Migration is a Climate Change Issue

Jack DeWaard and Raphael Nawrotzki attend the COP21 Climate Talks to learn how a global discussion is addressing a key issue in climate change.

By Jack DeWaard, Graduate Faculty at the MPC and Assistant Professor of Sociology and Raphael Nawrotzki Post-Doctoral Fellow at the MPC

How and to what extent do our leaders and decision-makers need to address migration as a climate change issue? This issue was at the forefront of our minds recently when we had the unique opportunity to attend the 21st annual climate talks, known as the Conference of the Partners (COP21), in Paris, France in November and December of last year.

We participated in COP21 as part of a wider delegation from Minnesota that included past and current Minnesota state representatives, St. Paul Mayor Chris Coleman, and several other representatives from government and non-governmental organizations. Like previous meetings, the goal of COP21 was to convene a meeting of world leaders and to negotiate a global climate treaty, laying the groundwork for preventing global average temperatures from rising no further than a maximum of two degrees Celsius above preindustrial levels.

Because our research focuses on migration and population displacement caused by environmental conditions and climate change, we were invited to attend by the University of Minnesota’s Institute on the Environment as official observers via the University’s official status with the United Nations Framework Convention on Climate Change. We, and our fellow colleagues were encouraged to find that the Paris Agreement formally acknowledged the importance of “displacement related to the adverse impacts of climate change,” noting for the first time that “climate change is a common concern of...migrants.”

continued on page 6
Major Milestones

It’s a new semester and a new year, and the work at the MPC continues to expand the reach and goals of the center. In the last issue of our newsletter, we told you about our collaboration with Ancestry.com and FamilySearch and how this collaboration would massively expand the amount of data available for researchers via MPC data projects.

As part of that collaboration, in 2010, we promised that by 2016 we would double the quantity of data available from the MPC (measured in both number of records and number of datasets) and we would double the quantity of data actually disseminated.

We have already exceeded these goals. We have archived 380 new datasets comprising two billion records, and have processed (including cleaning, producing metadata, integrating, and disseminating) 430 datasets with 700 million records and over 25,000 variables. The quantity of data we disseminate has expanded five-fold since 2010, from 0.5 to 2.6 terabytes per week.

Our incredible team of researchers at the MPC are building the shared data infrastructure essential for demographic research. We are recovering and liberating population microdata from around the world. The methods we pioneered for integrating, documenting, and disseminating census and survey data are transforming cross-national and cross-temporal demographic analysis.

In addition, we continue performing our own research and commenting on national and global events. In this issue you will learn about Associate Professor J. David Hacker’s U.S. Civil War research. I hope you will also read about Jack DeWaard and Raphael Nawrotzki’s perspective as attendees at the COP21 climate talks in Paris last year.

It’s a pleasure to bring you these stories of the transformative work that we do at the MPC.

Steven Ruggles
Director, Minnesota Population Center
Counting—and Redefining—the Cost of War

MPC Associate Professor J. David Hacker’s research on U.S. Civil War casualty counts has changed the way we count the impact of the war - new MPC data will add increased accuracy to his count and the war’s impact.

By Melissa Kelley

Associate Professor of History and MPC Faculty Member J. David Hacker made headlines in 2011 when he published a groundbreaking study of the total number of U.S. Civil War dead. Hacker argued that the widely-accepted figure of 620,000 was far too low. Using IPUMS, Hacker showed that the number of dead was at least 750,000—if not more. His article, “A Census-Based Count of the Civil War,” published in Civil War History, was introduced by the editors in the issue as “among the most consequential pieces ever to appear in this journal’s pages.” Few demographic historians expect attention from mainstream press when they publish their research, but Hacker’s study attracted national interest, including interviews with the New York Times and National Public Radio.

“The war is by far the largest demographic shock in American history.”
—Dave Hacker

Hacker’s work is not done, however. The 750,000 figure came from existing IPUMS 1% samples of the 1850, 1860, 1870, and 1880 Censuses. MPC’s forthcoming major data expansion promises full count historical census data, which will allow Hacker to make an even more accurate Civil War count and to examine the impact of the war on population and family structure. Coupled with the MPC’s charge to link these huge datasets, this data enables historical scholarship that was never before possible. The new information stands to redefine how we think about the demographic costs and consequences of war, and could have a major impact outside of American social history and demography.

