

Anamaria Bukvic, Ph.D.

Assistant Professor

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AFFILIATED FACULTY

- **Coastal@VT**, Virginia Tech (co-lead)
- **Center for Gerontology**, Virginia Tech
- **Global Change Center**, Virginia Tech
- NRT: Disaster Resilience and Risk Management (DRRM) Graduate Education Program

EXPERTISE

Coastal hazards, adaptation, resilience & vulnerability ■ Population displacement & relocation

EDUCATION

- **PhD Planning, Governance, and Globalization** August 2012
Urban Affairs and Planning, Virginia Tech
- **Master of Community Planning** June 2006
School of Planning, University of Cincinnati
- **PhD Environmental Genetics and Molecular Toxicology**
2001-2004, *suspended*
Environmental Health, University of Cincinnati
- **Master of Science** March 2002
Biological Sciences, University of Cincinnati
- **Bachelor of Engineering** January 1998
Landscape Architecture, University of Zagreb, Croatia

EMPLOYMENT

- **Assistant Professor**, Virginia Tech, Geography, Blacksburg, VA, 2019-present
- **Research Assistant Professor**, Virginia Tech, Geography, Blacksburg, VA, 2015-2018
- **Visiting Assistant Professor**, Virginia Tech, Urban Affairs & Planning, Blacksburg, VA, 2012-15
- **Adjunct Faculty**, Virginia Tech, Urban Affairs and Planning, Blacksburg, VA, 2011-2012
- **Teaching Assistant**, Virginia Tech, Urban Affairs and Planning, Blacksburg, VA, 2008-2011

TEACHING

- GEOG 4984/5984 Climate Change & Societal Impacts
- NR5114 Global Issues in Natural Resources, International Field Experience in Croatia
- UAP 3354 Environmental Policy and Planning
- UAP 4364 Environmental Policy Seminar: Coastal Adaptation
- UAP 4384 Pollution Control Policy and Planning,
- UAP 5064 Advanced Pollution Control Policy and Planning

PUBLICATIONS

- **Bukvic, A.**, Biber, P., Barreto, M., & Roberts, S. (2019). Mobility: Strategy for a New Coastline. Coastal Management (accepted for publication).
- de Sherbinin, A., **Bukvic, A.**, Rohat, G., Gall, M., McCusker, B., Preston, B., Apotsos, A., Fish, C., Kienberger, S., Muhonda, P., Wilhelmi, O., Macharia, D., Shubert, W., Sliuzas, R., Tomaszewski, B., & Zhang, S. (2019). Climate Change Vulnerability Mapping: A Systematic Review and Future Prospects. *WIREs Climate Change* 10(5), e600. DOI: 10.1002/wcc.600
- **Bukvic, A.** (2019). Facilitating stakeholders' engagement in climate change relocation planning: the Coastal Relocation Leaf. *Social Sciences*, 8(6): 197. DOI: 10.3390/socsci8060197
- **Bukvic, A.**, Gohlke J., Suggs, J. (2018). The health and wellbeing risk to older residents residing in flood-prone coastal communities. *International Journal of Environmental Research and Public Health*, special edition on *Extreme Weather Events and Health* 15(12), 2900. DOI: 10.3390/ijerph15122900
- **Bukvic, A.** & Harrald, J. (2019). Rural versus urban perspective on coastal flooding: the insights from the U.S. Mid-Atlantic communities. *Climate Risk Management* 23, pp.7-18. DOI: 10.1016/j.crm.2018.10.004
- **Bukvic, A.**, Zhu, H. Lavoie, R., & Becker, A. (2018). The role of proximity to waterfront in the relocation decision-making post-Hurricane Sandy. *Ocean and Coastal Management* 154, pp. 8-18. DOI: 10.1016/j.ocecoaman.2018.01.002
- **Bukvic, A.** (2017). Towards the Sustainable Climate Change Population Movement: the Relocation Suitability Index. *Climate and Development* 10(4), 307-320. DOI: 10.1080/17565529.2017.1291407
- **Bukvic, A.**, & Owen, G. (2016). Attitudes towards relocation following Hurricane Sandy: should we stay or should we go? *Disasters* 41:1. DOI: 10.1111/disa.12186
- **Bukvic, A.** (2015). Identifying Gaps and Inconsistencies in the Use of Relocation Rhetoric: A Prerequisite for Sound Relocation Policy and Planning. *Mitigation and Adaptation Strategies for Global Change* 20(7), pp. 1203-1209. DOI: 10.1007/s11027-013-9532-5
- **Bukvic, A.**, Smith, A., & Zhang, A. (2015). Evaluating Drivers of Coastal Relocation in Hurricane Sandy Affected Communities. *International Journal of Disaster Risk Reduction* 13, pp. 215-228. DOI: 10.1016/j.ijdrr.2015.06.008
- **Bukvic, A.** (2015) Integrated Framework for the Relocation Potential Assessment of Coastal Communities (RPACC): Application to Hurricane-Sandy Affected Areas. *Environment, Systems, and Decisions* 35(2): pp. 264-278. DOI: 10.1007/s10669-015-9546-5

