

DIANA MITSOVA, Ph.D.

Associate Professor and Director, Visual Planning Technology Lab
School of Urban & Regional Planning
Affiliate Associate Professor in Geosciences
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Employment History

Associate Professor and Director, Visual Planning Technology Lab, School of Urban and Regional Planning, Florida Atlantic University (from 1/2016)

Affiliate Associate Professor in Geosciences, Florida Atlantic University (from 10/2018)

Associate Professor, School of Urban & Regional Planning, Florida Atlantic University (from 5/2014)

Assistant Professor, School of Urban & Regional Planning, Florida Atlantic University (8/2008-5 /2014)

Graduate Research Assistant, University of Cincinnati (9/2004-6/2008)

Program Director I / Research Analyst, State of Indiana, Indianapolis (7/2003-6/2004)

Graduate Research Assistant, Center for Urban Policy and the Environment, Indianapolis (8/2001-5/2003)

Education

Doctor of Philosophy (Regional Development Planning), School of Planning, University of Cincinnati, 2008.

Masters of Public Affairs, School of Public and Environmental Affairs (SPEA), Indiana University-Purdue University Indianapolis, 2003 (concentration: environmental planning and policy analysis)

Scholarship/ Research/ Creative Activity

BOOKS

Mitsova, Diana & Esnard, Ann-Margaret. 2019. [*Geospatial Applications for Climate Adaptation Planning*](#). New York, NY & Abingdon, UK: Routledge /Taylor & Francis.

Peer-Refereed Publications

ARTICLES (* indicates student co-author)

Mitsova, D. (2019). [*Supporting natural hazards management with geospatial technologies*](#). In *Oxford Research Encyclopedia of Natural Hazard Science*, Oxford University Press. doi: <http://dx.doi.org/10.1093/acrefore/9780199389407.013.283>

Mitsova, D., Escaleras, M., Esnard, A-M, Sapat, A., Lamadrid, A.J. (2019). The Effects of Infrastructure Service Disruptions and Socioeconomic Vulnerability on Hurricane Recovery. *Sustainability*, 11(2), 516-532; doi:3390/su11020516 (Special issue on *Natural Disasters and Economics*).

Mitsova, D., Esnard, A.-M., Sapat, A., & Lai, B.S. (2018). Socioeconomic vulnerability and electric power restoration timelines in Florida: The case of Hurricane Irma. *Natural Hazards*, 94(2), 689-709; <https://doi.org/10.1007/s11069-018-3413-x>. Also available through the NSF website: <https://par.nsf.gov/biblio/10066853>.

- Mitsova, D.** (2018). Integrative Interdisciplinary Frameworks for Critical Infrastructure Interdependency Analysis, *Risk Analysis*, DOI: 10.1111/risa.13129. [Epub ahead of print].
- Mitsova, D., Bergh, C., Guannel, G., Lusic, C., Renda, M., Byrne, J., Graves, A., *Cresswell, K., *Alhawiti, R., *Goldberg, A. & *Reed, S.** (2018). Spatial decision support for nature-based shoreline stabilization options in subtropical estuarine environments, *Journal of Environmental Planning and Management*, DOI: <https://doi.org/10.1080/09640568.2017.1398637>.
- *Alhawiti, R. & **Mitsova, D.** (2016). Using LANDSAT-8 data to explore the relationship between urban heat island and urban land uses. *International Journal of Research in Engineering and Technology*, 5(3), 457-466.
- Bloetscher, F., Polsky, C. Bolter, K., **Mitsova, D.**, Palbicke Garces, K., King, R., Cosio-Carballo, I., Hamilton, K. (2016). Assessing Potential Impacts of Sea Level Rise on Public Health and Vulnerable Populations in Southeast Florida and Providing a Framework to Improve Outcomes. *Sustainability*, 8(4), 315; doi:10.3390/su8040315.
- *Mulcan, A., **Mitsova, D.**, Hindle, T., Hanson, H., Coley, C. (2015). Marine Benthic Habitats and Seabed Suitability Mapping for Potential Ocean Current Energy Siting Offshore Southeast Florida, *Journal of Marine Science and Engineering*, 3, 276-298; doi:10.3390/jmse3020276.
- Mitsova, D.** (2014). Coupling Land Use Change Modeling with Climate Projections to Estimate Seasonal Variability in Runoff from an Urbanizing Catchment Near Cincinnati, Ohio, *ISPRS International Journal of Geo-Information*, 3, 1256-1277.
- *Mokadi, E., D. **Mitsova**, and X. Wang. (2013). Projecting the Impact of a Proposed Streetcar Alignment on Urban Core Land Redevelopment – the Case of Cincinnati, Ohio, *Cities: The International Journal of Urban Policy and Planning*, 35, 136-146.
- Mitsova, D.**, *F. Wissinger, A-M Esnard, R. Shankar, and P. Gies. (2013). A Collaborative Geospatial Shoreline Inventory Tool to Guide Coastal Development and Habitat Conservation. *ISPRS International Journal of Geo-Information*, 2, 385-404.
- Labiosa, W.B., W.M. Forney, A-M. Esnard, D. **Mitsova**, R. Bernknopf, P. Hearn, D. Hogan, L. Pearlstine, D. Strong, H. Gladwin, and E. Swain. (2013). The South Florida Ecosystem Portfolio Model: An Integrated Multi-criteria Scenario Evaluation Web Tool for Participatory Land-Use Planning in the Face of Sea Level Rise, *Journal of Environmental Modeling and Software*, 41: 210-222, (<http://dx.doi.org/10.1016/j.envsoft.2012.10.012>).
- Mitsova, D.** and A.M. Esnard. (2012). Holding Back the Sea: An Overview of Shore Zone Management and Research Needs. *Journal of Planning Literature*, 27(4): 446 - 459.
- Mitsova, D.**, A.M. Esnard, and Y. Li. (2012). Using Enhanced Dasymeric Mapping Techniques to Improve the Spatial Accuracy of Sea Level Rise Vulnerability Assessments, *Journal of Coastal Conservation: Planning and Management*, 16(3): 355-372.
- Mitsova, D.**, J. Vos, P. Gardinali, and *I. Stafeychuk. (2011). Variability in Road Runoff Pollution by Polycyclic Aromatic Hydrocarbons (PAHs) in the Urbanized Area Adjacent to Biscayne Bay, Florida, *Journal of Environmental Protection*, 2(10): 1317-1330.
- Esnard, A.M., A. Sapat, and D. **Mitsova**. (2011). An Index of Relative Displacement Vulnerability to Hurricanes. *Natural Hazards*, 59(2): 833-859.
- Mitsova, D.**, W. Shuster, and X. Wang. (2011). A Cellular Automata Model of Land Cover Change to Integrate Urban Growth with Open Space Conservation. *Landscape and Urban Planning*, 99(2): 141-