Data Expansion and Linkage

In our last newsletter, we reported on the collaboration among the MPC, Ancestry.com, and FamilySearch that will bring 100% count U.S. Census data through 1940 (over 650 million individual-level records and 7.5 million-level household records) to the public by 2020. The MPC will add significant value to this massive influx of data by digitizing variables necessary for demographic study, such as occupation, and then linking individuals across the 1850, 1860, 1870, and 1880 censuses. The mortality schedules will also be linked with the 1860, 1870, and 1880 population schedules and slaves in the 1860 slave schedules will be linked to owners in the 1860 free schedules.

When the data linkage process is finished, historians and other social science researchers will have unprecedented access to historical evidence from the 19th century. If this data represents the “holy grail of American social history,” as Matt Sobek, MPC Director of Data Integration, has suggested, then 19th century American historians in particular stand to benefit from revolutionary access to a “unique laboratory for developing and testing models of demographic and economic change.”

The Holy Grail of Data

The individual, linked, full-count Census data will include variables crucial for exciting advances in demographic research. Occupational and wealth variables are particularly illuminating for researchers. Individual-level mortality data, for example, allow a close look at relationships among socioeconomic status, illness, and disability to better illustrate patterns in mortality. For marriage scholars, this data enables longitudinal analysis of racial differences in marriage and the differential role of postwar economic opportunity on the marriage market.

“The war is by far the largest demographic shock in American history,” explains Hacker. Prior to the Civil War, the United States was an exceptional case when it came to demographic growth. Rapid population growth was a defining characteristic of the U.S. on the international stage, and was lauded as proof of the strength of the new nation by

continued on page 8
The MPC’s Administrative Team

Get to know the different groups and employees of the MPC. In this issue, we meet the MPC admin team responsible for keeping the MPC running.

**Naila Elliott** has been at the MPC for just under a year. Naila handles employee reimbursements, invoice payment, and contracts for professional services for the center. She has been with the University of Minnesota for ten years, eight of those years in financial services. When she isn’t at work, she’s busy watching and keeping track of the Duke University Blue Devils basketball team.

**Cathy Fitch** has worked for the MPC since its inception in 2000, and prior to that she worked as a graduate research assistant on the Historical Census Projects in the History Department. Cathy is the Associate Director of the MPC and founding Co-Director of the Minnesota Research Data Center (MnRDC). A Census Bureau Research Data Center (RDC), the MnRDC provides access to restricted and confidential data. Throughout her career, she has been involved in the creation of several MPC databases, including IPUMS (USA and International) and Terra Populus.

**Tracy McCall** is about to start her third year with the MPC, where she handles accounting, including working with grants and effort certification. She’s been at the University of Minnesota for eight years, six of those with the Student Unions & Activities. During the weekends she spends her time experimenting in the kitchen, seeking out new recipes of delicious things to make.

**Kris Michaelson** is in charge of grant management at the MPC. Kris has devoted 14 years of service to the University of Minnesota. Last summer Kris switched to a part time schedule at the MPC to make room for knitting, cooking, reading, and gardening. She’s often seen in the lunchtime knitting group in the MPC break room with a beautiful knitting project.

**Rich Portnoy** manages human resources at the MPC. He is also in charge of grants management, finance, facilities and operations at the center. Rich started at the MPC in August of 2015 and is the newest member of the administrative team. He has a 26-year history of service at the University of Minnesota, with prior positions in the College of Liberal Arts Budget Office and most recently in the Division of Epidemiology and Community Health. Away from the office Rich has a standing weekly date at the Brave New Workshop. He started taking improv classes there three years ago with friends he describes as “old codgers intent on having a good time.”
Mia Riza works in human resources for the MPC where she is in charge of recruiting new staff and payroll for the office. Mia also helps organize and run the diversity and outreach programs. In February, Mia will celebrate her second year with the MPC. Prior to joining the MPC Mia worked at the University of Minnesota Carlson School of Management. When she is away from the office Mia is most often found at her family’s cabin in northern Minnesota indulging in all of her favorite outdoor activities, which include paddle-boarding, snowmobiling, hiking, snowshoeing, boating, and sitting in front of a nice campfire.

