

JOANNE N. HALLS

Professor of Geography
Director: Spatial Analysis Lab
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EDUCATION

Ph.D. Geography: University of South Carolina (USC), Columbia (May 1996)
Major field of study: Geographic Information Processing
Dissertation: Spatio-Temporal Models for Forecasting Residential Growth
MS Geography: USC, Columbia (May 1990)
Major field of study: Remote Sensing
Thesis: Measurement of Snow Cover Using Satellite Remote Sensing
BA Geography: University of Denver, Denver, Colorado (May 1985)
Major fields of study: Geomorphology and Geographic Information Systems
Diplome Education du College - Social Sciences: Champlain Regional College,
Lennoxville, Quebec (May 1982)
Major fields of study: computer science and graphic design

EXPERIENCE

2019 – present Professor of Geography
2016 – present Coordinator: MS Geoscience
2010 – present Coordinator: graduate Certificate in Geographic Information Science
2005 – 2019 Associate Professor of Geography, Director: Spatial Analysis Lab
2006 – 2008 Director: Latin American Studies Program, UNC Wilmington
1999 – 2005 Assistant Professor of Geography, Director: Spatial Analysis Lab, Department of
Earth Sciences, University of North Carolina at Wilmington
1994-1999 Director: Geographic Information Systems Department, Research Planning, Inc. 1121
Park Street, Columbia, South Carolina 29201
1990-1994 GIS Project Manager: Humanities and Social Sciences Computing Lab, University of
South Carolina, Columbia, South Carolina
1988-1990 Research Assistant: Humanities and Social Sciences Computing Lab, University of
South Carolina, Columbia, South Carolina
1986-1988 GIS Specialist: Advanced Sciences, Inc., Denver, Colorado
1985-1986 Remote Sensing and GIS Technician: Advanced Sciences, Inc., Denver, Colorado
1984 Geological Assistant: Century Oil & Gas Corporation, Englewood, Colorado

PUBLICATIONS

Peer-Reviewed Publications (* Student):

1. Magolan, Jessica* and Joanne Halls, 2020. A multi-decadal investigation of tidal creek wetland changes, water level rise and ghost forests, *Remote Sensing* 12(7), 1141.
<https://doi.org/10.3390/rs12071141> <https://www.mdpi.com/2072-4292/12/7/1141/htm>
2. Sabina B. Gesell, Cheryl D. Bushnell, Sara B. Jones, Samantha M. Levy, James G. Xenakis, Barbara J. Lutz, Janet Prvu Bettger, Janet Freburger PhD, Sylvia W. Coleman, Jacqueline R. Halladay, Anna Johnson, Anna M. Kucharska-Newton, Laurie H. Mettam, Amy M. Pastva, Matthew A. Psioda, Meghan D. Radman, Wayne D. Rosamond, Mysha E. Sissine, Joanne Halls, Pamela W. Duncan

2019. Implementation of a Billable Transitional Care Model for Stroke Patients: The COMPASS Study, BMC Health Services Research, 19, 978, doi:10.1186/s12913-019-4771-0
3. Halls, Joanne and Jessica Magolan*, 2019. A Methodology to Assess Land Use Development, Flooding, and Wetland Change as Indicators of Coastal Vulnerability. *Remote Sensing*, 11(19), 2260, 23 pp. <https://www.mdpi.com/543076> <https://doi.org/10.3390/rs11192260>
 4. Pricope, Narcisa, Joanne N. Halls, Lauren Rosul*, Christopher Hidalgo*, 2019. Residential flood vulnerability along the developed North Carolina, USA, coast: high resolution social and physical data for decision support. *Data in Brief*. <https://doi.org/10.1016/j.dib.2019.103975>
 5. Pricope, Narcisa, Joanne N. Halls, Lauren Rosul*, 2019. Modeling residential coastal flood vulnerability using finished-floor elevations and socio-economic characteristics. *Journal of Environmental Management*, 237: 387-398. <https://doi.org/10.1016/j.jenvman.2019.02.078>
 6. Halls, Joanne N. and Alyssa L. Randall*. 2018. Nesting Patterns of Loggerhead Sea Turtles (*Caretta caretta*): Development of a multiple regression model tested in North Carolina, USA. *ISPRS International Journal of Geo-Information*, 7, 348. <https://doi.org/10.3390/ijgi7090348>
 7. Halls, Joanne N., Maria Frishman* and Andrea Hawkes, 2018. An Automated Model to Classify Barrier Island Geomorphology using Lidar Data and Change Analysis (1998-2014). *Remote Sensing*, Vol 7 10(7), 1109. <https://doi.org/10.3390/rs10071109>
 8. Halls, Joanne N., Hill, Jeffery M., Urbanek, Rachael E., and Sutton, Hope. 2018. Distribution Pattern of Red Fox (*Vulpes vulpes*) Dens and Spatial Relationships with Sea Turtle Nests, Recreation, and Environmental Characteristics. *ISPRS International Journal of Geo-Information*, Vol 7, no. 7: 247. <https://doi.org/10.3390/ijgi7070247>
 9. Halls, Joanne N. and Kaitlyn Costin*, 2016. Submerged and emergent land cover and bathymetric mapping of estuarine habitats using WorldView-2 and LiDAR imagery. *Remote Sensing*, 8(9), 718; <https://doi.org/10.3390/rs8090718>.
 10. Baker Jr, M. S., M. Scianca*, and Joanne Halls, 2016. Potential for a simple GPS-based binary logit model to predict fishing effort in a vertical hook and line reef fish fishery. *Marine and Coastal Fisheries*. Vol. 8, Issue 1: 118-131. <https://doi.org/10.1080/19425120.2015.1135221>
 11. Sosnowski, A.*, E. Ghoneim, J. Burke*, E. Hines, J. Halls, 2016. Remote regions, remote data: A spatial investigation of precipitation, dynamic land covers, and conflict in the Sudd wetland of South Sudan. *Applied Geography*. Vol. 69: 51-64. <https://doi.org/10.1016/j.apgeog.2016.02.007>
 12. Ghoneim, Eman, Jehan Meshaly*, Douglas Gamble, Joanne Halls, Mostafa AbuBakr, 2015. Nile Delta exhibited a spatial reversal in the rates of shoreline retreat on the Rosetta promontory comparing pre- and post-beach protection. *Geomorphology*. Vol. 228:1-14. <https://doi.org/10.1016/j.geomorph.2014.08.021>
 13. McCarthy, Matthew J.* and Joanne N. Halls, 2014. Habitat Mapping and Change Assessment of Coastal Environments: An Examination of WorldView-2, QuickBird, and IKONOS Satellite Imagery and Airborne LiDAR for Mapping Barrier Island Habitats. *ISPRS International Journal of Geo-Information*, 3(1): 297-325. <https://doi.org/10.3390/ijgi3010297>
 14. Zavalaga, Carlos B.*, Joanne N. Halls, Gina P. Mori, Scott A. Taylor, and Giacomo Dell'Omo, 2010. At-Sea Movement Patterns and Diving Behavior of Peruvian Boobies *Sula Variegata* in Northern Peru, *Marine Ecology Progress Series*, vol. 404: 259-274. <https://doi.org/10.3354/meps08490>
 15. Zavalaga, Carlos B.*, Joanne N. Halls, and Giacomo Dell'Omo, 2010. Marine Habitat Use of Peruvian Boobies: A Geographic and Oceanographic Comparison Between Inshore and Offshore Islands, *ICES Journal of Marine Science*. Vol. 67 no. 5: 940-951. <https://doi.org/10.1093/icesjms/fsp298>
 16. Halls, Joanne N., 2009. Measuring Habitat Changes in Barrier Island Marshes: An Example from Southeastern North Carolina, USA. In *Remote Sensing and Geospatial Technologies for Coastal Ecosystem Assessment and Management* by Xiaojun Yang (editor). Springer-Verlag series: Lecture