153. Also available through the EPA website (National Risk Management Research Laboratory): https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NRMRL&dirEntryId=233228.

Mitsova, D. and X. Wang. (2010). A GIS-based Technique for Linking Landscape Characteristics to Nitrogen Export Potential: Implications for Contributing Areas Management, *Journal of Environmental Planning and Management*, 53(7): 863-882.

Oner, A.C., D. **Mitsova**, D. Prosperi and J. Vos. (2010). Knowledge Globalization in Urban Studies and Planning: A Network Analysis of International Co-authorships, *Journal of Knowledge Globalization*, 3(1): 1-29, posted also at <http://www.lboro.ac.uk/gawc/rb/rb374.html>.

Mitsova-Boneva, D. and X. Wang. (2007). Exploring the Variability in Suspended Sediment Yield using BASINS-HSPF and Probabilistic Modeling: Implications for Land Use Planning. *Journal of Environmental Informatics* 9(1): 29-40.

BOOK CHAPTERS

Mitsova, D., C. Polsky, F. Bloetscher, J. Huntington. 2016. Climate Change and Extreme Events: How Health Disparities and Climate Governance Shape the Geography of Public Health Emergencies. In: *Routledge Handbook of Environmental Governance* (A. Sapat, ed.)

OTHER (applied research reports, book reviews, encyclopedia articles)

Mitsova, D. 2016. Suitability Analysis for Living Shorelines Development in Southeast Florida's Estuarine Systems, Technical Report submitted to The Nature Conservancy under grant contract #AWD-000813.

Palbicke Garces, K., F. Bloetscher, **D. Mitsova**, K. Chung-Bridges, K. Hamilton and K. Bolter. 2016. Health and Sea Level Rise: Impacts on South Florida, Final Report available at <http://flhealthinnovation.org/sea-level-rise-mapping/> (a project funded by Kresge Foundation, grant number 248118).

Koch-Rose, M.S. (*Lead*), **D. Mitsova** (*Lead co-author*), T. Root (*Lead co-author*), J. Restrepo, L. Berry, F. Bloetscher, R. Teegavarapu, J. Vos, N. Hammer. 2011. Florida Water Management and Adaptation in the Face of Climate Change. A White Paper prepared for SUS funded research "A SUS Climate Change Task Force: Science addressing the needs of Florida Agencies, Industry, and Citizenry," in partnership with UF and FSU. Available at <http://floridaclimate.org/whitepapers/>

Mitsova-Boneva, D. 2007. Book Review for the *Journal of Urban Affairs* 29(5): 544-546, for Erie, Steven P. *Beyond Chinatown: The Metropolitan Water District, Growth, and the Environment in Southern California* (Stanford University Press, 2006), available at <http://www.blackwell-synergy.com/toc/juaf/29/5>.

Mitsova-Boneva, D. 2005. Book review. Craswell, Gail. *Writing for Academic Success: A Postgraduate Guide* (London: SAGE Publications, 2005), in *Education Review* (August 2005), available at <http://edrev.asu.edu/brief/index.html>.

Works currently under review/ preparation

Mitsova, D., Sapat, A., Esnard, A-M, Lamadrid, A. Improving the Reliability of Critical Services: An Exploratory Framework of Infrastructure Interdependencies and Disruptions Due to Hurricane Damage. *Journal of Infrastructure Systems* (under review).

Weisner, M., Root, T., Harris, M.S., & **Mitsova, D.** Tap Water Perceptions and Socioeconomics in Palm Beach County, FL: Why are the Poor so Dissatisfied? *Water Policy* (under review).

Briggs, T., **D.Mitsova** and C. Aitken. Boat wake impacts on a restored shoreline in a boating high speed zone, *Journal of Coastal Conservation* (to be submitted).

