human Health in a Context of Climate Change: A Case Study of Three West African Countries - Niger, Burkina Faso and Mali</i>; NASA Research Opportunities in Space and Earth Sciences</p> <p>PI: Kathryn Grace; Co-I: Greg Husak</p> <p>Award Period: 2012-2016</p>

\$3,500 *How Food Insecurity Impacts Contraceptive Use in Early Transitional Societies*; College of Social and Behavioral Sciences, University of Utah
PI: Kathryn Grace
Award Period: 2012-2013

PUBLICATIONS

Refereed Articles (42); Refereed Book Chapters (1)

* indicates postdoctoral researcher or graduate student at the time of submission

Tuholske*, C., Caylor, K., Funk, C., Verdin, A., Sweeney, S., **Grace, K.**, Peterson, P., Evans, Tom. 2021. Global urban population exposure to extreme heat. *Proceedings of the National Academy of Sciences*, In Press.

Brown, M., **Grace, K.**, Billing*, T., Backer, D. 2021. Considering climate and conflict conditions together to improve interventions that prevent child acute malnutrition. *The Lancet Planetary Health*. 5 (9), e654-e658.

Pinchoff, J., Turner*, W., & **Grace, K.** 2021. The association between agricultural conditions and multiple dimensions of undernutrition in children 6-23 months of age in Burkina Faso. *Environmental Research Communications*, 3(6).

Bakhtsiyarava*, M., **Grace, K.** 2021. Agricultural production diversity and child nutrition in Ethiopia. *Food Security*, 6(5).

Bell, A. R., Roberts*, M., **Grace, K.**, Morgan*, A., Tamal, M.E.H., Killlilea, M., Ward., P. 2021. How high frequency food diaries can transform understanding of food security. *Environmental Research Letters*, 16(4).

Randell, H., **K. Grace**, M. Bahktsiyarava*. 2021. Climatic Conditions and Infant Care: Implications for Child Nutrition in Rural Ethiopia. *Population and Environment*, 1-29.

Grace, K., F. Davenport. 2021. Climate variability and health in extremely vulnerable communities: Investigating variations in surface waterhole conditions and food security in the West African Sahel. *Population and Environment*, 1-25.

Verdin, A., **Grace, K.**, Funk, C., Husak, G., Davenport, F. 2021. Can we advance individual-level heat-health research through the application of stochastic weather generators? *Climatic Change*, 164(1): 1-13.

Grace, K., A. Verdin, A. Dorelien, F. Davenport, G. Husak, C. Funk. 2021. Exploring strategies for investigating the mechanisms linking climate and individual-level child health outcomes: an analysis of birth weight in Mali. *Demography*, 58(2): 499-526.

Grace, K., Siddiqui, S., Zaitchik, B. 2021. A Framework for Interdisciplinary Research In Food Systems. *Nature Food*, 2(1):1-3.

DiClemente*, K., **Grace, K.**, Kershaw, T., Bosco*, E., and Humphries, D. 2020. Investigating the

- Relationship between Food Insecurity and Fertility Preferences in Tanzania. *Maternal and Child Health Journal*, 25(2): 302-310.
- Mikal, J., **K. Grace**, J. DeWaard, M. Brown, G. Sangli. 2020. Domestic migration and mobile phones: A qualitative case study focused on recent migrants to Ouagadougou, Burkina Faso. *PLOS One*, 15 (8): e0236248.
- Randell*, H., C., Gray, **K. Grace**. 2020. Stunted from the Start: Early Life Weather Conditions and Child Undernutrition in Ethiopia. *Social Science & Medicine*, 261: 113234.
- Verdin, A., Funk, C., Peterson, P., Landsfeld, M., Tuholske*, C., **Grace, K.** 2020. Development and validation of the CHIRTS-daily quasi-global high-resolution daily temperature data set. *Scientific Data*, 7(1): 1-14.
- Brown, M., T. Billing*, D. Backer, P. White, **K. Grace**, S. Doocy, P. Huth. 2020. Empirical Studies of Factors Associated with Child Malnutrition: Highlighting the Evidence about Climate and Conflict Shocks. *Food Security*, 1-12.
- Grace, K.**, F. Davenport, A. Dorelien. 2020. Investigating the linkages between pregnancy outcomes and climate in sub-Saharan Africa. *Population and Environment*, 1-25.
- Grace, K.**, S. Billingsley, D. Van Riper. 2020. Building an Interdisciplinary framework to advance conceptual and technical aspects of population-environment research focused on women’s and children’s health. *Social Science & Medicine*, 112857.
- Grace, K.**, A. Murray, R., Wei. 2020. Improving Urban and Peri-urban Health Outcomes Through Early Detection and Aid Planning. In *Global Perspectives on Health Geography: Geospatial Technologies for Urban Health*, pp. 231-250.
- Kugler, T., **K. Grace**, et al. 2019. People and Pixels 20 years later: The current data landscape and research trends blending population and environmental data. *Population and Environment*, 41(2): 209-234.
- Grace, K.**, N. Nagle, C. Burgert-Brucker, S. Rutzick*, D. Van Riper, T. Dontamsetti, T. Croft. 2019. Integrating Environmental Context into DHS Analysis While Protecting Participant Confidentiality: A New Remote Sensing Method *Population and Development Review*, 45(1), 197.
- Grace, K.**, V., Hertrich, D. Singare*, G. Husak. 2018. Examining rural Sahelian out-migration in the context of climate change: An analysis of the linkages between rainfall and out-migration in two Malian villages from 1981 to 2009. *World Development*, 109, 187-196.
- Bakhtsiyarava*, M., **K. Grace**, R. Nawrotzki. 2018. A Comparative Analysis of the Relationship Between Climate Change, Agricultural Specialization and Children’s Health: Evidence from Kenya and Mali. *American Journal of Public Health*, 108(S2), S144-S150.
- Grace, K.** 2017. Considering climate in studies of fertility and reproductive health in poor countries. *Nature Climate Change*, 7: 479-485.