- Notes in Geoinformation and Cartography, pp. 391-413. https://doi.org/10.1007/978-3-540-88183-4_17
17. Halls, Joanne N. and Lindsey M. Kraatz*, 2006. A Spatio-Temporal Assessment of Back-Barrier Salt Marsh Change: A Comparison of Multidate Aerial Photography and Spatial Landscape Indices. International Society of Photogrammetry and Remote Sensing (ISPRS), Technical Commission 7, Mid-Term Symposium 2006: From Pixels to Processes, 8-11 May, 2006, Enschede, the Netherlands. https://www.researchgate.net/publication/242536153_A_SPATIO-TEMPORAL_ASSESSMENT_OF_BACK-BARRIER_SALT_MARSH_CHANGE_A_COMPARISON_OF_MULTIDATE_AERIAL_PHOTOGRAPHY_AND_SPATIAL_LANDSCAPE_INDICES
 18. Halls, Joanne N., Courtney L. Hanby*, and Laela S. Sayigh, 2006. Where are the Dolphins? A Spatial and Temporal Analysis of Dolphins in Southeastern North Carolina. In, *Papers of the Applied Geography Conferences*, vol. 29: 96-105. <http://applied.geog.kent.edu/AGCPapers/2006/P096-105/index.html>
 19. Ensign, Scott H.*, Joanne N. Halls, and Michael A. Mallin, 2004. Application of digital bathymetry data in an analysis of flushing times of two large estuaries. *Computers and Geosciences*, vol. 30, no.5: 501-511. <https://doi.org/10.1016/j.cageo.2004.03.015>
 20. Halls, Joanne N., 2004. The Oculina Banks Experimental Research Reserve: A Habitat Assessment Using Multi-Media and Internet GIS. In, *WorldMinds: Geographical Perspectives on 100 Problems*, D. G. Janelle, B. Warf, and K. Hansen (eds.), Springer, Dordrecht, pp. 331-336. https://link.springer.com/chapter/10.1007/978-1-4020-2352-1_54 https://doi.org/10.1007/978-1-4020-2352-1_54
 21. Minton, Jason S. *, Joanne N. Halls, and Hiroyoshi Higuchi, 2003. Integration of Satellite Telemetry Data and Land-Cover Imagery: A Study of Migratory Cranes in Northeast Asia. *Transactions in GIS*, vol. 7, no. 4: 505-528. <https://doi.org/10.1111/1467-9671.00161>
 22. Halls, Joanne N., 2003. River Run: An Interactive GIS and Dynamic Graphing Website for Decision Support and Exploratory Data Analysis of Water Quality Parameters of the Lower Cape Fear River, North Carolina. *Environmental Modelling and Software*, vol. 18, no. 6: 513-520. [https://doi.org/10.1016/S1364-8152\(03\)00026-4](https://doi.org/10.1016/S1364-8152(03)00026-4)
 23. Halls, Joanne N., 2002. A Spatial Sensitivity Analysis of Land Use Characteristics and Phosphorus Levels in Small Tidal Creek Estuaries of North Carolina, USA. *Journal of Coastal Research*, Special Issue 36: 340-351. <https://www.jstor.org/stable/26477821> <http://www.cerf-jcr.org/images/stories/A%20Spatial%20Sensitivity%20Analysis%20of%20Land%20Use%20Characteristics%20and%20Phosphorus%20Levels%20in%20Small%20Tidal%20Creek%20Estuaries%20of%20North%20Carolina%20USA%20Halls%20pp.%20340-351.pdf>
 24. Halls, Joanne N., 2001. A Decision Support System of Animated Graphs, GIS, and Temporal Ecological Data to Quantify and Disseminate Water Quality Information. In, *Environmental Software Systems, Volume 4: Environmental Information and Indicators*. David A. Swayne, Ralf Denzer, and Gerald Schmik (eds.), International Federation for Information Processing, pp. 195-206. DOI: 10.13140/2.1.3519.6481 https://www.researchgate.net/publication/269220538_Environmental_Software_Systems_Volume_4_Second_Edition
 25. Jensen, John R., Joanne N. Halls, and Jacqueline Michel, 1998. A Systems Approach to Environmental Sensitivity Index (ESI) Mapping for Oil Spill Contingency Planning and Response, *Photogrammetric Engineering and Remote Sensing*, vol. 64, no. 10: 1003-1014. https://www.asprs.org/wp-content/uploads/pers/1998journal/oct/1998_oct_1003-1014.pdf
 26. Jensen, John R., Dave Cowen, Sunil Narumalani, and Joanne Halls, 1997. Principles of Change Detection Using Digital Remote Sensor Data. In, *Topics in Remote Sensing 5: Integration of Geographic Information Systems and Remote Sensing*. J. L. Star, J. E. Estes, and K. C. McGwire (eds.), Cambridge, United Kingdom: Cambridge University Press, pp. 37-54.
 27. Cowen, David, Eugene Green, Joanne Halls, John Jensen, and Nicholas Schmidt, 1995. Assessing a Commercial Real Estate Market: A Case Study. *Business Geographics*, vol. 3, no. 6: pp. 38-41.

28. Jensen, John R., David J. Cowen, Joanne N. Halls, Sunil Narumalani, Nicholas J. Schmidt, Bruce Davis, and Bryan Burgess, 1994. Improved Urban Infrastructure Mapping and Forecasting for BellSouth Using Remote Sensing and GIS Technology. *Photogrammetric Engineering & Remote Sensing*, vol. 60, no. 3: 339-346. https://www.asprs.org/wp-content/uploads/pers/1994journal/mar/1994_mar_339-346.pdf
29. Halls, Joanne N., David J. Cowen, and John R. Jensen, 1994. Predictive Spatio-Temporal Modeling in GIS. In, *Advances in GIS Research, Volume 1*. T.C. Waugh and R.G. Healy (eds.), London, England: Taylor and Francis, pp. 431-448.

Non-Peer-Reviewed Publications & Conference Proceedings: (* Student)

1. Benfield, Will* and Joanne Halls, Automated classifications of barrier island vegetation and geomorphology through time: indicators for resilience. SEDAAAG, 11/24/2019.
2. Gesell SB, Bushnell CD, Jones SB, Coleman SW, Levy SM, Xenakis JG, Lutz BJ, Bettger JP, Freburger J, Halladay JR, Johnson A, Kucharska-Newton AM, Mettam LH, Pastva AM, Psioda MA, Radman MD, Rosamond WD, Sissine ME, Halls J, Duncan PW. Implementation of a Billable Transitional Care Model for Stroke Patients: The COMPASS Study. AcademyHealth D&I Conference. December 2019.
3. Halls, Joanne N., 2019. Assessment of flood risk and simulations of wetland change in a coastal setting of high population growth. American Association of Geographers Annual Conference: Washington DC, Apr 3-7, 2019.
4. Pricope, Narcisa, Joanne Halls, and Christopher Hidalgo*, 2019. Enhancing socio-ecological resilience in low elevated coastal zones subject to recurrent inundation. Global Land Program in Bern Switzerland April 2019.
5. Halls, Joanne N. and Jessica Magolan*, 2019. Investigating the transition from freshwater to saltwater wetlands in southeastern North Carolina using GIS, remote sensing, and State-and-Transition Simulation Software, Southeastern Geological Society of America, Charleston, SC, March 29, 2019.
6. Halls, Joanne, 2018. Final Report for UNCW Community Engagement grant: "Engage SE" website assessment and recommendations.
7. Halls, Joanne, 2018. Final Report for UNCW Community Engagement grant: "Evidence-Based Assessment of Wetland Changes in Southeastern North Carolina: A Fieldwork and GIS Approach to Identifying Wetland Transitions from Freshwater to Saltwater".
8. Halls, Joanne, Maria Frishman* and Andrea Hawkes, 2018. An Automated Model to Classify Barrier Island Geomorphology using Lidar Data, Proceedings of the 2nd Electronic Conference on Remote Sensing. *Proceedings* 2018, 2(7), 336; <http://www.mdpi.com/2504-3900/2/7/336>
<https://doi.org/10.3390/ecrs-2-05149>
9. Halls, Joanne N., Barbara Lutz, and Olsen, Steele* "Investigating Parkinson's disease in the United States: An exploration of environmental and socio-economic variables and distance to treatment centers" American Association of Geographers Annual Conference: New Orleans, LA, Apr 10-14, 2018.
10. Pricope, Narcisa, Joanne N. Halls, and Steele Olsen, 2018. Geospatial and Unmanned Aerial System (UAS) Applications to Environmental Research. Presented March 15 at 2018 Southeast Regional CESU Rally, <http://www.go.ncsu.edu/cesu>.
11. Weinkle, Jessica, Joanne Halls, Kirsten Kinzer, and Jeffery Edwards*, 2017. "It's Complicated: The spatial relationship between wealth and flood risk", UNCW Research Showcase, November 20-21, 2017.
12. Halls, Joanne, Kaitlyn Costin*, Maria Frishman*, Alyssa Randall*, Jeffery Hill, Rachael Urbanek, Hope Sutton, and Jeffery Edwards*, 2017. "Geospatial Analysis Techniques in the Coastal Zone: Submerged and emergent habitat mapping, barrier island geomorphology, marine and terrestrial animal movement patterns and predictive modeling, integrating field work and satellite imagery, flood risk and population change", UNCW Global Marine Science Summit poster. Nov. 6, 2017.