Contracts or Grants Received:

EXTERNAL:

Funded:

- PI, National Science Foundation (NSF) (CMMI-#1541089), Collaborative Research: CRISP TYPE 2: Probabilistic Resilience Assessment of Interdependent Infrastructure (09/01/2015 – 08/31/2019), \$296,793. (Collaborative award with Lehigh University and Georgia State University, total award \$2.2M, PI: Paolo Bocchini)
- Co-PI, Florida Sea Grant, ADAPT: Adaptation Design and Planning Tool for Urban Areas in the Coastal Zone (PI Jeffery Huber, School of Architecture, FAU) (02/01/2016-01/31/2018), \$280,000.
- PI, The Nature Conservancy, "Suitability Analysis for Living Shorelines in Southeast Florida Estuarine Systems," (8/31/2015 – 01/31/2016), \$10,000.
- PI, The Nature Conservancy, "SE Florida Living Shorelines Spatial Database" (06/01/2014 – 12/31/2014), \$7,228.
- Co-PI, Kresge Foundation, "Impacts of Sea Level Rise on Public Health in Southeast Florida" (PI, Roderick King, Florida Institute for Health Innovations, and Dr. Colin Polsky, FAU), (12/2013 – 12/2015), \$250,000.
- Collaborator (Lead Co-Author), a research grant awarded by the State of Florida for "A SUS Climate Change Task Force: Science addressing the needs of Florida Agencies, Industry and Citizenry" (with Principal Investigators: Len Berry and Marguerite Koch-Rose (1/11-1/12); \$175,000.
- Co-PI, USGS, "Sea Level Rise Vulnerability Framework for USGS Ecosystem Portfolio Model" (with Principal Investigator: Ann-Margaret Esnard; 2012, \$23,274.
- PI, research grant awarded by the FAU Environmental Sciences Everglades Fellowship Initiative, funded by the National Park Service, "Seasonal Flushing of Oil and Grease from Urban Runoff to the Biscayne Bay Aquatic Preserve" (4/09-5/11), with Jaap Vos as Co-PI; \$46,854
- PI, NASA SAR Data Center, "Evaluation of Shoreline Changes Using LiDAR and InSAR Data" (7/13), covers the cost of preliminary data processing for ALOS PALSAR and RADARSAT-1 granules.
- Co-PI (as a University stakeholder), *Rooftop Solar Challenge Phase II* funded by DOE, federal flow-through with Broward County as the lead agency, 09/2013 – 07/2015; \$1.575 million (FAU \$20,000).

Collaborations on other funded grants:

- Collaborator, National Science Foundation grant, “Displacement Due to Catastrophic Hurricanes: Assessing Potential Magnitude and Policy Implications for Housing and Land Development” [2009-2010, with Principal Investigators: Ann-Margaret Esnard, and A. Sapat, \$301,643]
- Collaborator, Procter & Gamble research grant with Principal Investigator: Dr. Xinhao Wang, development of a geodatabase of drinking water quality data for 76 metropolitan statistical areas. Results are available at [http://www.uc.edu/gissa/projects/drinkingwater/\(06/2006-09/2006\);](http://www.uc.edu/gissa/projects/drinkingwater/(06/2006-09/2006);) \$40,000.

Submitted:

- **Co-PI: NSF CNH-L** (2019-2023) (with Briggs, T., PI and Co-PIs: Polsky, Milton [FAU], Wang [USF], Johnston [Clark University]). CNH2-L: Beach Evolution and Adaptability to Complex Human and Environmental Stressors (BEACHES): Linking beach dynamics and values with multi-objective coastal management strategies [Total: \$1.6M; FAU \$834,235]
- **Co-PI: NSF-IGE** (2019-22) (with K. Sobhan, PI, and Co-PIs: Romance, N., Bloetscher, F., and Khoshgoftaar, T.). Innovation in Graduate Education (IGE): Using Engineering Case Studies – Bridge to Workforce Preparedness for Graduate Students in Civil Engineering. [**\$498,678**].
- **Co-PI: NOAA-EESLR** (2019-2022) (with J. Huber, PI, and Co-PIs: Polsky, C., Fletcher, P., and Johnston, R. [Clark University]): Salty Urbanism: Reconciling Urban and Ecosystem Services for Sea Level Rise Adaptation and Urban Flooding Resilience [**\$748,376**].
- **Co-PI: NSF-MRI** (2019) (with Zhang, C., PI, and Co-PIs: Root, Briggs, Comas, Cherubin, Liu, Mitsova, and Gammak-Clark) MRI: Acquisition of An Unmanned Aerial System (UAS) for Multidisciplinary Studies in Coastal Ecosystems [**\$248,701**].

Refereed Presentations and Proceedings

International:

Esnard, Ann-Margaret, Alberto Lamadrid, Diana **Mitsova**, & Alka Sapat. 2017. Community Resiliency and Interdependent Systems Using a Survey of Experts. *64th Annual North American Meetings of the Regional Science Association International*, November 8-11, 2017, Vancouver, British Columbia, Canada.

Masser, Alexander, Alan E. Alvarez, David C. Prospero, Diana **Mitsova**. 2012. Comparing Metropolitan Governance in Germany and the US: A Social Network Analysis. CD Proceedings, *17th REAL CORP Conference, “Re-Mixing the City”*, May 14 – 16, 2012, Schwechat, Austria, 141-150, Available at http://www.corp.at/archive/CORP2012_82.pdf.

Mitsova, D., Vos, J. and Stafeychuk, I. 2011. Seasonal variability in PAHs concentrations in urban runoff discharged to the Biscayne National Park and Aquatic Preserve, *Proceedings of the 3rd Biennial Subtropical Cities Conference*, March 8-11, 2011, Fort Lauderdale, FL. [**Resulted in a journal article in the *Journal of Environmental Protection***]

Mokadi, E., D. **Mitsova** and X. Wang. 2011. Modeling urban land use changes in respect to future establishment of an urban rail transit system: The case of Cincinnati (OH) and its proposed streetcar system. Presented at the *12th International Conference on Computers in Urban Planning and Urban Management*, July 5-8, 2011, Lake Louise, Alberta, Canada. [**Resulted in a journal article in *Cities* (Elsevier)**].

Oner, C. and D. **Mitsova**. 2009. *Academic Globalization: Implications for Planning and Governance of World Cities*. Conference on Knowledge Globalization, Boston, April 18, 2009. [Resulted in a journal article in the *Journal of Knowledge Globalization*].