- Davenport, F., **K. Grace**, C. Funk, S. Shukla. 2017. Child Health Outcomes in Sub-Saharan Africa: A Comparison of Changes in Climate and Socio-economic Factors. *Global Environmental Change*, 46, 72-87.
- Grace, K.**, A. Lerner, J. Mikal, G. Sangli. 2017. A qualitative investigation of childbearing and seasonal hunger in peri-urban Ouagadougou, Burkina Faso. *Population and Environment*, 38(4): 369-380.
- Grace, K.**, L. Frederick*, M. Brown, L. Boukerrou, and B. Lloyd*. 2017. Investigating Important Interactions between Water and Food Security for Child Health in Burkina Faso *Population and Environment*, 39(1): 26-46.
- Grace, K.**, R. Wei, and A. Murray 2017. Using population, health and remotely sensed environmental data to improve food aid distribution in rural West Africa: An application of optimization methods. *Food Security*, 9 (4), 867-880.
- Husak, G. and **K. Grace**. 2016. In search of a global model of cultivation: Using remote sensing technology to examine the characteristics and constraints of agricultural production in the developing world *Food Security*, 8(1): 167-177.
- Grace, K.**, N. Nagle and G. Husak. 2016. Why are some vulnerable children healthy and others stunted? A case study of vulnerability and resilience among very young children in Mali, West Africa *Annals of the Association of American Geographers*, 35: 125-137.
- Grace, K.** and S. Sweeney. 2016. Decomposing Guatemala's fertility stall. *Demography*, 53(1): 117-137.
- Grace, K.**, F. Davenport*, H. Hanson, C. Funk, S. Shukla*. 2015. Examining the Relationship between Temperature, Rainfall and Low Birth Weight in sub-Saharan Africa. *Global Environmental Change*, 35:125-137.
- Brown, M.E., J.M. Antle, P. Backlund, E.R. Carr, W.E. Easterling, M.K. Walsh, C. Ammann, W. Attavanich, C.B. Barrett, M.F. Bellemare, V. Dancheck, C. Funk, **K. Grace**, J.S.I. Ingram, H. Jiang, H. Maletta, T. Mata, A. Murray, M. Ngugi, D. Ojima, B. O'Neill, and C. Tebaldi. 2015. Climate Change, Global Food Security, and the U.S. Food System. 146 pages.
- Grace, K.** and N. Nagle. 2015. Using High Resolution Remotely Sensed Data to Examine the Relationship between Agriculture and Fertility in Mali. *The Professional Geographer*, 67(4): 641-654.
- Grace, K.**, G. Husak and S. Bogle*. 2014. Estimating Agricultural Production in Marginal and Food Insecure Areas in Kenya Using Very High Resolution Remotely Sensed Imagery. *Applied Geography*, 55:257-265.
- Grace, K.**, M. Brown and A. McNally*. 2014. Examining the link between food price and food insecurity: A multi-level analysis of maize price and birthweight in Kenya. *Food Policy*, 46: 56-65.
- Brown, M., **K. Grace**, K. G. Shively, K. Johnson, M. Carroll. 2014. Using Satellite Remote Sensing and Household Survey Data to Assess Human Health and Nutrition Response to Environmental

Change. *Population and Environment*, 1-25.

Grace, K. and S. Sweeney. 2014. Pathways to marriage and cohabitation in Central America. *Demographic Research*, 30(6): 187-226.