FUNDED SPONSORED RESEARCH

- **National Science Foundation, Humans, Disasters, and the Built Environment (HDBE);** Team: Bukvic, A. (PI), Irish, J., Shortridge, J. & Zobel C. (all Virginia Tech); Title: Assessing the impacts of coastal flood-induced relocation on local jurisdictions (\$325,000, 2019)
- **State of Virginia, 4VA Collaborative Research Grant,** Team: Bukvic, A. (PI), Hongxiao, Z. (Virginia Tech) & Covi, M. (Old Dominion University); Title: Shaping community resilience: measuring coping capacity to recurrent flooding in different coastal urban neighborhoods (\$21,170, 2019)
- **Virginia Tech, Center for Gerontology, Faculty Affiliate Research Development Grant: ElderSTRONG;** Virginia Tech; Title: Improving health and wellbeing outcomes of older residents living in high-risk coastal communities (\$5,000, 2016)
- **National Science Foundation, CRISP Type 1/Collaborative Research; Team:** Rhode-Barbarigos L. (PI), Zuo, W., Chao, S. (University of Miami) & Saad, W., Bukvic, A. (Virginia Tech); Human-

Centered Computational Framework for Urban and Community Design of Resilient Coastal Cities (\$500,000, 2016-2018)

- **Virginia Tech, Institute for Society, Culture, and Environment;** Virginia Tech; Bukvic, A. (PI); Perceptions of relocation among decision-makers in Virginia and Eastern Shore's coastal communities (\$2,770, 2015) & Relocation potential in Hurricane-Sandy affected areas (\$6,000, 2013)
- **National Science Foundation, Rapid Response grant:** Weiss, R. (PI), Irish, J., etc.; Community relocation and recovery post-Hurricane Sandy (\$3,500, 2013)

AWARDS, SCHOLARSHIPS, AND FELLOWSHIPS

- **National Center for Atmospheric Research Early Career Innovators Program Fellowship,** Theme: Coastal Regions and Human Settlements, National Center for Atmospheric Research; Project titled: Changing coastlines, changing mobility: when staying in place is no longer an option. Boulder, Colorado, May 2019 – 2021.
- **Curriculum Development Grant,** Global Education Office, Virginia Tech, March 2016
- **Richard E. Zody Award** for Outstanding Dissertation in Planning, Governance, and Globalization, Blacksburg, VA, April 2013