Mitsova, D. and Wang, X. 2008. *Integrating a Cellular Model of Land Cover Change with a Non-point Source Nutrient Loading Model*. ACSP-AESOP 4th Joint Congress, July 6-11, 2008, Chicago, Illinois.

National:

Mitsova, D., Sapat, A., Esnard, A-M, Bocchini, P., Lamadrid, A., Davison, B., Snyder, L., Sun, W., Sause, R., McDaniel, R., & Cuadra, J. 2018. **I-Cube (i3): The Interdependent Infrastructure Incident**. A tabletop exercise held as a session (May 17, 8:30 am to 11:45 am) at the *32nd Governor's Hurricane Conference*, May 13-17, 2018, Palm Beach County Convention Center, West Palm Beach, Florida.

Bocchini, P., B. Davison, A-M Esnard, A. Lamadrid, **D. Mitsova**, A. Sapat, R. Sause, L. Snyder, W. Sun. 2018. Probabilistic Resilience Assessment of Interdependent Systems: the PRAISys Platform. Presentation and **poster** at the *Resilience of Interdependent Infrastructure Systems: A CRISP/RIPS Grantees Workshop*, December 5-6, 2018, Arlington, VA.

Sapat, A., A-M Esnard and **D. Mitsova**. Policy mandates and organizational compliance: Internal, External, and Spatial Determinants of the Adoption and Implementation of Emergency Power Plans by Nursing Homes and Assisted Living Facilities. *77th Annual Meeting of the Midwest Political Science Association*, Chicago, April 4-7, 2019 (abstract accepted).

Mitsova, D. 2018. Integrative Interdisciplinary Approaches to Critical Infrastructure Interdependency Analysis, presentation at the NSF Interdisciplinary Approaches Workshop, February 8-9, 2018, Boulder, CO.

Mitsova, D., Sapat, A., Esnard, A-M, Lamadrid, A.J. 2018 Socioeconomic vulnerability and electric power restoration timelines in Florida: The case of Hurricane Irma. 43rd Annual Natural Hazards Workshop, July 9–12, 2018, Broomfield, Colorado.

Sapat, A., **D. Mitsova**, and A-M Esnard. 2018. Policy Innovation and Diffusion in Post-Disaster Housing, Presented at the 75th Annual meeting of the Midwest Political Science Association, Chicago, April 5-9, 2018.

Mitsova, D. 2018. Integrative Interdisciplinary Approaches to Critical Infrastructure Interdependency Analysis, presentation at the NSF Interdisciplinary Approaches Workshop, February 8-9, 2018, Boulder, CO.

Mitsova, D. 2018. Interdisciplinary Approaches in Interdependent Infrastructures Research. NSF Interdisciplinary Approaches Workshop, March 30-31, 2017, Arlington, VA.

Mitsova, D., Bergh, C., Guannel, G., Lustic, C. 2017. Shoreline Exposure and Site Suitability Modeling for Living Shorelines in South Florida's Estuarine Environments, 2017 National Coastal Conference of the American Shore and Beach Preservation Association, October 24-27, 2017, Ft. Lauderdale, Florida.

Mitsova, D., Lamadrid, A.J., Esnard, A-M, Sapat, A., & Yanmei Li. Framework for Criticality Assessment of Infrastructure Interdependencies to Support Planning for Community Readiness and Resilience, 57th Annual Conference of the Association of the Collegiate Schools of Planning, Oct. 12-15, 2017, Denver, Colorado.

Mitsova, D., Sapat, A., Esnard, A-M, Lamadrid, A.J. 2017. Using Expert Judgment to Understand the Impacts of Critical Infrastructure Interdependencies on the Delivery of Vital Community Services, 42nd Annual Natural Hazards Workshop, July 9–12, 2017, Broomfield, Colorado.

Mitsova, D., Sapat, A., Esnard, A-M. 2016. Modeling and Path Diagrams for Understanding Critical Infrastructure Interdependencies and Cascading Effects from Disasters, paper presented at the