Sweeney, S., F. Davenport* and **K. Grace**. 2013. Combining insights from quantile and ordinal regression: Child malnutrition in Guatemala *Economics and Human Biology*, 11(2):164-177.

Grace, K. and S. Sweeney. 2013. Understanding stalling demographic transition in high-fertility countries: A case study of Guatemala. *Journal of Population Research*, 30:19-37.

Grace, K., F. Davenport*, C. Funk, A. Lerner*. 2012. Child malnutrition and climate conditions in Kenya. *Applied Geography*, 35(1):405-413.

Grace, K., G. Husak, L. Harrison*, D. Pedreros, J. Michaelson. 2012. Using high resolution satellite imagery to estimate cropped area in Haiti and Guatemala. *Applied Geography* 32:433-440.

Mikal, J. and **K. Grace**. 2012. Against abstinence-only education abroad: Viewing internet use during study abroad as a possible experience enhancement. *Journal of Studies in International Education* 16: 287-306.

Grace, K. 2010. Contraceptive use and intent in Guatemala. *Demographic Research* 23: 335-364.

Other Publications (5)

Balk, D., and Grace, K. (2019). Investigating demographic processes using innovative combinations of remotely sensed and demographic data. *Population and Environment*, 1-3.

Grace, K., and Mikal, J. (2019). Incorporating qualitative methodologies and fieldwork into large scale, quantitative analyses of climate-health in low-income countries. *The Lancet Planetary Health*, 3(12), e496-e498.

Brown, M. E., Carr, E. R., Grace, K. L., Wiebe, K., Funk, C. C., Attavanich, W., Backlund, P. and Buja, L. (2017). Do markets and trade help or hurt the global food system adapt to climate change? *Food Policy*, 68, 154-159.

Thenkabail, P.S., M.E. Brown, K.M. deBeurs, and K. Grace. (2015). Global Land Surface Phenology and Implications for Food Security. In *Land Resources Monitoring, Modeling, and Mapping with Remote Sensing* (pp. 353-363). CRC Press.

Sweeney, S. and K. Grace. 2012. Regression Analysis of Anthropometry Data: A Simulation Study of a Two-Stage Estimator, In *JSM Proceedings*, Health Policy Statistics Section, Alexandria, VA: American Statistical Association.

PRESENTATIONS

Invited Talks

Dorelien, A., and Grace, K. 'Data and the frameworks for linking women and childrens health to climate change,' Environmental Impacts on Families: Change, Challenge, and Adaptation at Penn States 29th Annual Symposium on Family Issues, Penn State University, October 25-26, 2021, State College, PA.

Grace, K. 'Data, measurement, and pathways linking climate change and child health,' Demography Department, University of California, Berkeley, October 14, 2021, Berkeley, CA.

Grace, K. 'Climate change and fertility,' IUSSP, PERN, and EAPS joint webinar on Climate Change and Population Dynamics, September 16, 2021.

Grace, K. 'Using spatial data to explore gender-based vulnerabilities in a context of climate change,' UN sponsored seminar on Gender and Geospatial Analysis for the 2030 Agenda and the Sustainable Development Goals, El Colegio de Mexico, February 25, 2021, Mexico City, Mexico.

Grace, K. Climate variability and women and childrens health and well-being in vulnerable communities, Humanitarian Data Science Division, University College London, November, 2020, London, England.

Grace, K. 'Heat, hunger, and resilience: Climate change and children's health', Population and Health Research Group, University of St. Andrews, September 29, 2020, Scotland, UK.

Grace, K. 'Heat, Hunger and Resilience: Climate and Children's Health', Department of Population Health, NYU Langone Health, April 28, 2020, NY, NY.

Grace, K. 'Considering climate and outmigration in two rural Malian villages', Workshop on Disentangling the Drivers of Migration in West Africa, Columbia University, February, 2020. NY, NY.

Grace, K. 'Exploring strategies for investigating the underlying linkages between climate and child health', Department of Earth and Planetary Sciences, Johns Hopkins University, February, 2020. Baltimore, MD.

Grace, K. 'Applying social science perspectives in the classroom to examine the impact of climate change Department of Human Ecology, UC Davis, November, 2018. Davis, California.

Grace, K. 'Considering the linkages between climate and health: A focus on women's and children's health in sub-Saharan Africa' CUNY Institute for Demographic Research (CIDR), November, 2018. NY, NY.

Grace, K. 'Considering the linkages between climate and health: A focus on women's and children's health in sub-Saharan Africa' Geography Department, Macalaster College, February, 2018. Saint Paul, MN.

Grace, K. 'Considering the linkages between climate and health: A focus on women's and children's health in sub-Saharan Africa' Carolina Population Center, University of North Carolina, Chapel Hill. January, 2018. Chapel Hill, NC.