PEER-REVIEWED CONFERENCE ORAL PRESENTATIONS

- **Bukvic, A.** (2019). 'Mechanisms for buyouts and relocation: What works and what not in Hampton Roads.' At what point managed retreat? Resilience Building in the Coastal Zone. Climate Adaptation Initiative, Earth Institute, Columbia University, New York City, NY, June 19-21, 2019.
- **Bukvic, A.** & Borate, A. (2019). 'Acquisition and relocation in coastal communities: assessment of FEMA Hazard Mitigation Grant Program 1989-2016', American Association of Geographers Annual Meeting, Washington D.C., April 03-07, 2019
- **Bukvic, A.** & Suggs, J. 'Aging in Miami-Dade County: vulnerability of older adults living in flood prone areas', American Association of Geographers Annual Meeting, New Orleans, LA, April 10-14, 2018
- **Bukvic, A.,** Suggs, J., & Gohlke J. 'Aging in flood-prone coastal communities: assessing the health and safety risk for older residents', Social Coast Forum, Charleston, SC, February 5-8, 2018
- Garland, A., Brower, F., **Bukvic, A.,** Kelman, I., et al. 'PERCIAS Applied Theater (Perceptions of Risk, Communication, Interpretation, and Action in Social-Ecological Systems) in Barrow, Alaska'. 77th Annual Meeting of the Society for Applied Anthropology (Risk and Disaster TIG), Santa Fe, March 28-April 1, 2017
- **Bukvic, A.** 'Barriers to and opportunities for relocation along the Mid-Atlantic coast from stakeholders perspective'. ECSA 56 Coastal systems in transition: From a 'natural' to an 'anthropogenically-modified' state, Bremen, Germany, September 04-07, 2016
- **Bukvic, A.** 'The Relocation Challenges in Coastal Urban Centers: Options and Limitations'. 6th International Disaster and Risk Conference IDRC, Davos, Switzerland, August 28-September 01, 2016
- **Bukvic, A.,** Smith A., & Zhang, A. 'Who, when, and why of coastal relocation: post Hurricane Sandy'. Social Coast Forum, NOAA, Charleston, SC, February 09-11, 2016
- **Bukvic, A.** 'Assessing relocation potential in Hurricane Sandy affected coastal communities' Global Risk Forum, International Disaster Risk Conference, Davos, Switzerland, August 24-29, 2014

- **Bukvic, A.** ‘When we run out of options: communicating the worst case scenario’ Social Coast Forum, NOAA, Charleston, SC, February 18-20, 2014
- **Bukvic, A.** ‘Should we stay or should we go now: Post Hurricane Sandy’ Joint AESOP/ACSP Congress: Planning for Resilient Cities and Regions, Dublin, Ireland, July 15-19, 2013
- **Bukvic, A.** ‘Visualizing the worst case scenario: gaining acceptance for retreat’ National Adaptation Forum, Denver, CO, April 2-4, 2013
- **Bukvic, A.** ‘Scenario Planning for Climate Change Relocation: When, Where, and How?’ 2012 Adaptation Futures International Conference, Tucson, AZ, May 29-31, 2012
- **Bukvic, A.** ‘Towards the Sustainable Migration: the Relocation Suitability Index.’ Planet under Pressure, London, United Kingdom, March 26-29, 2012
- **Bukvic, A.** ‘Planning for Climate change Migrations’ 26th Annual GSA Research Symposium, Blacksburg, VA, March 24, 2010

INVITED PANELS AND PRESENTATIONS

- Panel on Reducing Damage from Natural Disasters through Geodata. GEOINT and open source analytics: Advancing Geoint capability through open source integration. Defense Strategies Institute, September 10-11, 2019, Washington, D.C.
- Bukvic, A. ‘Sea Level Rise and Coastal Vulnerability.’ NCAR GIS Program BRIGHT Workshop Series 2019: Envisioning risk of hurricane storm surge and sea level rise, National Center for Atmospheric research, Boulder, Co, July 16-18, 2019
- Environmental Security Forum: Operationalizing Data for Evidence-Based Decision Making; Panel on National Security and Environmental Security. Virginia Tech Executive Briefing Center, Washington D.C., April 16-17, 2019
- Relocation as an Adaptation to Climate Change: Grappling with Issues of Equity, Justice and Power (presentation and panel). American Association of Geographers Annual Meeting, Washington D.C., April 03-07, 2019
- The coastal systems: what is at risk and what is needed to achieve resilience? Daniel B. Suter Science Seminar series at the Eastern Mennonite University, Harrisonburg, VA, January 30, 2019
- 2nd Annual Advancing the Human Condition Symposium, Title: Internal Displacement and Planned Relocation: The Key Drivers and Trends in the United States. Virginia Tech, Blacksburg, November 27 & 28, 2018
- Coastlines and People (CoPe). Scoping workshops, the University Cooperation for Atmospheric Research (UCAR), funded by National Science Foundation, Atlanta, GA, September 26-28, 2018
- Shaping community resilience to coastal flooding: why coping capacity, context, and scale matter. The Resilience Collaborative Seminar Series, the Center for Coastal Physical Oceanography and Old Dominion University, Norfolk, VA, September 24, 2018
- Aging in coastal areas: Achieving resilience in the face of change. The Futures Board and Stakeholder’s Committee meeting, Center for Gerontology, Virginia Tech, November 08, 2017
- Assessment of climate change vulnerability mapping. Socio-environmental Synthesis Center (SESYNC), Annapolis, MD, February 17-19, 2016; May 8-10, 2017
- Policy and planning mechanisms for coastal relocation: barriers and opportunities. Beyond Toolkits: Adaptation strategies and Lessons. Hampton Roads Sea Level Rise/Flooding Adaptation Forum, Suffolk, VA, October 30, 2015
- The next step in mitigation and adaptation research: integration, communication, and participatory learning. Mitigation and Adaptation Research Conference. Mitigation and Adaptation Research Institute, Suffolk, VA, August 11-13, 2015