Rob Strnad performs a range of duties for the administrative core at the MPC. In 2015 Rob oversaw the opening of two new MPC offices and the renovation of the main office. Rob manages the day to day operations of the MPC facilities, not least of which includes maintaining the office coffee supply. He joined the MPC in October of 2014 from the University of Minnesota Libraries. In his spare time Rob is busy with a local Irish hurling league, a sport he describes as “like lacrosse or field hockey, but more painful the day after a match.”

MPC Graduate Training Program in Population Studies

The MPC Graduate Training Program in Population Studies produces well-trained demographers who do high-quality population research in a uniquely Minnesota way. MPC trainees are thoroughly interdisciplinary, highly skilled in the production and use of population and health data, and able to apply cutting edge theory and methods.

The three-year Training Program includes:

• Formal training in the theory, methods, and substance of interdisciplinary population research
• Annual financial support to attend a national professional conference
• Hands-on training as part of substantive and data infrastructure research projects in a vibrant and growing interdisciplinary population center
• Students completing the Training Program will also be awarded a minor in Population Studies

MPC Graduate Trainees: Duy Do, Sarah Garcia, Maria Bakhtiyarova, Allan Tate
Migration is an adaptive strategy that is employed by individuals, families, and households in the face of environmental and climate change, and is typically pursued after one or more initial attempts have been made to adapt in one’s place of residence. In other words, migration is often an adaptive strategy of last resort, which is consistent with the fact that migration is a relatively rare demographic event.

In a COP21 panel on natural solutions for coastal resilience in the United States, Dr. Kathryn D. Sullivan, Under Secretary of Commerce for Oceans and Atmosphere and Administrator for the National Oceanic and Atmospheric Administration, noted that, worldwide, they expect about a 40% increase in the number of persons living in coastal zones, areas that are vulnerable to sea level rise and flooding. In some circles, demographic projections of this sort have resulted in some hysteria about the potential for unprecedented numbers of “climate refugees” in the future.

Taking a more nuanced approach, the International Organization for Migration (IOM) convened a panel at COP21 entitled, “Human Mobility & Climate Change,” in which the panelists discussed the need for more contextually-specific understandings of the climate-migration relationship.

A particularly important intermediary pathway in the climate-migration relationship is whether and the extent to which existing livelihoods are disrupted by environmental and climate change, which, in turn, requires detailed understandings of, for example, the agricultural sector, the availability and quality of capital and credit markets to finance agricultural diversification and intensification, and more.

Of course, this pathway operates on the sending side of the equation. As Ms. Michelle Leighton, Chief of the Labour Migration Branch at the International Labour Organization, pointed out during the IOM panel, what is often missing in discussions of the climate-migration relationship is the receiving side of the equation. Specifically, where will persons displaced by environmental and climate change go? How long will they stay? And how will they be incorporated into labor markets, housing, and civic life?

The IOM panel, the only panel on migration and population at COP21, neglected to address the importance of family and social networks for migration. It is well-documented that family and social networks are among the most important facilitators of migration. And, presently, it is an open question if environmental and climate change will exacerbate or ameliorate the salience of these important connections.

While we were encouraged to see references to and discussions of migration and population displacement in several COP21 panels and in the text of the Paris Agreement, we left COP21 with the realization that much still needs to be done. Our guess is that others working in other areas of demography and the social sciences felt the same way.

COP21 achieved what it set out to do. After two weeks of intense talks, world leaders from nearly 200 countries representing about 97% of carbon emissions worldwide agreed to a global climate change accord, known as the Paris Agreement. While by no means perfect, President Obama noted at the conclusion of COP21 that the Paris Agreement provides an important starting point in creating a planet that is “going to be in better shape for the next generation.”

At COP21, research is but one input into a complex set of political calculations and negotiations. Accordingly, given such a crowded stage, it is essential that demographers and social scientists, including those working at the MPC, continue to connect our work to the natural environment, public policy, and related issues in ways that are clear, visible, and digestible to a wide audience.
Spring 2016 Schedule

All MPC seminars are held on Mondays from 12:15 p.m. to 1:15 p.m. in the MPC Seminar Room (50 Willey Hall).