Grace, K. 'Considering women and children's health in the context of climate change: an investigation of birthweight, temperature and precipitation in Africa' Population Studies and Training Center, Brown University. November, 2017.
Providence, RI.

Grace, K. 'Investigating birthweight, temperature, and precipitation in Africa' Department of Geography, Clark University. September, 2017, Worcester, MA.

Grace, K. 'Food insecurity and Children's Health in Africa' Pediatric Grand Rounds, UMN Children's Hospital. September, 2016, Minneapolis, MN.

Grace, K. 'Agricultural Variability and the Impact on Children's Health' NASA Land Cover Land Use Change (LCLUC) Webinar. May, 2016, USA.

Grace, K. 'Examining the link between climate change and birthweight in Africa' Famine Early Warning System (FEWS NET) Science Meeting. April, 2016, Santa Barbara, CA.

Grace, K. 'Food insecurity and Children's Health in Africa' Institute for Population Research, The Ohio State University. February, 2016, Columbus, OH.

Grace, K. and G. Husak 'Agriculture and health in a context of climate change: Food availability under different climate scenarios in West Africa' NASA Land Cover Land Use Change (LCLUC) Meeting. April 2015, Washington DC.

Grace, K. 'Fertility, Food Insecurity and Agriculture in West Africa' Pennsylvania State University. May 2014, State College, PA.

K. Grace, N.Nagle. 'Using High Resolution Remotely Sensed Data to Re-Examine the Relationship between Agriculture and Fertility in a Pre-Transitional Setting' Vienna Institute for Demography. May 2013, Vienna, Austria.

Grace, K., and N. Nagle 'Using High Resolution Imagery to Evaluate Fertility and Agriculture' October 2013, Oak Ridge National Laboratory, TN.

Grace, K., M. Brown and A. McNally 'Maize Prices and Low Birth Weight in Kenya' October 2013, University of Tennessee, Knoxville, TN.

Grace, K., M. Brown and A. McNally 'Maize Prices and Low Birth Weight in Kenya' December 2012, Human Health and Ecosystems Workshop at SESYNC in Annapolis, MD.

Grace, K. 'Union formation in Guatemala, Honduras and Nicaragua' March 2011, Auburn University, Auburn, AL.

Grace, K. 'Spatial analysis from a geographer's perspective', April 2010, Brown University, Providence, RI.

Grace, K. 'Using classification trees to analyze contraception in Guatemala', December 2008, University of Iowa, Iowa City, IA.

Grace, K. 'Using Trees to Reveal Better Fruit: Identifying high need populations in Guatemala', December 2008, University of Groningen, Holland.

Papers Accepted for Presentation at Academic Association Meetings

Grace, K., A. Verdin and V. Hertrich. 'How Do Changing Environmental Factors Interact With Individual Factors to Influence Migration Behavior in Environmentally Precarious Communities' American Association of Geographers (AAG) Annual Meeting April 3-7, 2019, Washington, DC.

Grace, K., S. Billingsley. 'Fertility and Climate Instability in Agriculturally-Dependent Contexts: Parity Transitions in Albania, Moldova, and Uzbekistan ' Population Association of America (PAA) Annual Meeting April 10-13, 2019, Austin, TX.

Grace, K., A. Verdin and V. Hertrich 'How Do Changing Environmental Factors Interact With Individual Factors to Influence Migration Behavior in Environmentally Precarious Communities: Investigating Outmigration From 1981-2009 in Rural Mali' Population Association of America (PAA) Annual Meeting April 10-13, 2019, Austin, TX.

Grace, K., A. Verdin, and V. Hertrich 'How do changing environmental factors influence internal migration behavior in environmentally precarious communities in Mali, 1981-2008', Migration, Environment and Climate: What Risk Inequalities?, INED, October, 2018. Paris, France.

Randell, H., C. Gray, K. Grace. 'Climate Change and Multidimensional Vulnerability to Child Undernutrition: Evidence from Ethiopia.' Population Association of America (PAA) Annual Meeting April 26-28, 2018, New Orleans, LA.

K. Grace, F. Davenport, A. McNally, G. Husak. 'Climate Variability and Health in Extremely Vulnerable Communities: Investigating Variations in Surface Water Availability, Vegetation, and Food Insecurity in the Sahel.' Population Association of America (PAA) Annual Meeting April 26-28, 2018, New Orleans, LA.

A. Dorelien, K. Grace, F. Davenport. 'Malaria Exposure and Pregnancy Outcomes in Sub-Saharan Africa.' Population Association of America (PAA) Annual Meeting April 26-28, 2018, New Orleans, LA.