- 56th Annual Conference of the Association of the Collegiate Schools of Planning, Nov. 3-6, Portland, Oregon.
- National Workshop on Resilience Research (NWRR) for Critical Infrastructure: Current Status and Challenges, National Science Foundation, October 22-23, 2015, Washington, DC. Poster presentation for the NSF CRISP Grant (P. Bocchini, **D. Mitsova**, B. Davison, L. Snyder, R. Sause, A. Lamadrid, A. Sapat, and A-M Esnard).
- Mitsova, D.**, R. Shankar, F. McAfee. 2015. Mobile GIS Applications for Coastal Planning. Association for Environmental Studies and Sciences (AESS), 2015 Annual Conference - "Confronting Frontiers, Borders and Boundaries," June 24-27, San Diego, California.
- Donate, K., Shankar, R., D. Mitsova, F. McAfee. 2015. The Semantic Web: Searching the Worldwide Web, Finding the Right Information the First Time. *ASEE 122nd Annual Conference & Exposition*, June 14-17, 2015, Seattle, WA. (peer-reviewed)
- Shankar, R., **D. Mitsova**, F.X. McAfee, and M. Harris. 2014. Mentor and Mentee Pipeline in Smart Phone App Development, *2014 Annual Mentoring Conference* (peer-reviewed), University of New Mexico, October 21-24, Albuquerque, New Mexico. (peer-reviewed)
- Mitsova, D.** 2012. Integrating Urban Growth Model with Climate Projections to Estimate Seasonal Variability in Runoff from an Urbanizing Catchment, Paper presented at the 53rd ACSP Annual Conference, November 1-4, Cincinnati, Ohio. [Resulted in a journal article under review]
- Mitsova, D.**, A.M. Esnard, and Y. Li. Using Areal Interpolation Techniques to Improve the Spatial Accuracy of Sea Level Rise Vulnerability Assessments, presented at the 52nd Annual Conference of the Association of the Collegiate Schools of Planning, October 13-15, 2011, Salt Lake City, UT. [Resulted in a journal article in the *Journal of Coastal Conservation: Planning and Management*]
- Mitsova, D.**, W. Shuster and X. Wang. *Integrating a Cellular Automata Model of Land Cover Change with an Open Space Conservation Network*. 51st ACSP Annual Conference, Getting to Scale: Planning in Multi-Scale, Functionally Integrated Environments, October 7-10, 2010, Minneapolis, Minnesota. [Resulted in a journal article in *Landscape and Urban Planning*].
- Esnard, A-M, A. Sapat and **D. Mitsova**. *Estimating Long-Term Displacement from Catastrophic Hurricanes*. 35th Annual Natural Hazards Research and Applications Workshop, Broomfield, Colorado, July 10-13, 2010. [Resulted in a journal article in *Natural Hazards*]
- Mitsova, D.**, and J., Vos. *Potential Damage Cost of Relative Mean Sea Level Rise*. Presented at the 50th Annual Conference of the Association of Collegiate Schools of Planning, Washington, DC, October 1-4, 2009.
- Mitsova-Boneva, D.**, and Wang, X. 2008. A Cell-based Model for Identifying Contributing Areas of Nitrogen Loss to Surface Waters. 2008 Annual International Meeting, American Society of Agricultural and Biological Engineers, June 29 - July 2, Providence, Rhode Island. *ASABE On-Line Technical Library: 2008 Annual International Meeting*, American Society of Agricultural and Biological Engineers, available at <http://asae.frymulti.com/abstract.asp?aid=24809&t=2>.
- Mitsova-Boneva, D.**, and Wang, X. 2007. Predicting the Contribution of Atmospheric Deposition to the Seasonal Nitrogen Loads in the East Fork Little Miami River Watershed, Ohio. Presented at the 4th Conference on Watershed Management and TMDL, March 10-13, 2007, San Antonio, Texas. In: *Proceedings of 4th Conference on Watershed Management to Meet Water Quality Standards and TMDL*, ASABE Publication 701P0207, pp. 216-230. St. Joseph, MI: American Society of Agricultural and Biological Engineers (ASABE), ISBN 1-892769-56-5, Library of Congress Card Number (LCCN) 2007921906.

Regional /Local:

- Mitsova, D.** 2015. Living Shorelines. **Seventh Annual Southeast Florida Regional Climate Leadership Summit: *Charting the Course***, December 1-3, 2015, Casa Marina Resort, Key West, Florida.
- Mitsova, D.** and S. Reed. **2015 APA Florida Annual Conference**, Session Title: *Building Coastal Green Infrastructure through Living Shorelines*, Session Track: *SPEED Session 2 - Memorable Places*, September 9-12, 2015, Hollywood, Florida.
- Mitsova, D.**, F. Wissinger, A-M Esnard, R. Shankar, and P. Gies. A Collaborative Geospatial Shoreline Inventory Tool to Guide Coastal Development and Habitat Conservation. Presented at the 77th Annual Meeting of the FLORIDA ACADEMY OF SCIENCES - "*Climate Change and Florida's Coastal Communities*," BARRY UNIVERSITY, Miami Shores, FL, March 8-9, 2013. [Resulted in a journal article in *ISPRS International Journal of Geo-Information*].

Non-refereed Publications, Presentations, and Proceedings

- Mitsova, D. Shoreline protection through gray and green infrastructure, presentation at the Delray Beach King Tide event, October 11, 2017.
- Mitsova, D. Spatial analysis with ArcGIS: Focus on location-allocation analysis, trip routing, and navigation GPS data. Webcast at the [Infrastructure Resilience Seminar for Professional Engineers](#), Lehigh University, September 22, 2017, Bethlehem, PA.
- Mitsova, D. Spatial optimization and location-allocation models in ArcGIS. Webcast at the [Infrastructure Resilience Seminar for Professional Engineers](#), Lehigh University, October 28, 2016, Bethlehem, PA.
- Mitsova, D. Spatial Modeling of Critical Infrastructure interdependencies. FAU Dept. of Geosciences Colloquium Series, November 18, 2016, Boca Raton, FL.
- Bocchini, P., **D. Mitsova**, A. Sapat, A-M Esnard, D. Davison, L. Snyder, A. Lamadrid, R. Sause. 2015. Probabilistic Resilience Assessment of Interdependent Systems – PRAISYS, Poster presentation at the National Workshop on Resilience Research (NWRR) for Critical Infrastructure: Current Status and Challenges, National Science Foundation, October 22-23, 2015, Arlington, VA.
- Mitsova, D.** 2014. SEFL Living Shorelines Spatial Database Technical Report, a project funded by a Grant Agreement #FLFO-FAU-060114 between The Nature Conservancy and the Florida Atlantic University Board of Trustees.
- Mitsova, D.** SEFL Living Shorelines Spatial Database, a workshop organized by The Nature Conservancy and the SEFL Regional Compact Shoreline Resilience Working Group, February 23-24, 2015, Miami Beach, FL.
- Mitsova, D.** Shoreline resilience through green infrastructure and living shorelines, a workshop organized by The Nature Conservancy and the SEFL Regional Compact Shoreline Resilience Working Group, June 18-19, 2014, West Palm Beach, FL.
- Mitsova, D.** 'Student participation in developing an Android App for the Green Neighborhood Certification Program,' invited speaker at Leadership Boca, April 16, 2014.
- Shankar, R., F. McAfee, **D. Mitsova**, M. Harris. Android Apps at FAU: 600 students, 60 apps, 4 years, Mobile Technology Consortium (MTC) Symposium, April 4, 2014, <http://mtc.fau.edu/>
- Mitsova, D. "A Collaborative Geospatial Shoreline Inventory Tool to Guide Coastal Development and Habitat Conservation," presented at the UK/Florida: Sea Level Rise Exchange, Boca Raton, March 26, 2013.
- Mitsova, D. "Using GIS to Forecast and Plan for Future Urban Development", Geosciences Colloquium Series, Fall 2012 Schedule, September 21, 2012.