13. Halls, Joanne and Barbara Lutz, April 20, 2018. Exploring collaborations around geospatial analysis (GIS) related to health issues and data. Presented at the UNCW CHAHS.
14. Halls, Joanne N., Maria Frishman*, Timothy Moss*, Michael Okely*, 2017. "Barrier Island Geomorphology: An Automated Geospatial Model to Derive Features and Compute Displacement and Movement Through Time" American Association of Geographers, Boston, April 5-9, 2017.
15. McCarthy, Erin*, Patrick O'Donnell, Ai Ning Loh, Fred Scharf, Joanne Halls, 2017. "Assessing the pre-restoration impacts of southwest Florida estuaries using trophic transfer and habitat use" ASLO 2017 Aquatic Sciences Meeting, Honolulu, Hawaii, USA. 26 February - 3 March 2017.
16. Olsen, Steele*, Joanne Halls, and Barbara Lutz, 2017. "Investigating the relationship between Parkinson's disease and environmental and socioeconomic variables" 2017. UNCW College of Health and Human Services Research and Innovation Day, Mar 27, 2017.
17. Pricope, Narcisa and Joanne Halls, 2017. "Enhancing applied learning opportunities in the geosciences using geospatial mapping, analysis and modeling tools" In, Applied Learning in Higher Education, Rabidioux (editor): <http://libres.uncg.edu/ir/uncw/f/rabidoux2017-1.pdf>
18. Randall, Alyssa*, Joanne Halls, and James Blum, 2016. Modeling the Nesting Suitability of Loggerhead Sea Turtles (*Caretta Caretta*) in North Carolina Using Geospatial Technologies. International Sea Turtle Conference, Lima, Peru, March, 2016.
19. Halls, Joanne N., J. Hill, J. Herstine, and B. Buerger, 2015. Spatial Distribution of Red Fox Dens in Comparison with Sea Turtle Nests, Environmental Characteristics, and Recreation Activity on an Uninhabited Barrier Island. 21st International Symposium on Society and Resource Management, Charleston, SC, June 13-18, 2015. <http://www.iasnr.org/wp-content/uploads/2015/06/ISSRM2015WebProgram061715.pdf>
20. Halls, Joanne N. 2015. State of GIS in UNC System, NC GIS Annual Meeting, February 26-27, 2015. Raleigh, NC.
21. Robuck, A.R.* , M.A. Mallin, M.R. McIver, L.B. Cahoon and J. N. Halls. 2014. The impacts of urban and suburban stormwater runoff on selected metabolic processes in a southeastern North Carolina tidal creek. Meeting of the Southeastern Estuarine Research Society, Carolina Beach, N.C.
22. Halls, Joanne N., 2014. Masonboro Island GPS Habitat Mapping Field Guide.
23. Halls, Joanne N. and Matthew McCarthy*, 2011. A Geospatial Analysis of Barrier Island Habitat Changes Using Remote Sensing Imagery and LiDAR Elevation Data. Coastal Zone 2011, July 17-21, 2011, Chicago, Illinois.
24. Halls, Joanne N., 2011. An Investigation of Changes in Barrier Islands Using 3D Modeling, Association of American Geographers (AAG): Seattle, WA, April 11-16, 2011.
25. Halls, Joanne N., 2010. A Geospatial Comparison of Shoreline Erosion, Island Topography, and Land Cover at Selected Sites in North Carolina, Association of American Geographers (AAG): Washington, DC, April 14-18, 2010.
26. Hitchcock, Dan, Katie Giacalone, and Joanne N. Halls, 2009. Sustainable Land Use and Development Symposium. 2010 Land Grant and Sea Grant National Water Conference.
27. Halls, Joanne N. and David P. Johnson*, 2009. An Investigation of Barrier Island Topographic Characteristics Using LIDAR and GPS Mapping Techniques. Southeastern Division of the Association of American Geographers (SEDAAG) Annual Conference in Knoxville, Tenn., November 22-24.
28. Halls, Joanne N. and David P. Johnson*, 2009. A Remote Sensing and GIS Examination of Spatial and Topographic Characteristics of Developed and Undeveloped Barrier Islands. Association of American Geographers (AAG): Advancing Geography in Partnership with You, Annual Conference, Las Vegas, NV March 22-27, 2009.
29. Halls, Joanne N., 2008. Techniques for Assessing and Predicting Coastal Habitat Change. Association of American Geographers (AAG): Advancing Geography in Partnership with You, Annual Conference, Boston, Mass., April 15-19, 2008.
30. Halls, Joanne N. and Holly Gabries*, 2008. An Investigation of IKONOS Image Classification and Change Detection Techniques to Measure Coastal Habitat Progression. American Society of

- Photogrammetry and Remote Sensing (ASPRS) 2008 Annual Conference, Bridging the Horizons: New Frontiers in Geospatial Collaboration, Portland, Oregon, April 28 – May 2, 2008.
31. Halls, Joanne N., 2008. A Spatio-Temporal Investigation of Barrier Island Marsh Distribution and Topography at Topsail Island, North Carolina. Southeastern Division of the Association of American Geographers (SEDAAG) Annual Conference, Greensboro, NC, November 22-25, 2008.
 32. Halls, Joanne N., 2007. An Analytical Assessment of Barrier Island Changes using Aerial Photography: Topsail Island, NC. Southeastern Division of the Association of American Geographers (SEDAAG) Annual Conference in Charleston, SC, November 18-20.
 33. Halls, Joanne N., 2007. Geographic Information Science: Linking People, Places, and Resources. In, Proceedings of the State of the Region Conference “Improving Civic Engagement and Public Policy – The State of the Cape Fear Region”, June 1, 2007.
 34. Halls, J.N., 2007. An Investigation of Coastal Change in North Carolina: Urban Development Patterns, Demographics and Economic Indicators. International Symposium on Society and Resource Management, Park City Utah, June 15-21, 2007. Abstract was peer-reviewed and then accepted on February 26, 2007.
 35. Halls, Joanne N., 2007. An Exploration of Coastal Change in Southeastern North Carolina. North Carolina GIS Conference, Winston-Salem, North Carolina, March 1-2, 2007.
 36. Halls, Joanne N. and Lindsey M. Kraatz*, 2006. Estimating Error and Uncertainty in Change Detection Analyses of Historical Aerial Photographs. Spatial Accuracy 2006, The 7th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, 5-7 July, 2006, Lisbon, Portugal.
 37. Halls, Joanne N. and Lindsey M. Kraatz, 2006. A Change Detection and Fragmentation Analysis of Barrier Island Salt Marshes Using Aerial Photography, IKONOS Imagery, and LIDAR. Submitted January 12, 2006 to IEEE International Geoscience and Remote Sensing Symposium & 27th Canadian Symposium on Remote Sensing, Denver, Colorado, July 31 – August 4, 2006.
 38. Halls, Joanne N., Courtney Hanby*, and L. Sayigh, 2006. Where Are The Dolphins? A Spatial and Temporal Analysis of Dolphin Distribution in Southeastern North Carolina. 29th Annual Applied Geography Conference, Tampa, Florida, October 11-14, 2006.
 39. Halls, Joanne N., and Courtney Hanby*, 2005. A Spatial and Temporal Analysis of Dolphin Community Structure in Southeastern North Carolina. Association of American Geographers Annual Conference, April 5-9, 2005, Denver, Colorado.
 40. Kraatz, Lindsey*, Halls, Joanne N., 2005. Historical Analysis of Back Barrier Marsh Change in Southeastern North Carolina. Association of American Geographers Annual Conference, April 5-9, 2005, Denver, Colorado
 41. Kraatz, Lindsey*, Halls, J. N. and Leonard, L. A., 2005. An Assessment of Back-Barrier Salt Marshes in Southeastern North Carolina Using Geographical Information Systems. Estuarine Research Federation Biennial Conference, October 16-21, 2005.
 42. Halls, Joanne N. and Lindsey Kraatz*, 2005. A Spatio-Temporal Assessment of Back-Barrier Salt Marshes using Historical Aerial Photography and Fragmentation Statistics. Coastal Environment 2006: Sixth International Conference on Environmental Problems in Coastal Regions Including Oil and Chemical Spill Studies, Rhodes, Greece, 5 - 7 June 2006.
 43. Halls, Joanne N. and Lindsey Kraatz*, 2005. Sensitivity Analysis of Historical Aerial Photography: A Case Study of Barrier Island Marshes. 3rd Biennial Meeting of the International Environmental Modelling and Software Society, Burlington, VT, July 3-12, 2006.
 44. Reimer, Beth*, Lindsey Kraatz*, Joanne Halls, and Lynn Leonard, 2004. Historical Analysis of Marsh Area Distribution in Southeastern North Carolina (1938 to 2003). Southeastern Estuarine Research Federation, Oct. 21-23 Wilmington, NC.
 45. Halls, Joanne N., 2004. Book Review: Mastering ArcGIS, 2nd edition by Maribeth Price, McGraw-Hill.