**Monday, January 25**
Gender Inequality in the Life Cycle: The Effect of Parenthood on the Division of Unpaid Work
Joan Garcia Roman, Minnesota Population Center, University of Minnesota

**Monday, February 1**
White Shoes and Happy Cows: Social Networks and Human-Environment Dynamics in Agriculture
Steve Manson, Geography, Environment, and Society, University of Minnesota

**Monday, February 8**
Commuter Couples and Careers: Gender Asymmetric Correlates of a Shared Personal Sacrifice
Marta Murray-Close, Economics
University of Massachusetts Amherst
Visiting Scholar, Minnesota Population Center

**Monday, February 15**
What's Not on The Map (and What That Means for Intelligent Technologies)
Brent Hecht, Department of Computer Science and Engineering, University of Minnesota

**Monday, February 22**
Adapting the Own-Children Method for Estimating Fertility Using IPUMS-International Census Microdata Without Model Life Tables
Bob McCaa, Minnesota Population Center, University of Minnesota

**Monday, February 29**
Plant and Animal Migration Under Climate Change and Opportunities for Adaptation Through Natural Resource Management
Jessica Hellmann, Institute on the Environment, University of Minnesota

**Monday, March 7**
Integrating the Demographic and Health Surveys: Past Achievements and Future Prospects
Elizabeth Boyle and Miriam King, Minnesota Population Center, University of Minnesota

**Monday, March 21**
Population Association of America Paper Presentations
Minnesota Population Center Members and Staff, University of Minnesota

**Monday, March 28**
The Impact of Population and Economic Growth on the Achievement of the Millennium Development Goals
Iñaki Permanyer, Center for Demographic Studies, University of Barcelona

**Monday, April 4**
Naming the Precious Child: New Approaches to Measuring Child Quality, with Applications to Historical U.S. Censuses
Josh Goldstein, Demography, University of California, Berkeley

**Monday, April 11**
Estimating the Effect of Education on Mortality in the Presence of Migration: Evidence from the Jim Crow South
Bhash Mazumder, Chicago Census Research Data Center, Federal Reserve Bank of Chicago

**Monday, April 18**
Declines in Marriage: The Importance of Socioeconomic Inequality
Kelly Raley, Sociology, University of Texas, Austin

**Monday, April 25**
Move Up or Move Back? The Impact of Non-Employment Duration and Reason on Women’s Workforce Reentry
Anne Kaduk, Minnesota Population Center, University of Minnesota

**Monday, May 2**
Well-being in Same-Sex Couples and Families
Wendy Manning, Sociology, Bowling Green State University
American leaders. Growth was predictable, as well; early demographic observers could calculate population growth well into the future with confidence.

The Civil War changed this demographic regime abruptly. There was the obvious effect of 750,000 dead young men. In addition, women and couples began consciously limiting births, greatly affecting the typical family size. At the same time, the beginnings of the public health movement and other factors meant a declining mortality rate. And all of these changes accompanied another demographic shock: the emancipation of 4.5 million enslaved African Americans.

What Does the Data Do?
Hacker’s 750,000 figure had its admitted limitations. With only 1% sample microdata at his disposal, he could only calculate for the white population, and had to rely on existing estimates for the African American population, which he—and others—have long suspected are too low. The new data are full-count, and will be of sufficient quality and density to estimate more accurately than ever the impact of the war for the African American population.

Prior to emancipation, the African American population was highly constricted by the white population, including close regulation of family formation. Emancipation means 4.5 million people, free for the first time, to decide where they want to live, how they want to earn a living, and what their households and families would look like. This was, to put it mildly, a transformative moment for the Black population.

To be sure, the effects of slavery and emancipation on the African American population, particularly long term effects, are ones that historians and social scientists have grappled with understanding for over a century. There are many studies on post-emancipation family structure, for example, but most are based on small microdata samples. Outside of demographic circles, there are long-standing social and political debates on the long-term effects of slavery. “The full-count data will allow us to do a much better job on these questions than ever before,” says Hacker.

Fertility, mortality, family structure, migration, and other big topics of research enabled by this data expansion are all pieces of a bigger story: the demographic costs and consequences of war. The consequences of war, emancipation, and slavery are with us in 2016, in subtle and obvious ways, and this data allows us to know much more about them. But this is not just about expanding knowledge. What counts (literally) as the consequences of the Civil War? This major issue for scholars and the public is one that the data expansion stands to transform.