- Mitsova, D., A.M. Esnard, R. Shankar, F. Wissinger, and M. Vicedo. Holding back the Sea: Approaches toward shoreline management and planning to reduce the impacts of coastal hazards. Poster presentation at the SLR Summit *Risk and Response: The Future of Florida and the Coast*, June 20-22, 2012, Boca Raton, Florida.
- Neighborhood Certification Program developed by students enrolled in URP6429 Environmental Policy and Programs in collaboration with the Green Living Advisory Board of the City of Boca Raton (Fall 2012). Presented to the City Council of Boca Raton on Aug. 26, 2013 (streaming video at <http://www.ci.boca-raton.fl.us/city/agendas.aspx>; http://bocaraton.granicus.com/MediaPlayer.php?view_id=2&clip_id=846).
- Mitsova, D., J. Vos and I. Stafeychuk. 2011. *Seasonal Flushing of Oil and Grease from Urban Runoff to Biscayne National Park and Aquatic Preserve*, Final Report to the National Park Service under Task Agreement: J5284-09-0004, Cooperative Agreement: H5000-06-0103 FAU.
- Mitsova, D., Esnard A.M and Li, Y. 2011. *Using Surface Population Models to Improve the Spatial Accuracy of Sea Level Rise Vulnerability Assessments*, a poster presented at CIMR – Climate Information for Managing Risk Symposium, *Local to Regional Adaptation and Mitigation Strategies*, May 24-27, 2011, Orlando, Florida.
- Mitsova, D. *Coastal Zone Planning for Sea Level Rise*, presented at the working luncheon and research symposium “Climate Change: The Threat and Opportunity for Global Security” with Rear Admiral Neil Morisetti, UK Climate and Energy Security Envoy, September 30, 2011, Boca Raton, FL.
- Mitsova, D. 2010. Fossil Fuels: Where Do We Stand? What Can We Do?, Two lectures for freshmen at the Engineering Academy of Olympic Heights Community High School, December 8, 2010, Boca Raton, FL.
- Mitsova, D. 2010. Lake Davie and the Rising Water: Potential Impacts of Sea-Level Rise on Developed Florida, presented at *The Truth About Florida*, an Educational Conference for Journalists and Planners presented on World Town Planning Day, co-sponsored by the FAU School of Urban and Regional Planning and Scripps Howard Institute for the Environment, November 8, Fort Lauderdale, FL.
- Mitsova, D. and Y. Li. 2010. Assessment of Analytical and Critical Thinking Skills in Two Advanced Methods Courses. *Faculty Assessment Grant Presentations* organized by the FAU Center for Teaching and Learning under the Scholarship of Teaching Faculty Enhancement Programs, November 18, 2010, Boca Raton, FL.
- Moderator, USGS-sponsored workshop titled "Developing a Sea Level Rise Vulnerability Framework for South Florida: Indicators, Metrics and Models.", FAU School of Urban and Regional Planning, Fort Lauderdale, FL, June 2, 2010.
- Lecturer, *The Use of Orthometric and Tidal Datums in Developing Sea-level Rise Scenarios*, a lecture presented at a workshop with visiting students and instructors from the University of Karlsruhe - Germany, Fort Lauderdale, FL, April 29, 2010.
- Mitsova, D. 2010. *Human Dimensions of Sea-Level Rise: A Dasymeric Demographic Analysis of South Florida*, abstract submitted to the *Sea-Level Rise Workshop*, February 16-17, 2010, Boca Raton, FL.
- Invited Panelist and Presenter, *Urban Assets at Risk Due to Incremental Sea Level Rise, Climate Change Symposium* hosted by Florida Atlantic University, April 3rd 2009.

INTERNAL

Funded

- PI, FAU Climate Change Seed Grant Initiative, “A shore zone inventory / characterization tool as an extension to ArcGIS” (with Ann-Margaret Esnard, SURP, and Ravi Shankar, Computer Science), \$10,000, 01/2012 -12/2012.

- Grant Recipient, FAU Faculty Assessment Grant, *Assessment of Graduate Level Specialization Courses in Environmental and Economic Analysis Methods*, (1/10-5/10), with Yanmei Li, \$5,000.
- Grant Recipient, FAU Faculty Research Mentoring Program, (2010-2011), with Ann-Margaret Esnard, \$2,000.

Extramural Tools and Exhibitions

- **Coastal Resilience Tool in Collaboration with The Nature Conservancy – the results are disseminated through the coastalresilience.org mapping portal**
Decision support for **“Regional Planning:”**:
 - 2 projects including “Estuarine Shoreline Suitability for Resilience”
 - Florida Keys shoreline analysis and stabilization options (under development)
 Decision support for **“Community Planning:”**
 - City of Miami – shoreline suitability analysis for living shorelines
- **Botanizing North Beach Village:** Reimagining North Beach Village with Future Sea Level Rise, April 5th - April 12th, 2017 at the Village Gallery, 600 Breakers Avenue, North Beach Village, Fort Lauderdale (with Huber, J., Principal Investigator, and the FAU School of Architecture).