46. Halls, Joanne N. 2003. Habitat Assessment of the Oculina Banks Experimental Research Reserve Using Multi-Media and Internet GIS. Association of American Geographers, 4-8 March, 2003, New Orleans, LA.
47. Halls, Joanne N., Brent Manning*, and Andrew Shepard, 2003. A Multi-Media Approach to Spatial Habitat Analysis and Internet GIS for Disseminating Information for the Oculina Banks Marine Protected Area. Southeast Coastal Ocean Science Conference and Workshop, 27-19 January 2003.
48. Manning, Brent* and Joanne N. Halls, 2002. An Online GIS for the Oculina Banks Marine Protected Area, Twenty Second Annual ESRI International User Conference, 8-12 July, San Diego, California.
49. Minton, Jason S.*, Joanne N. Halls, H. Higuchi, and Y. Kanai, 2001. Interspecific and Temporal Differences in Habitat Preferences of Cranes in Asia. 25th Anniversary Annual meeting of the Waterbird Society, 7-11 November, Niagara Falls, Ontario, Canada.
50. Halls, Joanne N., 2001. Using GIS to Analyze Land Use Development Versus Natural Resources Protection in Coastal Plain Watersheds of Southeastern North Carolina. Association of American Geographers, 27 February – 2 March, New York, New York.
51. Halls, Joanne N., 2001. The Effects of Land Use on Sediment Properties of Tidal Creek Watersheds. Coastal Geotools '01, 8-11 January 2001, Charleston, South Carolina.
52. Halls, J.N. and Arnette, J. 2001. Hurricane Impact on the East and Gulf Coasts of the United States (1950-1999). Peer reviewed and presented at the 56th Southeastern Division of the Association of American Geographers (SEDAAG) annual meeting, 17-20 November, Lexington, Kentucky.
53. Halls, Joanne N., 2000. Analyzing the Vulnerability of Drinking Water and Ecological Resources in Preparation of Pipeline Accidents. Association of American Geographers 96th Annual Meeting in Pittsburgh, PA, April.
54. Halls, Joanne N., 1998. Analyzing the Vulnerability of Drinking Water Resources in Preparation of Pipeline Accidents, Proceedings of GIS/LIS '98 Annual Conference, Fort Worth, Texas, 10-12 November.
55. Halls, Joanne N., William Holton, and Scott Zengel, 1997. The Integration of the Estuarine Living Marine Resources Database and the Environmental Sensitivity Index Geographic Information Systems. Proceedings of the Sixteenth Annual ESRI User Conference, Palm Springs, California, May.
56. Halls, Joanne N., Miles O. Hayes, Jacqueline Michel, and Scott Zengel, 1996. Natural Resource Mapping Using GIS: Coastal and Watershed Applications. Proceedings of the Fifteenth Annual ESRI User Conference, Palm Springs, California, 20-24 May.
57. Halls, Joanne N., 1995. Implementing Region Topology to Produce Coastal Resource Atlases. Proceedings of the Fourteenth Annual ESRI User Conference, Palm Springs, California, 22-26 May.
58. Halls, Joanne N., David J. Cowen, and John R. Jensen, 1994. Predictive Spatio-Temporal Modeling in GIS. Proceedings of the Spatial Data Handling '94 conference in Edinburgh, Scotland, 5-9 September.
59. Halls, Joanne N., Address-Matching Using U.S. Postal Service ZIP+4. Proceedings of the Thirteenth Annual ESRI User Conference, Palm Springs, California, 24-28 May 1993, Proceedings Vol. 3, pp. 409-421.
60. Cowen, David J., John R. Jensen, Joanne N. Halls, M. King, Sunil Narumalani, Bruce Davis, Nicholas Schmidt, and Brian Burgess, 1993. Estimating Housing Density with CAMS Remotely Sensed Data. Proceedings of the American Congress on Surveying and Mapping/American Society of Photogrammetry and Remote Sensing Annual Convention, February, New Orleans, Louisiana, pp. 35-43.
61. Halls, Joanne N. and David J. Cowen, 1991. Maintenance of TIGER Files Using Remotely Sensed Data. Proceedings of the 1991 ACSM/ASPRS/Auto-Carto 10 Convention in Baltimore, Maryland, 25-29 March.
62. Halls, Joanne N., 1989. Mapping Vegetation Along the Coachella Canal Using Photointerpretation and GIS Technology. Proceedings of the GIS/LIS Annual Convention, Orlando, Florida, November.

63. Halls, Joanne N., 1988. The Use of Remote Sensing and GIS Techniques for Wetland Identification and Classification in the Garrison Diversion Unit, North Dakota. Proceedings of the ASPRS March 1988 Annual Convention.

Peer-Reviewed Research Reports:

1. Halls, Joanne N., 2008. Final Report to NOAA's Marfin Program for the grant "Fisheries and Habitat Assessment of the Oculina Banks Habitat Area of Particular Concern: A Multi-Media Approach Using GIS and the World Wide Web".
2. Halls, Joanne N., 2007. Final report submitted on 7/30/07 to NC Sea Grant for grant # R/MG-0301 "Marsh Fragmentation and Extent (Area) Versus Barrier Island Topography: An Investigation using Aerial Photography, Digital Terrain Modeling and GIS.
3. Halls, Joanne N., 2006. Annual report to NC SeaGrant for the project "Marsh Fragmentation and Extent (Area) Versus Barrier Island Topography: An Investigation using Aerial Photography, Digital Terrain Modeling and GIS" submitted July 12, 2006.
4. Halls, Joanne N., 2000. Professional Judgment Report for Population Dynamics Study: Monitoring and Assessing Population Dynamics During and After the Gulf Crisis Prepared for the United Nations Compensation Commission. CONFIDENTIAL.
5. Halls, Joanne N. and J. Peterson, 1997. Environmental Sensitivity Index Guidelines, Version 2.0. NOAA Technical Memorandum NOS ORCA 115, Seattle: Hazardous Materials Response and Assessment Division, National Oceanic and Atmospheric Administration.
6. Halls, Joanne N., 1996. Gulf-wide Information System (G-WIS) Database Specifications, co-authored with Louisiana State University, Center for Coastal, Energy, and Environmental Resources; United States Minerals Management Service; and Environmental Systems Research Institute, Inc.
7. Halls, Joanne N., 1996. PhD dissertation: Predictive Residential Modeling Using Spatio-Temporal GIS. Department of Geography, University of South Carolina, Columbia, South Carolina.
8. Halls, Joanne N. and J. Peterson, 1995. Environmental Sensitivity Index Guidelines, NOAA Technical Memorandum NOS ORCA 92. Seattle: Hazardous Materials Response and Assessment Division, National Oceanic and Atmospheric Administration.
9. Halls, Joanne N., 1990. Master's Thesis: The Measurement of Snow Cover Distribution in the Southern Rocky Mountains of Colorado Using Landsat MSS Data and Digital Terrain Models. Department of Geography, University of South Carolina, Columbia, South Carolina.

Web Sites:

[UNCW-Cape Fear Council of Governments Wetlands Project](#)

Joanne N. Halls: A website containing primarily course materials, links to GIS resources, and research related announcements. (people.uncw.edu/hallsj)

UNCW GIS: A website containing curriculum, resources, research, UNCW faculty, and a Web-GIS portal for online GIS projects. (www.uncw.edu/gis)

Web Mapping site at UNCW: www.uncw.edu/gis/webgisportal.html

River Run: A website created for visualizing multiple water quality variables across the Lower Cape Fear Watershed (www.uncw.edu/riverun).

Oculina GIS: A website created for the visualization of submersed habitats of the Oculina Banks Marine Protected Area (www.uncw.edu/oculina).

Oral Presentations (Conferences and other Selected Professional Venues):

1. Pricope, Narcisa Gabriela; Halls, Joanne Nancie, 2019. Enhancing socio-ecological resilience in low elevated coastal zones subject to recurrent inundation. 4th Open Science Meeting of the Global Land Programme, 24-26 of April 2019 in Bern, Switzerland.
2. Edwards, Jeffrey*, Joanne Halls, Jessica Weinkle, and Kirsten Kinzer, 2019. "Multi-Temporal Assessment of Socio-Economic Characteristics in the United States and Potential Flood Inundation" presented at the American Association of Geographers Annual Conference: Washington, DC, Apr 3-7, 2019.
3. Magolan, Jessica* and Joanne Halls, 2019. "Investigating the transition from freshwater to saltwater wetlands in southeastern North Carolina using GIS, remote sensing, and state-and-transition simulation software" presented at the American Association of Geographers Annual Conference: Washington, DC, Apr 3-7, 2019.
4. Halls, Joanne and Jessica Magolan*, 2019. "Assessment of flood risk and simulations of wetland change in a coastal setting of high population growth" presented at the American Association of Geographers Annual Conference: Washington, DC, Apr 3-7, 2019.
5. Halls, Joanne, 2019. Session organizer: "Coastal Resiliency: Vulnerability, Risk, and Experiences". 2019 North Carolina GIS Conference (<https://ncgisconference.com/>) Feb 27-Mar 1, 2019. Winston-Salem.
6. Pricope, Narcisa and Joanne Halls, 2019. Southeastern Geological Society of America Session organizers "UAV/Drone Technology and Spatial Metrics for the Coastal Zone".
7. Halls, Joanne, Maria Frishman* and Andrea Hawkes, 2018. "An Automated Model to Classify Barrier Island Geomorphology using Lidar Data". Proceedings of the 2nd Electronic Conference on Remote Sensing, March 22 to April 5.
8. Halls, Joanne N., Barbara Lutz, and Olsen, Steele*, 2018. "Investigating Parkinson's disease in the United States: An exploration of environmental and socio-economic variables and distance to treatment centers" presented at the American Association of Geographers Annual Conference: New Orleans, LA, Apr 10-14, 2018.
9. Halls, Joanne, Narcisa Pricope and Steele Olsen, 2018. "Geospatial and Unmanned Aerial System (UAS) Applications to Environmental Research" Coastal Ecosystem Studies Unit Annual Forum, Raleigh, NC. March, 2018.
10. Halls, Joanne and Barbara Lutz, 2018. Exploring collaborations around geospatial analysis (GIS) related to health issues and data. UNCW's College of Health and Human Services monthly Coffee Research Meeting, April 20th.
11. Halls, Joanne N., Maria Frishman*, Timothy Moss*, and Michael Okely*, 2017. "Barrier Island Geomorphology: An Automated Geospatial Model to Derive Features and Compute Displacement and Movement Through Time" American Association of Geographers, Boston, MA, April 5-9, 2017.
12. McCarthy, Erin*, Patrick O'Donnell, Ai Ning Loh, Fred Scharf, and Joanne Halls, 2017. "Assessing the pre-restoration impacts of southwest Florida estuaries using trophic transfer and habitat use" ASLO 2017 Aquatic Sciences Meeting, Honolulu, Hawaii, USA. 26 February - 3 March 2017.
13. Halls, J.N. and J. Putnam, 2016. "Effective Emergency Sheltering: A GIS Approach to Shelter Location Analysis and Population Allocation for Eastern NC" Sea Level Rise Risk and Social Vulnerability, Wilmington, NC, April 30, 2016.
14. Halls, J.N., J. Hill, J. Herstine, B. Buerger, 2015. "Spatial distribution of red fox dens in comparison with sea turtle nests, environmental characteristics, and recreation activity on an uninhabited barrier island" International Symposium on Society and Resource Management, Charleston, SC, June 13-18, 2015.
15. Halls, Joanne N., 2015. "GIS Opportunities in the UNC System". NC GIS Conference, Raleigh, NC, Feb. 26-27, 2015.