- Forging Research on Resilience. Ridenour Faculty Fellowship Conference. Virginia Tech Research Center, Arlington, VA, October 23&24, 2014
- Ecosystems or the Built Environment for Coastal Resilience: How do we decide and what matters? Normative Aspects of Resilience, Global Forum on Urban and Regional Resilience, Virginia Tech Research Center, Arlington, VA, October 12-14, 2014
- Building Functional Resilience: Integrating Ecosystems, Environment, and Natural Resources into Disaster Risk Reduction. Global Risk Forum, International Disaster Risk Conference, Davos, Switzerland, August 24-29, 2014
- Foresight Scenario Symposium on Environmental Security, Woodrow Wilson Center and GlobalInt, Washington D.C., May 20, 2014
- Ridenour Faculty Fellowship Conference (panel organizer & panelist), School of Public and International Affairs, Blacksburg, VA, April 25-26, 2013
- Climate Refugees Roundtable (panel organizer & moderator), the Lyric, Blacksburg, VA, April 22, 2012

MEDIA COVERAGE

- Virginia Tech News, Coastal@VT researchers lead Kids' Tech University session about sea level rise, May 02, 2019. Available at https://vtnews.vt.edu/articles/2019/04/041819-Fralin-KTU-CoastalVT-Bukvic-Karpanty.html?utm_source=cmpgn_news&utm_medium=email&utm_campaign=vtUnirelNewsDailyCMP_050219-f%2Fs
- Virginia Tech News, Coastal@VT hosted Rotating Resilience Roundtables to address issues of coastal resilience in Virginia, November 06, 2018. Available at <https://vtnews.vt.edu/articles/2018/11/11-2-18-CoastalVT-Rotating-Resilience-Roundtables.html>
- *Hampton Daily Press*, Students combat sea level rise, Dietrich, T., February 08, 2018. Available at <http://www.dailypress.com/news/science/dp-nws-student-flooding-hampton-20180201-story.html>
- *Virginia Tech News*, Virginia Tech students develop strategies to address flooding and sea-level rise in the city of Hampton, January 24, 2018. Available at <https://vtnews.vt.edu/articles/2018/01/cnre-tidewatercollaboratory.html>
- *Virginia Tech News*, Following UN report, Virginia Tech expert calls for 'forward-thinking visioning' to mitigate effects of climate change, November 7, 2016. Available at <https://vtnews.vt.edu/articles/2016/11/unirel-bukvic-unreport.html>
- *Virginia Tech News*, Virginia Tech awarded grant to help fortify coastal cities against natural disasters, Izlar K., November 2, 2016. Available at <https://vtnews.vt.edu/articles/2016/11/110116-eng-coastalinfrastucture.html>
- *The Nation*, To Adapt to Climate Change, Retreat is Necessary, Tempus, A., October 31, 2016. Available at www.thenation.com/article/to-adapt-to-climate-change-retreat-is-necessary/