Grace, K., M. Brown, M. Bakhtsiyarava. 'A multi-scalar investigation of development and health in Ethiopia: Household electrification in an agriculturally dependent and climate sensitive country'. American Geophysical Union (AGU) Fall Meeting, December 11-15, 2017. New Orleans, LA.

Bakhtsiyarava, M., K. Grace, R. Nawrotzki. 'Does Agricultural Specialization Matter? An Analysis of the Relationship between Climate Change, Agricultural Specialization, and Childrens Health in Kenya and Mali' International Population conference at the International Union for the Scientific Study of Population (IUSSP). October 29-November 4, 2017, Cape Town, South Africa.

Grace, K., F. Davenport, A. Dorelien 'The Impact of Climate and Food Insecurity on Miscarriage, Stillbirth and Neonatal Mortality in Africa' Population Association of America (PAA) Annual

Meeting. April 27-April 29, 2017, Chicago, IL.

Grace, K., N. Nagle, C. Burger-B, S. Rutzick, D. Van Riper ‘Seeking Contextually Relevant Spatial Information While Protecting Participant Confidentiality: An Application of Tobler’s First Law’ Population Association of America (PAA) Annual Meeting. April 27-April 29, 2017. Chicago, IL.

Bakhtsiyarava, M., K. Grace, R. Nawrotzki ‘Does Agricultural Specialization Matter? A Comparative Analysis of the Relationship Between Climate Change, Agricultural Specialization, and Children’s Health in Kenya and Mali’ Population Association of America (PAA) Annual Meeting. April 27-April 29, 2017 Chicago, IL.

Grace, K., Davenport, F., Dorelien, A. ‘Investigating the Linkages between Pregnancy Outcomes and Climate in sub-Saharan Africa’ American Association of Geographers Annual Meeting (AAG). April 5-7, 2017 Boston, MA.

Davenport, F., K. Grace, C. Funk, S. Shukla. ‘Child health outcomes in Sub-Saharan Africa: A comparison of changes in climate and socio-economic factors’ Western Regional Science Association (WRSA) Annual Meeting. February 15-18, 2017, Santa Fe NM.

Grace, K., G. Husak, F. Davenport. ‘Merging fine and coarse resolution remotely sensed data with household-level survey data to evaluate small-scale vulnerability to climate change in West Africa’ American Geophysical Union (AGU) Fall Meeting. December 12-16, 2016, San Francisco CA.

Grace, K., V. Hertrich, D. Singare, G. Husak. ‘Examining Rural Sahelian out-Migration in the Context of Climate Change: A Multi-Method Analysis of the Linkages Between Rainfall and Out-migration in Two Rural Villages from 1981-2009’ Population Association of America (PAA) Annual Meeting. March 31-April 2, 2016, Washington DC.

Grace, K., R. Wei, A. Murray. ‘A Spatial Analytic Framework for Assessing and Improving Food Aid Distribution in Developing Countries’ Western Regional Science Association (WRSA) Annual Meeting. February 14-17, 2016, Big Island HI.

Grace, K., L. Frederick, M. Brown, L. Boukerrou, and B. Lloyd. ‘The Impacts of Water Quality and Food Availability on Childrens Health in West Africa: A Spatial Analysis Using Remotely Sensed Data and Small-Scale Water Quality Data and Country-level Health Data’ American Geophysical Union (AGU) Fall Meeting. December 14-18, 2015, San Francisco CA.

K. Grace, N. Nagle and G. Husak. ‘Why are some vulnerable children healthy and others stunted? A case study of vulnerability and resilience among very young children in West Africa’ American Geophysical Union (AGU) Fall Meeting. December 15-19, 2014, San Francisco CA.

K. Grace, F. Davenport, H. Hanson, C. Funk, S. Shukla. ‘Examining the Relationship between Temperature, Rainfall and Low Birth Weight: Evidence from 21 African Countries’ European Population Conference (EPC). June 25-28, 2014, Budapest, Hungary.

K. Grace, F. Davenport, H. Hanson, C. Funk, S. Shukla. ‘Examining the Relationship between Temperature, Rainfall and Low Birth Weight: Evidence from 21 African Countries’ Population Association of America (PAA) Annual Meeting. May 2-4, 2014, Boston, MA.

S. L. Lewis-Gonzales, N. Nagle, K. Grace. 'Accuracy of supervised classification of cropland in sub-Saharan Africa American Geophysical Union (AGU) Fall Meeting. December 9-13, 2013, San Francisco, CA.

K. Grace, A. Lerner, G. Sangli. 'Women's Agency and Perception of Vulnerability: A Qualitative Analysis of Breastfeeding, Contraception and Food Insecurity in Burkina Faso' 2013 Annual Sociology of Development Conference. October 25-26, Salt Lake City, UT, USA.