16. Halls, Joanne N. and Kaitlyn Costin, 2014. "Mapping Submerged and Emergent Coastal Habitats in an Urbanized Tidal Creek Watershed". Geological Society of America, Vancouver, BC, 10/18/2014-10/22/2014.
17. Halls, Joanne N., 2014. "Satellite Imagery, GIS, and Spatial Analysis Techniques for Detecting Changes on a Barrier Island". Duke Marine Lab, January 22, 2014.
18. Halls, Joanne N., 2013. "The Future of GIS: An Interdisciplinary View of the Next Few Years of Geospatial Technology". NC GIS Conference, Raleigh, NC, Feb 8, 2013.
19. Halls, Joanne N., 2013 Presentation at the UNCW Innovation Council, Apr 26, 2013.
20. Halls, Joanne N. and Matthew McCarthy, 2012. "An Integration of Satellite Imagery and LiDAR for Characterizing Change on a Barrier Island: An Example from Coastal North Carolina" Southeastern Division of the AAG annual conference: Asheville, NC, Nov 19, 2012.
21. Sciance, Ben and Joanne Halls, 2012. "Spatial Analysis and Predictive Model of Sea Turtle Nests at Two Islands in Southeastern North Carolina". Abstract submitted Oct 1, 2012 to the International Sea Turtle Conference. Accepted and we wrote a presentation which Ben delivered at the conference in Spring 2013.
22. Halls, Joanne N., and Matthew McCarthy*, 2011. A Geospatial Analysis of Barrier Island Habitat Changes Using Remote Sensing Imagery and LiDAR Elevation Data. Coastal Zone 2011.
23. Halls, Joanne N., 2011. "An Investigation of Changes in Barrier Islands Using 3D Modeling" Association of American Geographers (AAG) Annual Conference, Seattle, WA, April 13, 2011.
24. Halls, Joanne N., 2011. "An Investigation of Changes in Barrier Islands Using 3D Modeling". Southeastern Division of the AAG annual conference: Savannah, GA, (November 20, 2011 - November 22, 2011).
25. Halls, Joanne N., 2011. "Using Geographic Information Systems in Natural Disaster Management: An Example from the Haiti Earthquake of January, 2010". Great Decisions, UNCW Dept of Public & International Affairs, UNCW Cameron Auditorium, January 18, 2011.
26. Halls, Joanne N., 2010. "A Geospatial Comparison of Shoreline Erosion, Island Topography, and Land Cover at Selected Sites in North Carolina". Association of American Geographers Annual Conference, Washington, DC April 18, 2010.
27. Halls, Joanne N. (author & presenter) and David P. Johnson (co-author), 2009. "An Investigation of Barrier Island Topographic Characteristics Using LIDAR and GPS Mapping Techniques". Southeastern Division of the Association of American Geographers (SEDAAG) Conference, Knoxville, TN, November 19, 2009.
28. Halls, Joanne N., 2009. "Investigation of NC Statewide Undergraduate and Graduate Degree Programs in Geographic Information Science: Ideas for the Future of GIS in North Carolina" NC GIS Conference, Raleigh, North Carolina, February 19, 2009.
29. Halls, Joanne N., 2009. "A Geospatial Comparison of Shoreline Erosion, Island Topography, and Land Cover at Selected Sites in North Carolina". Association of American Geographers (AAG).
30. Halls, Joanne N., 2008. "Techniques for Assessing and Predicting Coastal Habitat Change" at the Recent Research in Geography annual seminar in UNCW's Dept. of Geography and Geology, April 11, 2008.
31. Halls, Joanne N., 2008. "Techniques for Assessing and Predicting Coastal Habitat Change" Association of American Geographers: Advancing Geography in Partnership with You, Annual Conference, Boston, MA, April 16, 2008.
32. Halls, Joanne N., 2008. "A Spatio-Temporal Assessment of Back-Barrier Salt Marsh Change: A Comparison of Multidate Aerial Photography and Spatial Landscape Indices", Monday, May 8th at the International Society of Photogrammetry and Remote Sensing's Technical Commission 7 Mid-term Symposium "Remote Sensing: From Pixels to Processes" Enschede, the Netherlands, 8-11, May 2006, Technical Session 3: Processing of Multi-Temporal Data and Change Detection.
33. Halls, Joanne N. and Holly Gabries*, 2008. "An investigation of IKONOS image classification and change detection techniques to measure coastal habitat progression" submitted October 1, 2007 to

- ASPRS 2008 Annual Conference, Bridging the Horizons: New Frontiers in Geospatial Collaboration, Portland, Oregon, April 28 – May 2, 2008.
34. Halls, Joanne N. 2007. "An Exploration of Coastal Change in Southeastern North Carolina" Submitted August 15, 2006 to the North Carolina GIS Conference, March 1-2, 2007, Winston-Salem, NC.
 35. Halls, Joanne N., 2007. Invited Speaker at the Lunch Session of College and University GIS Coordinators: North Carolina GIS Conference, Winston-Salem, March 1, 2007.
 36. Halls, Joanne N. 2007. "An investigation of coastal change in North Carolina: urban development patterns, demographics and economic indicators" submitted January 31, 2007 to the International Symposium on Society and Resource Management, Park City Utah, June 15-21, 2007. Abstract was peer-reviewed and then accepted on February 26, 2007.
 37. Halls, Joanne N., 2007. Invited Internship Panel Discussant: North Carolina ArcUsers Group Conference, Carolina Beach, September 26-28, 2007.
 38. Halls, Joanne N. 2007. "Interpreting Change in Southeastern North Carolina: A Multi-Scale Remote Sensing Perspective" at the North Carolina Chapter of the American Society of Photogrammetry and Remote Sensing annual meeting, April 13-14, Wilmington, NC. (invited presentation).
 39. Halls, Joanne N. 2007. "Geographic Information Science: Linking People, Places, and Resources" at the State of the Region Conference, June 1, 2007, Wilmington, NC.
 40. Halls, Joanne N., 2007. "An Analytical Assessment of Barrier Island Changes Using Aerial Photography: Topsail Island, NC" at the Southeastern Division of the Association of American Geographers (SEDAAG), November 18-20, 2007, Charleston, SC.
 41. Halls, Joanne N. and Lindsey M. Kraatz*, 2006. A Spatio-Temporal Assessment of Back-Barrier Salt Marsh Change: A Comparison of Multidate Aerial Photography and Spatial Landscape Indices. International Society of Photogrammetry and Remote Sensing (ISPRS), Technical Commission 7, Mid-Term Symposium 2006: From Pixels to Processes, 8-11 May, 2006, Enschede, the Netherlands.
 42. Halls, Joanne N., 2006. Co-chaired Technical Session 7: Processing of Multi-Temporal Data and Change Detection" on Tuesday, May 9th, at the International Society of Photogrammetry and Remote Sensing's Technical Commission 7 Mid-term Symposium "Remote Sensing: From Pixels to Processes" Enschede, the Netherlands, 8-11.
 43. Halls, Joanne N. and Lindsey M. Kraatz*, 2006. "Estimating Error and Uncertainty in Change Detection Analyses of Historical Aerial Photographs" July 6, 2006 at the 7th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, 5-7 July, 2006, Lisbon, Portugal.
 44. Halls, Joanne N., 2006. "Sensitivity Analysis of Historical Aerial Photography: A Case Study of Barrier Island Marshes" Summit on Environmental Modelling and Software organized by the International Environmental Modelling and Software Society, Burlington, Vermont, July 9-12, 2006.
 45. Halls, Joanne N., 2006. "Population Growth and Migration in Latin America" UNCW Intercultural Week, February 9, 2006.
 46. Halls, Joanne N., 2006. "Where are the Dolphins? A Spatial and Temporal Analyses of Dolphins in Southeastern North Carolina" at the Applied Geography Conference, October 11-14, 2006.
 47. Halls, Joanne N., 2005. "A Spatial and Temporal Analysis of Dolphin Community Structure in Southeastern North Carolina" Association of American Geographers Annual Conference, April 5-9, 2005, Denver, Colorado.
 48. Halls, Joanne N., 2005. "Hurricanes and Population Growth along the Southeastern U.S." at UNCW's College Day, November 12, 2005.
 49. Halls, Joanne N., 2004. "Topographic Analysis of the Oculina Habitat Area of Particular Concern" Association of American Geographers Annual Conference, March 14-19, 2004, Philadelphia, Pennsylvania.
 50. Halls, Joanne N., 2003. "Habitat Assessment of the Oculina Banks Experimental Research Reserve Using Multi-Media and Internet GIS" Association of American Geographers, 4-8 March, 2003, New Orleans, LA.