Courses taught at FAU (August 2008-present)

Graduate

- URP6270 *Introduction to GIS for Planners*, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017 (28 students)
- URP 6425 *Environmental Analysis in Planning - Spring* 2009, 2010, 2011, 2012 , 2014, 2015, 2016, 2017 (10-16 students each)
- URP6272 *Managing GIS Projects - Fall* 2015, Fall 2016, Fall 2017 (10 students)
- URP6277 *GIS Applications in Planning - Summer* 2017 (9 students)
- URP6406 *Sustainable Cities - Spring & Summer* 2017 (30 students total)
QUALITY MATTERS certified Spring 2017 (97/99)
- URP 6115 *Urban Governance - Fall* 2009, 2010, 2011, 2012 , 2013, 2014, 2015 (10 -17 students)
- URP 6429 *Environmental Policy and Programs - Fall* 2009, 2010, 2012 , 2013, 2014 (6 - 10 students each)
- URP6310 *Seminar in Urban Planning*, Spring 2015 (12 students)
- URP 6930 *Seminar in Cities & Climate Change Adaptation (graduate /undergraduate)*, Spring 2011 (18 students)
- GEO 7978 018, *Advanced Research (PhD level, Department of Geosciences, Fall 2011 & Spring 2012, Fall 2016 & Spring 2017)* (2 students)

Undergraduate

- URP 4403 *Sustainable Cities (undergraduate)*, Spring & Summer 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 (48 – 75 students); Offered as E-learning in Spring 2014
QUALITY MATTERS certified Spring 2017 (99/99)
- URP4120 *Planning Implementation Strategies*, Spring 2015, 55 students
- URP 4979 *Planning Project (undergraduate)*, Spring 2009, Spring 2013, 2014, 2015 (15-20 students each)
- URP 4978 *HONORS Planning Project*, Spring 2017, Fall 2017 (4 students)

Supervision of Graduate Students

Student/ University	Thesis/ Dissertation Topical Area	Type	Degree	Role	Date / expected date of graduation
Andrew Kamerosky	Multispectral analysis of algae blooms	Dissertation	Ph.D. Geosciences	Chair	Pending
Kevin Cresswell, FAU	The impact of natural disasters on urban infrastructure	Dissertation	Ph.D. Geosciences	Chair	Pending
Corey Aitken	Coastal resilience – effects of storm surge and SLR	Master's Thesis	Urban and Regional Planning	Chair	Pending
Catherine Velarde-Perez	Housing	Master's Thesis	Urban and Regional Planning	Committee	Pending
Jing Liu	Wetland dynamics in coastal Louisiana	Dissertation	Ph.D. Geosciences	Committee	Pending
Sheryl van der Heiden	Urban agriculture	Dissertation	Ph.D. Geosciences	Committee	Pending
Pramod Pandy	Modeling land cover change in Nepal	Dissertation	Ph.D. Geosciences	Committee	Pending
Sara Denka	Measuring shoreline changes using drone technology	Dissertation	Ph.D. Geosciences	Committee	Pending
Meagan Weisner, FAU	Drinking water quality	Dissertation	Ph.D., Geosciences	Committee	Pending, 2019
P. Bimal, Indian Institute of Technology, India	Modeling of population distribution	Dissertation	Ph.D. Urban Planning	External Evaluator	Fall 2017
Vince Edwards, FAU	Ecological Approaches to Coastal Resilience	Master's Thesis	M.S., Environmental Science	Committee	Fall 2017
Mark Rochelo, FAU	Remote Sensing, Green Infrastructure	Dissertation	PhD, Geosciences	Committee	2017
Rebecca Daugherty, FAU	Wildlife road kills, hot spot analysis	Master's Thesis	Masters of Environmental Science	Committee	2015
Frank Wissinger, FAU	Surface and groundwater modeling	Dissertation	Ph.D., Computer Science	Committee	2014
Christine Mitchell, FAU	Human geography	Dissertation	Ph.D., Geosciences	Committee	2014
Keren Bolter, FAU	SLR vulnerability	Dissertation	Ph.D., Geosciences	Committee	2014
Amanda Mulcan, FAU	Renewable energy	Master's Thesis	Masters of Environmental Science	Committee	2014

Gillian Breary, FAU	Remote Sensing, Green Infrastructure	Dissertation	Ph.D., Geosciences	Committee	2013
Shivangi Prasad, FAU	Vulnerability to hurricanes, index	Dissertation	Ph.D., Geosciences	Committee	2013
John Zahina-Ramos, FAU	Urban Agriculture	Dissertation	Ph.D., Geosciences	Committee	2013
Elad Mokadi, Univ of Cincinnati	Urban growth modeling	Master's Thesis	Masters of Community Planning	Committee	2012

Supervision of Undergraduate Students

Student/ University	Thesis/ Dissertation Topical Area	Type	Degree	Role	Date / expected date of graduation
Connor Bailey, FAU	Suitability Analysis for nature-based shoreline stabilization in the Florida Keys	Honors Thesis	BUD	Chair	Spring 2017
Estefania Mayorga, FAU	Impact of TOD transit stations in South Florida	Honors Thesis	BUD	Committee	Spring 2017
Amanda Murray	Food deserts	Honors Thesis	BUD	Chair	Spring 2017
Yemeserach Taddele, FAU	TOD in Addis Abeba, Ethiopia	Honors Thesis	BUD	Chair	Fall 2017

