

Juan H. Declet-Barreto

Natural Resources Defense Council
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PROFESSIONAL EXPERIENCE:

Climate Health/Science Center Fellow, 2014 – Present

Natural Resources Defense Council, Washington, DC

Tasks:

- Conduct social and environmental science research in support of climate and clean air, health, and environmental justice programs at environmental advocacy organization
- Design and deploy GIS-based assessment of climate change impacts on human health
- Conduct research on social and ecological outcomes of Urban Heat Island mitigation evaluations in partnership with environmental justice organizations

GIS Specialist, 2011-2013

City of Mesa, AZ

Tasks:

- Supported planning & zoning business processes by creating maps for zoning and Board of Adjustment hearings
- Prepared maps of socio-demographics in support of neighborhood and housing development plans
- Created cartographic and other information products in support of City Council annual retreat

Graduate Research Assistant, 2009-2013

School of Human Evolution and Social Change, Arizona State University

Funded Research: CNH Collaborative Research: Urban Vulnerability to Climate Change (National Science Foundation Grant GEO-0816168), \$1,439,610.

Tasks:

- Generated Land Use/Land Cover neighborhood-scale classification using Object-Based Image Analysis (OBIA) from high-resolution imagery in Definiens software
- Conducted statistical (SPSS) and geospatial (ArcGIS) analysis of socio-economic status and biophysical environment data for climate change vulnerability research manuscripts

Graduate Research Assistant, 2004-2006

School of Geographical Sciences, Arizona State University

Funded Research: The First Step Towards an Integrated Arizona/Sonora Transborder GIS: Land Use and Land Cover Data Development (SCERP Award EIR-5-04)

Tasks:

- Developed a Land Use/Land Cover classification of Arizona-Sonora border cities from satellite and aerial imagery
- Developed geodatabase of urban infrastructure, mortality, and Mexican census data for infant health-mortality study

Ambient Air Emissions Inventory Specialist, 2007-2011

Arizona Department of Environmental Quality, Phoenix, AZ

Tasks:

- Development of ambient air emissions inventories from geospatial and tabular data in support of air quality regulations established by the EPA and the Clean Air Act
- Design and implementation of GIS-based field data collection tools integrating mobile GIS and GPS technologies to assist air emissions Declet-Barreto, Juan curriculum vitae 2/24/2016 sources permitting and compliance enforcement.
- Liaison between U.S. and Mexican local and regional authorities to obtain air quality data from public and private sectors for air quality studies.

EDUCATION:

Ph. D. in Environmental Social Sciences

- School of Human Evolution and Social Change, Arizona State University, *Fall 2013*
- Committee: Sharon Harlan (co-Chair, Bob Bolin (co-Chair), Christopher Boone, Paul Hirt
- Thesis: A socio-ecological understanding of extreme heat vulnerability in Maricopa County, Arizona

Master of Arts in Geography

- School of Geographical Sciences, Arizona State University, *2006*
- Committee: Eric Keys (Chair), Francisco Lara-Valencia, Daniel Arreola, Bob Bolin
- Thesis: Vulnerability to technological hazards in Mexico-United States border cities: the case of Ambos Nogales

Bachelor of Science in Geography

- School of Geographical Sciences, Arizona State University, *2004*

Certificate in Geographic Information Systems

- School of Geographical Sciences, Arizona State University, *2004*

RESEARCH INTERESTS:

- Human health impacts of climate change
- Geography of hazards production
- Urban heat island mitigation
- Environmental justice of parks/green spaces and climate change
- Human health impacts of carbon and co-pollutant policies

TEACHING EXPERIENCE:

Adjunct Faculty. Delta State University. *Fall 2015.*

Courses designed and taught:

- GIS 470 –Programming for GIS.

HONORS AND AWARDS:

Gilbert F. White Hazards Dissertation Award.

Presented by the Hazards, Risks, and Disasters Specialty Group at the Association of American Geographers

Annual Meeting in Tampa, Florida. *April 9 2014.*

Air Quality Constellation Award: GPS/GIS Mapping of Air Quality Field Inspection Sites Team.

Presented at the ADEQ Air Quality Division

Annual Awards Ceremony, *May 8, 2008.*

Recipient of the 2005 Tony Gonzales Scholarship for GIS Achievement

Presented by the Geospatial Information Technology Association (GITA)

Phoenix, Arizona.