51. Manning, Brent* and Joanne N. Halls, 2002. "An Online GIS for the Oculina Banks Marine Protected Area." Twenty Second Annual ESRI International User Conference, 8-12 July, San Diego, California.
52. Joanne N., 2002. "Land Use Development Versus Natural Resources Protection: A Multi-Scale Analysis of Southeastern North Carolina" Guest lecture at the Department of Geography, University of Toledo, April 12, 2002.
53. Halls, Joanne N., 2001. "A Decision Support System of Animated Graphs, GIS, and Temporal Ecological Data to Quantify and Disseminate Water Quality Information" 4th International Symposium on Environmental Software Systems (ISESS), 21-27 May, 2001, Banff, Alberta, Canada.
54. Halls, Joanne N., 2001. "Using GIS to Analyze Land Use Development Versus Natural Resources Protection in Coastal Plain Watersheds of Southeastern North Carolina" Association of American Geographers, 27 February – 2 March, 2001, New York, New York.
55. "Introduction to GIS: A Workshop for Faculty and Staff of UNCW" October 28 and November 11, 2000.
56. "Analyzing the Vulnerability of Drinking Water and Ecological Resources in Preparation of Pipeline Accidents" Association of American Geographers 96th Annual Meeting in Pittsburgh, PA, April, 2000.

Poster Presentations:

1. Weinkle, Jessica, Joanne Halls, Kirsten Kinzer, Jeffrey Edwards*, 2017. "It's Complicated: The spatial relationship between wealth and flood risk", UNCW Research Showcase, November 20-21, 2017.
2. Halls, Joanne, Kaitlyn Costin*, Maria Frishman*, Alyssa Randall*, Jeffery Hill, Rachael Urbanek, Hope Sutton, and Jeffrey Edwards*, 2017. "Geospatial Analysis Techniques in the Coastal Zone: Submerged and emergent habitat mapping, barrier island geomorphology, marine and terrestrial animal movement patterns and predictive modeling, integrating field work and satellite imagery, flood risk and population change", UNCW Global Marine Science Summit. Nov. 6, 2017.
3. Olsen, Steele*, Joanne Halls, and Barbara Lutz, 2017. "Investigating the relationship between Parkinson's disease and environmental and socioeconomic variables," UNCW College of Health and Human Services Research and Innovation Day, Mar 27, 2017.
4. Randall, A., J.N. Halls, and J. Blum, 2016. "Modeling the Nesting Suitability of Loggerhead Sea Turtles (*Caretta caretta*) in North Carolina Using Geospatial Technologies" International Sea Turtle Conference, Lima, Peru, March 2, 2016.
5. Halls, Joanne N. and Kaitlyn Costin, 2014. "Field Survey and Analysis of Emergent and Submerged Habitats in Semi-Developed and Urbanized Tidal Creek Watersheds". Association of American Geographers, Tampa, FL, April 8-13, 2014.
6. Halls, Joanne N. and Kaitlyn Costin, 2013. "Visualization and Quantitative Analysis of Historical Trends in Land Use Change and Tidal Creek Emergent and Submerged Habitats". Tidal Creeks Summit: Wilmington, NC, December 16-17, 2013.
7. Halls, Joanne N. and Matthew J. McCarthy, 2013. "WorldView-2, QuickBird, and IKONOS Satellite Mapping and Change Assessment of Coastal Environments". Southeastern Division of the Association of American Geographers: Roanoke, VA, November 24-26, 2013.
8. Hitchcock, D., Giacalone, K., & Halls, J. N., 2009. "Sustainable Land Use and Development" 2010 Land Grant and Sea Grant National Water Conference.
9. Kraatz, Lindsey* and Joanne Halls, 2005. "Historical Analysis of Marsh Area Distribution in Southeastern North Carolina (1938 to 2003)," Southeastern Estuarine Research Society, October 14-16, 2005.
10. Halls, Joanne N., Brent Manning*, and Andrew Shepard, 2003. "A Multi-Media Approach to Spatial Habitat Analysis and Internet GIS for Disseminating Information for the Oculina Banks Marine Protected Area", Southeast Coastal Ocean Science Conference and Workshop, 27-29 January 2003.

11. Halls, Joanne N. and Justin Arnette*, 2001. "Hurricane Impact on the East and Gulf Coasts of the United States (1950-1999)", 56th Southeastern Division of the Association of American Geographers annual meeting, 17-20 November, Lexington, Kentucky.
12. Halls, Joanne N., Lynn L. Leonard, and Stephen T. Kinsey, 2001. "A Spatial Sensitivity Analysis of Land Cover/Land Use and Sediment Phosphorous Compounds in Small Tidal Creek Watersheds", 16th Biennial Conference of the Estuarine Research Federation, St. Petersburg, Florida, 4-8 November.
13. Ensign, Scott H.*, Joanne N. Halls, and Michael A. Mallin, 2001. "Flushing Time of the Cape Fear River Estuary", Southeastern Estuarine Research Society, Charleston, S.C.

FUNDED RESEARCH GRANTS

1. **NC Dept of Transportation: Fusing multi-source UAS-derived data to improve the NCDOT Wetlands Prediction Model.** Pricope (Lead PI), Halls (co-PI), \$300,000, August, 2019 – July 2021.
2. **Brunswick County NC Health Services: GIS Analysis of Sampling Design and Survey Results (\$11,755)** (Jan 2019 – Feb 2020). Joanne Halls (co-PI). Mariel Leah Mayo (UNCW Center for Healthy Communities) is lead PI on this contract with Brunswick County, NC, to conduct a comprehensive Health Assessment for the County.
3. **NC Sea Grant Community Collaborative: Assessment of flood risk and simulations of wetland change in Pender County, NC (\$24,777)** (May 2018 – May 2019). Joanne Halls (Lead-PI) and Wes Macleod (co-PI). This project will provide 1 month of summer funding (July, 2018) and full RA Fall 2018 and Spring 2019) for Jessica Magolan (MS GEO).
4. **UNCW Community Engagement Grant: Evidence-Based Assessment of Wetland Changes in Southeastern North Carolina (\$3,000)** (Jan 2018 – July 2018). Field work and small grad student stipend for Jessica Magolan. Final Report submitted June 11, 2018.
5. **UNCW Community Engagement Grant: Engage SENC website (\$5,000)** (Jan 2018 – July 2018). In collaboration with the Center for Healthy Communities (CHAHS), this funding provided small faculty stipend to develop assignments in GEO 592 (Spring 2018) to support assessing the mapping component of the website. Submitted final report July 17, 2018.
6. **UNCW School of Nursing (\$3,000) and UNCW Office of Research (\$3,000): An Investigation of Stroke Victim Follow-up Care Across North Carolina** (August 2017 – May 2018). PI Dr. Halls received funding from UNCW's Office of Research and from PI Dr. Barbara Lutz to pay a graduate student (Zachary Hahn) to perform GIS analysis.
7. **UNCW School of Nursing: (\$6,000) Spatial Analysis of Parkinson's Disease and Distance to United States Treatment Centers (\$6,000)** (August 2016 – May 2017). An investigation of socio-economic and environmental variables related to Parkinson's disease. Funding from PI Dr. Barbara Lutz from the UNCW School of Nursing to pay a graduate student (Steele Olsen) to perform GIS analysis.
8. **UNCW College of Arts and Sciences 2016 Research Travel Award (\$1,759.78):** to deliver presentation at the International Sea Turtle Conference.
9. **UNCW Office of International Programs 2016 Travel Award (\$2,000):** for travel to Peru.
10. **UNCW Osher Life Long Learning Institute (OLLI) (\$3,000)** (Spring, 2015): Customer Analysis and Potential Market Demand: A Geospatial Investigation of Community Engagement, Accessibility, Diversity and Opportunities for Growth. PI: Halls, Joanne. Funded Graduate Research Assistantship.
11. **North Carolina Marine Fisheries Commission Marine Resources Fund (\$1,000)** (August 2011-May 2013) PIs: Skrabel, Steve and Ralph Mead, UNCW Dept of Chemistry and Biochemistry. "Heavy metal and organic contaminants in oysters and sediments in resource waters, southeastern North Carolina". Developed a web-based visualization application for sampling data dissemination. Funds were used to pay a graduate student (Kaitlyn Costin) to help with the project.