S. Sweeney and K. Grace. 'Immigration and Fertility Change in Los Angeles' 2013 Annual Sociology of Development Conference. October 25-26, Salt Lake City, UT, USA.

K. Grace, N. Nagle. 'Using High Resolution Remotely Sensed Data to Re-Examine the Relationship between Agriculture and Fertility in a Pre-Transitional Setting' Agricultural and Applied Economics Annual Meeting. August 4-6, 2013, Washington, DC, USA.

K. Grace, N. Nagle. 'Using High Resolution Remotely Sensed Data to Re-Examine the Relationship between Agriculture and Fertility in a Pre-Transitional Setting' Population Association of America (PAA) Annual Meeting. April 11-13, 2013, New Orleans, LA, USA.

K. Grace, M. Brown and A. McNally. 'Maize Prices and Low Birth Weight in Kenya' Population Association of America (PAA) Annual Meeting. May 3 - May 5, 2012, San Francisco, CA, USA.
<http://paa2012.princeton.edu/abstracts/122721>

Sweeney, S. and K. Grace. 'Fertility Assimilation Behavior of Los Angeles Immigrants', Population Association of America (PAA) Annual Meeting. March 31 - April 2, 2011, Washington, DC, USA.
<http://paa2011.princeton.edu/abstracts/112304>

Grace, K., F. Davenport and C. Funk. 'Fertility, Child Stunting, and Climate Change: An analysis of recent trends in Kenya', Population Association of America (PAA) Annual Meeting. March 31 - April 2, 2011, Washington, DC, USA.
<http://paa2011.princeton.edu/abstracts/111992>

Grace, K and G. Husak. 'Estimating Cropped Area in Haiti and Guatemala', European Population Conference. 1-5 September, 2010, Vienna, Austria.
<http://epc2010.princeton.edu/abstracts/100512>

Grace, K and G. Husak. 'Using Demographic Data to Estimate Cropped Area in Highly Under-nourished Countries', Association of American Geographers Annual Conference. 14-18 April, 2010, Washington D.C., USA.

Grace, K. and S. Sweeney. 'Informal and Formal Union Formation in Three Central American Countries', Population Association of America (PAA) Annual Meeting. April 28 -May 2, 2009, Detroit, USA.
<http://paa2009.princeton.edu/abstracts/90963>

Grace, K. 'A comparative analysis of contraceptive use and intent in Guatemala', Association of American Geographers Annual Conference. 22-27 March, 2009, Las Vegas, USA.

Grace, K. 'Fertility Correlates in Petén, Guatemala', Association of American Geographers Annual Conference. 17-21 April, 2007, San Francisco, USA.

Posters Accepted for Presentation at Academic Association Meetings

Verdin, A. K. Grace, C. Funk, F. Davenport, G. Husak. 'Advancing climate-health research with stochastic weather generators', American Geophysical Union (AGU) Fall Meeting December 2019, San Francisco, CA.

Bakhtsiyarava, M. and K.Grace. 'Investigation of the Determinants of Food Security: The Role of Agricultural Inputs for Household Food Security and Child Nutrition in Ethiopia.' Population Association of America (PAA) Annual Meeting April 26-28, 2018, New Orleans, LA.

Grace, K., F. Davenport, C. Funk. 'The Future of Infant Health and Mortality in Sub-Saharan Africa: Evaluating the Relative Importance of Changes in Socio-Economics versus Climate' Population Association of America (PAA) Annual Meeting. 30 April-2 May 2015, San Diego, USA.

Sweeney, S. and K. Grace. 'Immigrant fertility adaptation and change in Los Angeles', European Population Conference (EPC). June 25-28, 2014, Budapest, Hungary.

Grace, K., A. Lerner, G. Sangli. 'Breastfeeding, Contraception and Food Insecurity in Burkina Faso', Population Association of America (PAA) Annual Meeting. May 2-4, 2014, Boston, MA, USA.

Grace, K., G. Husak and S. Bogle, 'Using Very High Resolution Remotely Sensed Imagery to Estimate Agricultural Production in Two Kenyan Regions: A comparison of marginal and high productive agricultural zones ', American Geophysical Conference (AGU), December 9-13, 2013, San Francisco, CA, USA.

Sweeney, S. and K. Grace, 'Assessing immigrant fertility adaptation: Recurrent event models of birth and migration histories', SAM 2012 workshop: The statistical analysis of multi-outcome data. Paris, France.

Grace, K. and S. Sweeney, 'Examining Parity Transitions During Fertility Stall' European Population Conference (EPC). 12-14 June 2012, Stockholm, Sweden.

Grace, K., J. Goldstein and Y.-H. Cheng 'The Susceptibility of Fertility Measures to Random Fluctuations', European Population Conference (EPC). 1-5 September 2010, Vienna, Austria.