Service and Professional Development

Service to the Institution

University

- Member, University Research Committee, 2015
- Member, FAU Environmental Sciences Program Committee, starting Fall 2012
 - Participated in preparing the self-study report and the site visit (Spring 2015)
 - Member, Curriculum Subcommittee for the Graduate Certificate in Environmental Restoration (with Scott Markwith and John Baldwin).
- Member, FAU AWIS (Association of Women in Science), since Fall 2014
- Research team member, FAU Climate Change Research Priority Area, 2009-2014
- Member, FAU Environmental Sciences Everglades Fellowship Committee, 2009 - 2011
- FAU Faculty Learning Communities, participant, Spring 2010, Fall 2012 - Spring 2013

School/ College

- SURP Graduate Admissions Committee
- Graduate GIS Certificate Coordinator for SURP (starting 2014)
- CDSI representative, University Honors Council, starting Fall 2014 - Developed an Honors Program for BURP and BUD, approved by the Faculty Senate in September 2015 and included in the FAU Catalog in January 2016.
- CDSI Liaison, Office of Undergraduate Research (OURI), 2016-2018, 2018-2020.
- CDSI Research Infrastructure Committee, (Fall 2015)
- School representative on the College P&T Committee, (2014-2015)

- Chair, Faculty Search Committee for three positions (2015)
- Member, CDSI - College Research Committee, (2012-2016)
- Member, Committee to Review Design and Social Inquiry Promotion and Tenure Document, FAU College for Design and Social Inquiry, 2011

Service to the Discipline/ Profession

- Site visit team, **NSF 3-Gen Engineering Research Centers (ERC)** Program, Atlanta, GA, November 7-8, 2016.
- A peer reviewer/ panelist for the **NSF/USDA Food-Energy-Water (FEWs) Program** grant applications, May 25-26, 2016, Washington, DC.
- A peer reviewer/ panelist for the **USEPA STAR 2015 FELLOWSHIP APPLICATIONS: EPA-2015-STAR --F1 Sustainable and Healthy Communities- Multidisciplinary Approaches To Optimize Decision Outcomes**, September 10-11, 2015.
- External reviewer for a USEPA technical report, May 2015
- A peer reviewer/ panelist for the **USEPA STAR 2012 FELLOWSHIP APPLICATIONS – B2 Air, Climate & Energy, Global Change**, panel meeting March 14-15, 2013, Washington, DC
- A peer reviewer/ panelist for the **USEPA STAR 2012 FELLOWSHIP APPLICATIONS – A3-2 Social Sciences**, March 8-9, 2012, Washington, DC.
- Reviewer of 12 abstracts for the **4th BIENNIAL SUBTROPICAL CITIES CONFERENCE**, October 17-19, 2013, Fort Lauderdale, FL.
- Reviewer of six chapters of an undergraduate textbook *Global Climate Change: A First Course*, Jones and Bartlett Publishers (2010)
- Reviewer for the *Journal of Environmental Management* (2006, 2009), *Journal of Water Resources Planning and Management Engineering* (2007), *Urban Water Journal* (2008), *Water Resources Management* (2008), *Soil and Water Conservation* (2008), *Journal of Urban Planning and Development* (2008, 2010, 2013), *Science of the Total Environment* (2008), *Land Degradation and Development* (2011), *Environmental Management* (2011), *Land Degradation and Development* (2011), *Environmental Management (Springer)* (2011), *Journal of Environmental Management (Elsevier)* (2011), *Urban Water Journal* (2011), *Water Resources Engineering* (2011), *Water Resources Management* (2011), *Journal of Environmental Planning and Management* (2012), *Landscape and Urban Planning* (2012, twice), *International Journal of Geo-Information* (2012), *Journal of the Planning Literature* (2012), *Cities* (2012), *Environmental Modelling and Software* (2013), *Climatic Change* (2013).
- Reviewer of 10 abstracts for the **12th International Conference on Computers in Urban Planning and Urban Management** held in Canada on July 5-8, 2011, Lake Louise, Alberta, Canada

Service to the Community/Public

- Member, Shoreline Resilience Working Group of the SEFL Regional Climate Compact, 2013-2016
 - Interagency Flood Risk Management Project: **Coastal Flood Risk Reduction Decision Support System in Miami-Dade County, South Florida** (USACE, SFWMD, Miami-Dade County, USGS, USDI, Southeast Florida Regional Climate Change Compact Partners, Florida Silver Jackets, TNC, FAU, FIU), 2016-2017
 - Serving as faculty liaison for *Go Solar Rooftop Challenge Phase II* and working with Broward County and selected municipalities on zoning and planning regulations in support of this initiative funded by DOE, 2013-2015
 - Serving on Broward County Scientific and Technical Committee, 2015
 - Working with the Green Living Advisory Board of the City of Boca Raton to develop a Green Neighborhood Certification Program, which was approved by the City Council in August 2013.
- URL:

http://bocaraton.granicus.com/DocumentViewer.php?file=bocaraton_4638db570a8ffbf9af90abb9c965d463.pdf

- Working with Miami-Dade County Office of Sustainability to provide input to 40 initiatives included in the **GreenPrint** Sustainability Plan. A Letter of Appreciation has been sent to FAU in recognition of this effort.
- Working with the Village of Wellington to develop a Sustainable Element for the Comprehensive Plan (Spring 2009). Updating the Comprehensive Plan of the Village of Wellington to meet the requirements of HB697 (Summer 2009) – **approved** by DCA.
- Engineering Academy Advisory Board, Olympic Heights Community High School, Boca Raton, FL. The Engineering Academy is part of the Project *Lead the Way* (www.pltw.org) which is a nationwide initiative intended to promote technology education at high schools.