12. **UNCW 2012 Cahill (\$3,306)** (received May 2013): Implementation of Field Techniques in Support of Remote Sensing and GIS Coastal Mapping. PI: Joanne Halls. Funds to purchase a ruggedized field laptop.
13. **North Carolina Sea Grant (\$10,000)** (Fall 2012 – Spring 2013): GIS Analysis of Southeast Atlantic Commercial Fishing Activity. Funding to support a grad student, Ben Sciance, in Fall 2012 and Spring 2013.
14. **North Carolina Department of Environment and Natural Resources, Marine Resources Fund (\$10,000)** (Fall 2012 – Spring 2013): Heavy metal and organic contaminants in oysters and sediments in resource waters, southeastern North Carolina. GIS project/visualization for chemical analysis of oysters and sediment samples in New Hanover County tidal creeks (PIs: Mead and Skrabal in Chemistry). Funding to support a grad student, Kaitlyn Costin, in Fall 2012 and Spring 2013.
15. **AmericaView** (2008-2013) Co-PIs: Allen, Tom (ECU), Yang Wong (ECU), Joanne Halls (UNCW), Steve Walsh (UNC-CH), Ross Meentemeyer (UNCC), and Roy Stine (UNCG) “Proposal to create NCView, an AmericaView consortium”. Submitted and approved in 2008. No funds to develop any new projects. Group is lead by ECU and no follow-up plans were implemented.
16. **NOAA, National Marine Fisheries Service, Marfin (\$84,771)** (2004- Dec 2007). Lead-PI: Halls, Joanne and co-PI Andrew Shepard: Fisheries and Habitat Assessment of the Oculina Banks Habitat Area of Particular Concern: A Multi-Media Approach Using GIS and the World Wide Web.
17. **UNCW Center for Regional Engagement Conference (\$3,000)** (2007) PI: Halls, Joanne N. Funds supported summer research, writing, publication, and presentation of a white paper for the State of the Region Conference Proceedings at the annual meeting on June 1, 2007.
18. **UNCW Research Reassignment Proposal** “Investigation of Multispectral and Hyperspectral Imagery for Mapping Barrier Island Habitats”. Submitted October 9, 2006 and awarded February, 2007. I was on research reassignment in Fall 2007.
19. **UNCW Office of Research Services and Sponsored Programs (1 course buyout)** (2006-2007) PI: Halls, Joanne N. Faculty Engagement in Sponsored Research (FESR) Proposal Development Fellowship: An Investigation of Coastal Change in North Carolina: Human Settlement Patterns, Demographics, and Economic Indicators. This grant funded one course buyout in Spring 2007 which enabled us to hire a part-time lecturer.
20. **UNCW Center for Faculty Development (\$540)** (2006) PI: Halls, Joanne N. Travel funds to support giving a research presentation at Spatial Accuracy 2006, Lisbon, Portugal, July 1-7, 2006.
21. **UNCW International Programs (\$650)** (2006) PI: Halls, Joanne N. Travel funds to support giving a research presentation at the ISPRS Mid-Term Symposium: Remote Sensing: From Pixels to Processes, Enschede, Netherlands, May 6-16, 2006.
22. **UNCW College of Arts and Sciences Summer Research Initiative (\$3,500)** (2006). PI: Halls, Joanne N. Comparison of Marsh Changes at Masonboro Island and Topsail Island: An Evaluation of Aerial Photography from 1938 to 2002
23. **North Carolina Sea Grant (\$5,000)** (2006) Co PIs: Halls, Joanne N. and Lynn A. Leonard. Marsh Fragmentation and Extent (Area) Versus Barrier Island Topography: An Investigation Using Aerial Photography, Digital Terrain Modeling, and GIS.
24. **UNCW Summer Research/Curriculum Development Initiative (\$3,500)** (2006): Comparison of Marsh Changes at Masonboro Island and Topsail Island: An Evaluation of Aerial Photography from 1938 to 2002. Submitted November 28, 2005 and awarded on February 20, 2006.
25. **UNCW International Programs (\$650)** (2006): Faculty Travel, to attend, give oral paper presentation, and co-chair a session at the ISPRS Mid-Term Symposium “Remote Sensing: From Pixels to Processes” Enschede, Netherlands, May 6-16, 2006. Submitted on Feb. 2, 2006 and awarded on April 18, 2006.
26. **UNCW Center for Faculty Development (\$450)** (2006): Present Paper at Spatial Accuracy 2006 (July 1-7, 2006; Lisbon, Portugal). Awarded on April 26, 2006.
27. **UNCW Office of Research Services and Sponsored Programs, Faculty Engagement in Sponsored Research (FESR) Proposal Development Fellowship** (2006): An Investigation of

- Coastal Change in North Carolina: Human Settlement Patterns, Demographics, and Economic Indicators. Submitted September 22, 2006 and awarded October 5, 2006. This grant will pay for one course buyout in Spring 2007.
28. **UNCW Center for Marine Science Research Pilot Projects (\$27,400)** (2003-2004): Habitat Fragmentation and Extent (Area) Versus Barrier Island Topography and Land Use Development: An Investigation Using Aerial Photography, Digital Terrain Modeling, and GIS. Co-PIs: Halls, Joanne N., Lynn A. Leonard and Martin H. Posey. Funded graduate student Lindsey Kraatz.
 29. **Impact Assessment Inc., (\$22,246)** (August 2003 to May 2004): Mapping Project for Gulf of Mexico Fishing Communities. PI: Halls, Joanne N.
 30. **NOAA National Marine Fisheries Service, National Undersea Research Center (\$25,000)** (August 1, 2001 to July 31, 2003): Oculina Research Reserve Characterization Expedition (ORRCE): Data Access via GIS. Co-PIs: Joanne N. Halls and Andy Shepard. Funded graduate student Amanda Manness.
 31. **UNCW Office of Sponsored Programs Charles L. Cahill Awards for Faculty Research and Development (\$2,500)** (Summer 2003): Evaluation of Disparate Data Sources for Modeling Watershed Nonpoint and Point Source Pollution. PI: Halls, Joanne N.
 32. **UNCW Center for Marine Science Research Pilot Projects (\$29,450)** (August, 2002 - Summer 2003): Use of Geographic Information Systems (GIS) and spatial statistics to examine bottlenose dolphin community structure. Funded graduate student Courtney Hanby. Co-PIs: Halls, Joanne N. and Laela Sayigh.
 33. **UNCW Information Technology Systems Division: The Information Technology Innovations Program (\$24,255)** (October 2000 through September 2001): River Run: An Interactive Web Site for Analyzing River Ecology Data Co-PIs: Halls, Joanne N., Richard Huber, Michael Mallin and Marian McPhaul.
 34. **UNCW Information Technology Systems Division: The Information Technology Innovations Program (approx. \$10,000)** (October 1999 through September 2000): The Model Internet Project for the Students as Scientists and the Lower Cape Fear River Program. Co-PIs: Huber, Richard, Michael Mallin and Joanne N. Halls.
 35. **United Nations Compensation Commission, Geneva (\$2,000)** (March 2000): Evaluation of the Natural Resources Damage Assessment Claims Against Iraq. PI: Halls, Joanne N.
 36. **Environmental Protection Agency (\$10,000)** (February 2000 – January 2002): Smart Growth Index for Wilmington and New Hanover County. PIs: Austin, Bill, Chad Ives, Jim Sahlie, Chris O’Keefe, and Joanne N. Halls.
 37. **UNCW Chancellor’s Office (\$3,000)** (January through May 2000): New Hanover County Forest Cover Analysis. PI: Halls, Joanne N.
 38. **South Carolina Department of Health and Environmental Control (\$54,000)** (March 2000 through June 2002): Prevention, Control, and/or Abatement of Nonpoint Source Pollution for the Rocky Creek Watershed. PIs: Halls, Joanne N. and Jacqueline Michel.

FUNDED GRANTS RELATED TO TEACHING

1. **UNCW ETEAL (\$10,000): High Performance Computing across the curriculum: A Pilot Study** (August 2017 – May 2018) co PIs: Cuixian Chen, Yaw Chang, and Yishi Wang (MAT/STT), Joanne Halls and Narcisa Pricope (EOS), and Clayton Ferner (CSC). Submitted 3/15/17, revised August 2017 and funded for Fall 2017 and Spring 2018.
2. **UNCW ETEAL (\$5,465)** (Spring, 2014): Application of Geospatial Technology to Enhance Multi-Disciplinary Learning at UNCW PIs: Halls, Joanne and Narcisa Pricope. All money was spent on applied learning field equipment (tablets) for GIS courses (no faculty or student stipends or travel expenses).
3. **Google (\$12,000)**: Halls, Joanne N. (Principal), “Implementing Google Earth Pro into Geography Curriculum” submitted to Google Earth on 2/20/2012. We received 30 copies of Google Earth Pro

which is worth \$12,000. Software is installed in the GIS lab and several faculty offices across campus.

4. **UNCW (\$4,400)** (February 1, 2011 - April 1, 2011). Halls, Joanne N., "Satellite Imagery to Support Research and Teaching in Geography and Geology". Submitted Oct 1, 2010.
5. **UNCW College of Arts and Sciences Curriculum Development Initiatives (\$3,000)** (Summer 2003): Developing Course Materials for Geography of Latin America: A New Course in the BA in Geography. PI: Halls, Joanne N.
6. **UNCW Randall Library (\$2,000)** (Fall 2002) PI: Halls, Joanne N. Acquisition of Materials to Support a New Geography Course: The Geography of Latin America
7. **UNCW College of Arts and Sciences: Summer Curriculum Development Initiative (UNCW Faculty Development Award) (\$3,000)** (May through June 2000): Develop GIS Workshop Materials for College of Arts and Sciences Faculty and Staff. PI: Halls, Joanne N.
8. **UNCW College of Arts and Sciences: Curriculum Development Initiatives (UNCW Faculty Development Award) (\$3,000)** (September through December 1999): Spatial Analysis Curriculum Course Development. PI: Halls, Joanne N.