PUBLICATIONS:

Journal Articles (peer-reviewed)

Jenerette, G. D., Harlan, S. L., Buyantuev, A., Stefanov, W. L., Declet-Barreto, J., Ruddell, B. L., ... Li, X. (2015). Micro-scale urban surface temperatures are related to land-cover features and residential heat related health impacts in Phoenix, AZ USA. *Landscape Ecology*. 10.1007/s10980-015-0284-3 Declet-Barreto, Juan curriculum vitae 2/24/2016

Declet-Barreto, J., A. J. Brazel, C. A. Martin, W. T. L. Chow, and S. L. Harlan. 2013. Creating the Park Cool Island in an Inner-City Neighborhood: Heat Mitigation Strategy for Phoenix, AZ. *Urban Ecosystems*. Harlan SL, Declet-Barreto JH, Stefanov WL, Petitti DB. Neighborhood Effects on Heat Deaths: Social and Environmental Predictors of Vulnerability in Maricopa County, Arizona. *Environ Health Perspect* 121 (2):197-204.

Bolin, B., Declet Barreto, J., M., Hegmon, M., Meiroto, L., York, A. 2013. Double Exposure in the Sunbelt: The Sociospatial Distribution of Vulnerability in Phoenix, Arizona. In *Urbanization and Sustainability*, eds C.G. Boone, M. Fragkias, (3):159-178. Springer: Netherlands. Lara Valencia, F., J. Declet, and E.Keys. 2008. Spatial Equity and Technological Hazards Along Cross-Border Trade Corridors: the Case of Ambos Nogales. *Journal of Borderland Studies* 23(2):1-18.

Muñoz-Erickson, T. A. and J. Declet Barreto, J. 2009. Puerto Rican Studies. *Latinos and Latinas in US History and Culture: An Encyclopedia*. Eds. Carmen Lugo-Lugo and David Leonard. M.E. Sharpe. Declet Barreto, J. and T. A. Muñoz-Erickson. 2009. *The National Puerto Rican Coalition. Latinos and Latinas in US History and Culture: An Encyclopedia*. Eds.

Carmen Lugo-Lugo and David Leonard. M.E. Sharpe. Reports Declet-Barreto, J. & S. Alcorn. 2015. Sneezing & Wheezing: How Climate Change Could Increase Ragweed Allergies, Air Pollution, and Asthma. 2015 update. Natural Resources Defense Council report <http://www.nrdc.org/globalwarming/sneezing/files/sneezing-report-2015.pdf>. Accessed on 13 May, 2015.

Works in Progress

Declet-Barreto, J., K. Knowlton, G.D. Jenerette, & A. Buyantuev. Effects of urban vegetation on mitigating exposure of vulnerable populations to excessive heat in Cleveland, Ohio. (manuscript in review).

CONFERENCE PRESENTATIONS:

Urban Heat Island Reduction Strategies in Neighborhoods in Northern Manhattan, New York City.

Juan Declet-Barreto, K. Knowlton, A. Huang, J. White-Newsome, C. D. Corbin-Mark, and O. Dotson-Newman. American Meteorological Society 2016 Annual Meeting, 13 January, 2016. New Orleans, LA.

A socio-spatial vulnerability model of the Urban Heat Island: exposure, sensitivity and health impacts of high temperatures.

Declet-Barreto, J., S. Harlan, D. Petitti, and B. Rudell. Presentation delivered at the International Congress on Biometeorology, September 29, 2014. Cleveland, OH.

Heat vulnerability in Phoenix, Arizona: Health outcomes, sensitivity, exposure, and coping capacity at the neighborhood scale.

Declet-Barreto, J, S. Harlan, D. Petitti, and B. Rudell. Poster presented at the Fifth Biannual Colloquium on Climate and Health. 9-12 July 2013. National Center for Atmospheric Research Foothills Laboratory, Boulder, CO.

Creating the Park Cool Island: Heat Mitigation Strategy for Phoenix, AZ.

Declet-Barreto, J.

Featured presentation at the Central Arizona-Phoenix Long-Term Ecological Research (CAP-LTER) project, Fifteenth Annual Poster Symposium and All Scientists Meeting,

11 January 2013.

Scottsdale, Arizona.

The historical-geographical production of the urban riskscape of Phoenix, Arizona.

Declet-Barreto, J.

13 April 2012.

Dimensions of Political Ecology Conference on Nature/Society, University of Kentucky, Lexington.

Suburbanization of Vulnerability: Environmental Justice and Resource Insecurity in Phoenix, Arizona.

B. Bolin, L. Meierotto, A. York, M. Hegmon, J. Declet-Barreto.

Association of American Geographers 2011 Annual Meeting.

April 12-16, 2011.

Seattle, Washington.

Tree naturalization as a means of provisioning ecosystem services in an arid ecosystem.

Martin, C., S. Harlan and J. Declet-Barreto.

Poster presented at the 7-12 August 2011 96th Annual Meeting of the Ecological Society of America,

August 2011.

Austin, TX.