Grace, K. and S. Sweeney. 'Melting pot or mixed salad? Exploring assimilation and maintenance of fertility behavior of first and subsequent generation Central American women living in the United States', International Union of the Scientific Study of Population (IUSSP). September 27 - October 2, 2009, Marrakech, Morocco.

<http://iussp2009.princeton.edu/abstracts/92077>

Grace, K. 'Contraceptive use and intent in Guatemala', Population Association of America (PAA)

Annual Meeting. April 28 - May 2, 2009, Detroit, USA.
<http://paa2009.princeton.edu/abstracts/90132>

TEACHING AND GRADUATE MENTORSHIP

Postdoctoral researchers and research scientists:

Andrew Verdin (2018-2020)
Nina Brooks (2020-2021)
Jacqueline Banks (postdoctoral trainee MPC) (2019-2021)
Maya Luetke (2021-current)
Jiao Yu (2021-current)

Committee Chair (Ph.D.):

Maryia Bakhtsiyarava (co-chair) (completed PhD 2020, beginning postdoctoral fellowship at UC Berkeley, fall 2020)
Ruthie Burrows
Grace Cooper
Oforiwaa Pee Agyei-Boakye (co-chair)

Committee Membership (Ph.D.):

Marin Bryce (completed PhD 2018)
Han Li (completed PhD 2016)
Jacqueline Banks (completed PhD 2019)
Kwame Tsikudo (completed PhD 2019)
Brent Lloyd (completed PhD 2019)
Aaron Mallory (completed PhD 2020)
Jacqueline Daigneault (completed PhD 2020)
Anna Bolgrien (completed PhD 2021)
Morrison (Luke) Smith (in progress)
Jasper Johnson (in progress)
Isaac Asante-Wusu (in progress)

Committee Chair (Masters):

Julia Reich (advised until Fall 2018)
Lori Miles (2014)
Delanie Farnham (2015)
Seth Bogle (advised until Fall 2016)
Michael Ryba (advised until Fall 2015)

Committee Membership (Masters):

Kaila McDonald (2014)
Emily Nicolossi (2015)
Jessie Bakker (Completed MA, 2020)

Undergraduate Mentorship: Maximilian Stiefel (honors thesis 2014, currently PhD student at UC Santa Barbara Geography)
Marc Healy (Undergraduate Research Opportunity Program grant recipient, 2013/14)

Eddy Urena (Undergraduate Research Opportunity Program grant recipient, 2018)
Suzanne Scotty (Undergraduate Research Opportunity Program grant recipient, 2020)
Kassandra Fate (Capstone Project)

Teaching Experience

Geography of Health and Health care, University of Minnesota, Department of Geography, Environment and Society, Spring 2016, Spring 2017, Fall 2017, Fall 2018, Fall 2019, Fall 2020
Global Health Survey Data analysis Spring 2019, Fall 2020, Spring 2021
Population Geography, University of Minnesota, Department of Geography, Environment and Society, Spring 2017, Fall 2018
Graduate Seminar: Statistical Methods, University of Minnesota, Department of Geography, Environment and Society, Fall 2017
Analytic Methods for Population Research, University of Utah, Department of Geography, Fall 2013
Economic Geography, University of Utah, School of Business, Spring 2013, Spring 2014, Fall 2014, Fall 2015
Global Development, University of Utah, Department of Geography, Spring 2014
Advanced Population Geography, University of Utah, Department of Geography, Spring 2013
Population Geography, University of Utah, Department of Geography, Fall 2012, 2013, 2014, Fall 2015
Guest Lecturer, Malnutrition and climate in Kenya in Spatial Statistics, Spring 2011
Guest Lecturer, Fertility Analysis in Spatial Demography, Winter 2010 and Spring 2012
Teaching Assistant, Center for Spatially Integrated Social Sciences (CSISS) - Spatial Perspectives on Analysis for Curriculum Enhancement (SPACE), UCSB, 2005 - 2007
Graduate Research Mentor (high school summer outreach program), UCSB, 2005 - 2007
Teaching Assistant, Human Geography, UCSB, Summer 2007
Guest Lecturer, Global trends in Fertility for Population Geography, Winter 2007
Teaching Assistant, Center for Spatially Integrated Social Sciences (CSISS) - Population Science Summer Workshop, UCSB, 2005 - 2006
Teaching Assistant, Population Geography, UCSB, Fall 2005
Teaching Assistant, Introductory Statistics, UCSB, 2004 - 2005