Climate Change in an Urban Desert: Examining the Role of Vegetation in Local Temperature Variability in Phoenix, AZ.

Ruddell, D., J. Declet-Barreto, S. L. Harlan, & S. Grossman-Clarke.

Presented at the LTER Network All Scientists Meeting,

September 2009.

Estes Park, CO

Geospatial and Remote Sensing Technologies for Air Quality Improvement in Arizona.

Declet-Barreto, J.

Lecture delivered at the Third Annual Environmental Science Symposium,

February 20, 2009.

Delta State University, Cleveland, Mississippi.

Opportunities and challenges to linking science and policy in the Luquillo LTER: Preliminary findings on stakeholder perceptions of water governance and sustainability.

Muñoz-Erickson, T.A., K. Larson and J. Declet.

Poster presented at the 10 January 2008 10th Annual CAP LTER Poster Symposium.

2008.

Western Arizona-Sonora Border Air Quality Study (WASBAQS).

Juan Declet-Barreto.

Poster presentation at the Arizona Geographic Information Council GIS Conference.

August 8-10, 2007.

Prescott, Arizona.

Environmental inequity in the Phoenix metropolitan statistical area, 1990 and 2000.

Juan Declét-Barreto, B. Bolin and C. Boone.

Ninth Annual Central-Arizona Phoenix Long-Term Ecological Research (CAP LTER) Poster Symposium.

Poster presented on January 10, 2007,

http://caplter.asu.edu/docs/symposia/symp2007/Declét_et_al.pdf

The First Step Towards An Integrated Arizona/Sonora Transborder GIS: Land Use And Land Cover Data Development.

Jana Hutchins, E. Keys, C. Lukinbeal, R. Aspinall, J. Declét-Barreto, G. Judkins, and D. Nelson.

Border Institute VIII,

May 22-24, 2006.

Río Rico, Arizona.

Spatial Equity and Technological Hazard in Border Trade Corridors: An Exploratory Analysis of Ambos Nogales.

Juan Declét Barreto.

Western Social Science Association 48th Annual Conference.

April 19-22 2006,

Phoenix, Arizona.

Management of Shared Water Resources along the United States-México Border: the Case of Ambos Nogales.

Juan Declét, F. Lara-Valencia, E. Keys.

Association of American Geographers 2006 Annual Meeting.

March 7-11, 2006.

Chicago, Illinois.

Indicadores de vulnerabilidad social en Nogales, Sonora. (Social vulnerability indicators in Nogales, Sonora).

Juan Declét, F. Lara Valencia, and E.Keys.

Conference of Latin Americanist Geographers.

October 26-28, 2005.

Morelia, Michoacán, México.

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FUNDED GRANTS:

“Reducing Urban Heat Island Vulnerability: Targeted Interventions to Enhance the Environmental Justice Community’s Climate Resiliency”.

Natural Resources Defense Council President’s Opportunity Fund grant,

\$50,000.

“Assessment of neighborhood and household adaptive capacity to heat-related vulnerability in Maricopa County, Arizona”.

Central Arizona-Phoenix Long-Term Ecological Research (CAP-LTER) Graduate Grant, Arizona State University,

\$4,000.

2013.

“Estimation of Effects of Urban Heat Island Mitigation Policies on Extreme Heat Vulnerability in Cleveland, Ohio”.

Juan Declet-Barreto & Kim Knowlton. Natural Resources Defense Council Science Center grant, \$6,450. 2014.

SERVICE:

Professional Service

“Climate change and Public Health”.

Declet-Barreto, J. Health leaders Fellowship program webinar. Ecology Center of Ann Arbor. April 9, 2015.

“Global Challenges, Local Solutions: Climate Change and Environmental Sustainability”.

Declet-Barreto, J. Panelist. Foreign Fulbright Enrichment Seminar. 15 February 2013, Phoenix, Arizona.

Border Workshop on Sustainable Urban Planning.

GIS Workshop Instructor. Summer 2009.

Instituto Municipal de Investigación y Planeación de Nogales, Sonora (IMIP-Nogales).

Education Session Presenter. Mitigating urban heat islands by predicting impacts of urban parks/open space. Declet, J., W. T. Chow and T. L. Halperin. 28 September-1 October 2012.

American Society of Landscape Architects Annual Meeting and Expo, Phoenix, Arizona.

Community Service Environmental Science Advisor and Board Member. Sherman Park Neighborhood Community Association (Phoenix, Arizona), 2012-Present.

PROFESSIONAL MEMBERSHIPS:

Association of American Geographers (AAG)
Geospatial Technology Information Association (GITA)
GreenLatinos (Coalition of Latino environmental professionals)
Climate Voices Science Speakers Network (<http://climatevoices.org/speakers/juan-declet-barreto/>)

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