PROFESSIONAL SERVICE

Discipline

Editorial Board Discover Social Science and Health Journal 2021-
Editorial Board Computers, Environment and Urban Systems Journal 2020-
Editorial Board CABI Agriculture and Biosciences Journal 2021-
Editorial Board Spatial Demography 2018-
Editorial Board Population and Environment 2018-
Chair, Population and Environment Research Network 2021-
President, Population Specialty Group American Association of Geographers 2019-2021
Co-guest editor, Frontiers - Gender and social consideration in climates and impacts research 2020-
Advisory Board Population Environment Research Network 2019-2021
Organizing Committee Population Association of America Annual Meeting 2020

Session Organizer - Population Association of America Annual Meeting 2019
Session Chair - Population Association of America Annual Meeting 2018
Discussant - Population Association of America Annual Meeting 2018
Guest Editor Population and Environment - Special Issue 2018-2019
Vice-President, Population Specialty Group American Association of Geographers 2017-2019
Guest Editor Population and Environment 2018 and 2020
Discussant - Population Association of America Annual Meeting 2015
Student Poster Judge - American Geophysical Union Annual Meeting 2014
Session Co-Organizer - Population Association of America Annual Meeting 2014

University of Minnesota

Diversity, equity and inclusion Committee Chair, Department of GES (2020-2021)
MPC Senior Faculty Search Committee, Minnesota Population Center (2018-2019)
GIS Faculty Search Committee co-Chair, Department of GES (2019)
Ad-hoc Merit Review Committee, Department of GES (2018-2019)
Merit Committee Chair, Department of GES (2018-2019)
Grievance Committee Chair, Department of GES (2018-2019 2020-2021)
Coffee Hour/Brown Day Organizing Committee Chair - Department of GES (2017-2018)
Graduate Education Policy Committee - Department of GES (2017-2020)
Admissions Committee - Department of GES (2016-2017)
Executive Committee - Department of GES (2016-2018)
Advisory Board Member - DASH (2018-current)
Fulbright Grant Reviewer (UMN) - (2017-2018)
Graduate Travel Grant Reviewer - (2017-2019)
Graduate School Advisory Board Member (2016-2019)
Advisory Board Member - Minnesota Population Center (2016-2019)
Co-Organizer (with Miranda Joseph) of Counter Accounting Workshop (2017)
Grants and Awards committee - Department of GES 2016
Parenting Across Roles, Invited Panelist Fall 2016
Parenting in Academia, Invited Panelist Spring 2016

University of Utah

Moderator - University of Utah, Undergraduate Research Conference 2014
College of Social and Behavioral Sciences, Appeals Committee 2013 - 2015
Department of Geography, Graduate Committee 2013 - 2015
Department of Geography, Colloquia Committee 2012 - 2015

Professional Membership

Association of American Geographers
American Geophysical Union
Population Association of America
American Statistical Association

Reviewer

Nature Energy
Nature Sustainability (x2)

Nature Climate Change
 Nature Communication
 Proceedings of the National Academy of Sciences
 Science
 Lancet Planetary Health (x2)
 Demography (x4)
 American Sociological Review
 American Journal of Public Health
 Population and Development Review (x2)
 Scientific Data
 Food Policy
 Annals of the American Association of Geographers
 American Journal of Agricultural Economics
 Global Environmental Change (x3)
 Global Change Biology
 Population and Environment (x6)
 Spatial Demography (x2)
 Population (French Language) (x2)
 International Regional Science Review
 Scientific Reports
 Health and Place
 BMC Nutrition
 Public Health Nutrition
 Social Science and Medicine
 International Perspectives on Sexual and Reproductive Health (x2)
 PLOS One (x3)
 Remote Sensing Applications: Society and Environment
 Health Science Journal
 Health and Place
 International Journal of Disaster Risk Reduction
 Landscape Ecology
 Health Education Journal
 Applied Geography (x4)
 Pan American Journal of Public Health (x3)
 Remote Sensing
 Urban Studies
 Population Review

 NASA LCLUC ROSES
 Swiss National Science Foundation (x2)
 NASA Postdoctoral Program
 National Science Foundation
 EPA Star Graduate Student Fellowship
 U of U Air Quality Program Seed Grant Funding Opportunity
 NASA SERVIR Applied Sciences Grant Opportunity
 JPI (Joint Programming Initiative) “Connecting Climate Knowledge for Europe”

COMMUNITY SERVICE

Santa Barbara Charter School Parent Volunteer, 2011-2012

Goleta Family School Parent Volunteer and Goleta Earth Day co-Organizer, 2006 - 2008

Tulane University School of Public Health Student Health Representative, 2003 - 2004

UC Berkeley Student Parent Organization Treasurer, 2001 - 2002

UC Berkeley Family Student Housing Health Worker, 2001 - 2002

Languages and Skills

French, SAS, SPSS, R, ArcGIS, \LaTeX