UNFUNDED GRANT PROPOSALS

1. NSF: UNCW Marine Science REU proposal. PI: UNCW CSURF. Submitted August 2017.
2. ASD: Mapping Coastal Vegetation Species as an Indicator of Sea-Level Rise and Saltwater Intrusion. Submitted 10/20/2017 to ASD Goetz Instrument Program (<https://www.asdi.com/support/student-support-programs/goetz-instrument-support-program>).
3. NC Sea Grant: Modeling Changes in Coastal Geomorphology at North Carolina's Barrier Islands. Submitted 11/29/2017 to NC Coastal Reserve – NC Sea Grant College Program Graduate Research Fellowship Program. \$10,000.
4. NOAA Climate Program Office, COCA, Funding Opportunity Number: NOAA-OAR-CPO-2017-2004896. Letter of Intent submitted 8/24/16 and selected for full proposal submission. Submitted proposal on 10/24/16. "Fine-Scale Coastal and Social Vulnerability in North Carolina: Statewide Assessment and Community Engagement" Lead PI: Dr. Benjamin Strauss, Climate Central. Co-PIs: Dr. Joanne Halls, UNCW, Dr. Narcisa Pricope, UNCW, Dr. Jessica Whitehead, NCSU and NC Sea Grant. Total budget: \$292,640 UNCW: \$ 118,461
5. US Forest Service AG-4670 contract proposal. Submitted pre-proposal on 11/19/2016 and selected for short list on 1/12/17. Submitted proposal on 1/26/2017 for \$8,975.
6. Silicon Mechanics: Sixth Annual Competition to receive a High Performance Computing Cluster (HPC). PIs: Mathematics and Statistics: Yaw Chang, Cuixian Chen, Wei Feng, Michael Freeze, Xin Lu, Yishi Wang, Earth and Ocean Sciences: Joanne Halls, Narcisa Pricope, Computer Science: Clayton Ferner. Submitted 3/1/17.
7. Silicon Mechanics: Fifth Annual Research Cluster Grant. Lead PI: Yaw Chang PIs: Borrett (BIO), Chen (MAT), Ciner (CSB), Feng (MAT), Freeze (MAT), Halls (GAG), Lu (MAT), Pricope (GAG), Puente (PSY), Ricanek (CS), Simmons (MAT), Wang (MAT). \$100,000 Submitted 2/26/16.
8. NOAA-NOS-NCCOS-2015-2004198: 2015 Ecological Effects of Sea Level Rise Program. Submitted Nov 18, 2014. Lead PI: Joanne N. Halls. Co-PIs: Scott Ensign, Reide Corbett, Tom Allen, JP Walsh, Andrea Hawkes. Total Budget: \$597,532 (UNCW: \$291,494; Aquaco: \$76,401, ECU: \$229,637).
9. Google Earth Engine Research Award: Identification of Coastal Geomorphic Landforms Using Google Earth Engine. Lead-PI: Joanne N. Halls and Co-PI: Eman Ghoneim. Submitted 1/13/2015.
10. NSF WIDER (Widening Implementation & Demonstration of Evidence-Based Reforms): Innovative Applied Learning Strategies for STEM Undergraduate Education in Geosciences. Joanne Halls, Lead PI, JP Walsh and Reide Corbett (ECU) and Genny Healy (Geosciences Education). Proposal submitted July 3, 2013.
11. Mid-Atlantic Sea Grant program: Geospatial analysis tools to characterize land-use effects on water quality in coastal watersheds of the Mid-Atlantic. Submitted June 27, 2013.

12. Water Resources Research Institute: Analysis of Public and Decision-maker Attitudes toward Economic, Demographic, and Environmental Impacts on Water Demand and Supply Across North Carolina. Submitted May 31, 2013.
13. NOAA Environmental Literacy: CoastalCorps: Coastal Geosciences Virtual and Experiential Tools for Systemic Applied Learning. Lead PI: Halls (UNCW) with Reide and Corbett (ECU) co-PIs. Submitted Mar 12, 2013. Budget: \$998,850 (includes ECU \$300,354).
14. NOAA Sea Grant Regional: Geospatial Analysis Tools to Characterize Land-Use Effects on Water Quality in Coastal Watersheds of the Mid Atlantic. Michael Mallin, Lead PI, Joanne Halls co-lead PI, and Larry Cahoon (UNCW); Luckenbach, Kellogg and Lawrence (VIMS); Gilbert and O'Neil (U MD); Claessens and York (U Del); Kennish and Fertig (Rutgers). Submitted 3/15/13 and received notification on 4/19/13 that the proposal was selected for the full proposal stage. Full proposal submitted July 1, 2013.
15. South Carolina Sea Grant: Impacts of Changing Population, Land Use, and Climate on the Waccamaw River Watershed. Concept proposal submitted Apr 8, 2013. Lead PI: Dan Tufford (USC) with Joanne Halls (UNCW) and Greg Carbone (USC) co-PIs. Received notice on May 6, 2013 that the pre-proposal was not selected for the full proposal stage.
16. Idaho National Labs (\$30,000): "Collection and Data Processing of Terrestrial Laser Scanning on a Barrier Island in Southeastern North Carolina" Halls, Joanne N. (Principal), Jessica Mitchell and Roy Stine, submitted 2/22/2012.
17. National Science Foundation, Federal (\$142,666.00): "A Track 1 Project that Connects Undergraduate and Graduate Geospatial Technology Education," Halls, Joanne N (Principal). Submitted 2012.
18. NOAA NERR (\$40,000.00): "Using Spatial Analysis Technology to Assess Habitat Change on North Carolina Research Reserve Sites," Halls, Joanne N (Principal), McCarthy, Matthew (Co-Principal). Submitted 2012.
19. UNC General Administration: "Proposal to Develop Innovative and Cost-Effective Pedagogy Tools for Geographic Information Science Curriculum" submitted to College of Arts and Sciences Dean Cordle on 3/10/2009 for the Curriculum Redesign Projects to Promote Quality and Lower Cost RFP from UNC General Administration.
20. University of New Hampshire's CICEET program (\$191,343): "An Assessment and Implementation of Stormwater Runoff Modeling in Local Planning (New Hanover County, North Carolina)" Halls, Joanne N. (lead PI) and Perver Baran (NC State Univ.) submitted on 9/17/07
21. NOAA's Environmental Literacy Program (\$750,000): "Enhancing Ocean and Climate Literacy Using Authentic and Virtual Learning Environments" Peter Swart (Univ. Miami, RSMAS, PI), Genevieve Healy (Geoscience Exploration), Joanne Halls (UNCW), and Brad Rosenheim (Tulane), co-PIs. Submitted pre-proposal February 20, 2008.
22. U. South Carolina Dept. of Homeland Security Proposal Working Group (\$150,000): "Barrier Island Topography: An Investigation of Dune Height, Island Geography, and Urban Development" Halls, Joanne N. (PI) submitted on 3/19/2007.
23. U. South Carolina Dept. of Homeland Security Proposal Working Group (\$200,000): "The Influence of Hurricane Track on Island Vulnerability" Gamble, D.W. (PI) and J.N. Halls (co-PI) submitted on 3/19/2007.
24. North Carolina Sea Grant: "Population Growth and Non-Point Source Pollution Modeling in Southeastern North Carolina" Halls, J.N (lead PI) and P. Baran (NC State Univ.) submitted on 4/30/07. This is a preproposal from which NC Sea Grant informed me in a letter dated 6/4/07 that it was selected to be considered for a full proposal.
25. North Carolina Sea Grant (\$89,873): "Population Growth and Non-Point Source Pollution Modeling in Southeastern North Carolina" Halls, J.N (lead PI) and P. Baran (NC State Univ.) submitted on 7/23/07.

26. North Carolina Hurricane Data Visualization Center: A proposed RENCI Engagement Center, Renaissance Computing Institute (RENCI), \$500,000. Dr. Steve Meinhold coordinated this multi-disciplinary effort.
27. Friends of UNCW: Proposal to obtain partial funding (\$2,000) to help build the Deloach Lobby kiosk. Submitted Feb. 10, 2006.
28. ITSD's Information Technology Innovations program: Incorporating Global Positioning System Technology into Geographic Information System Curriculum. Submitted April 7, 2006.
29. ITSD's Information Technology Innovations program: Development of a New GIS Web Server for Internet Mapping and Advanced Visualization: New Spatial Tools for Education and Research. Submitted April 7, 2006.
30. UNCW Center for Teaching Excellence: "Incorporating Global Positioning System Technology into Geographic Information System Curriculum" submitted November 15, 2005.
31. UNCW Cahill: "Comparison of Marsh Changes at Masonboro Island and Topsail Island: An Evaluation of Aerial Photography from 1938 to 2002" submitted on October 15, 2005.
32. North Carolina Department of Justice: "Lower Cape Fear River Biological Habitat Assessment" submitted to April 30, 2004.
33. NSF: "Bridging the Gap between Middle Grade Natural and Social Science: Supplemental GK-12 Request" co-PI with Bill Harris, submitted May, 2003.
34. NSF Biotic Survey Program: "Taxonomic surveys of benthic diatoms in contrasting estuarine and coastal ocean habitats" submitted Jan 10, 2003. Co-PI with Larry Cahoon (Lead PI), Dick Dillamon (CO-PI), and Richard Laws (CO-PI).
35. Fulbright-Hays short-term seminar: "Application for Fulbright-Hays Short-Term Seminar in Chile" submitted to Denise DePuchio, Department of Foreign Languages, for selection to the grant proposal submitted to the for 15 faculty [10 from UNCW; 5 from UNCA] to study and live in Valparaíso, Chile, from June 25-August 1, 2003. Decision was supposed to be made in February, 2003, but we didn't get notified of approval until April and were supposed to be in Chile before May. So, there was no time to make changes to our teaching schedules in order to accept this offer.
36. National Fish and Wildlife Foundation, Coral Reef Conservation: "Habitat Assessment and Educational/Outreach Internet Tools for Oculina Banks Habitat Area of Particular Concern" submitted to April 2, 2002.
37. NC Sea Grant: "Importance of Habitat Fragmentation for Finfish and Decapod Populations: A Whole System Approach" pre-proposal submitted as co-PI with Martin Posey as lead PI (BIO). Submitted February 15, 2002. Not reviewed well enough for us to write a full proposal.
38. Friends of UNCW: "Hard disk space expansion for the Spatial Analysis Lab GIS server" submitted February 22, 2002.
39. USDA Cooperative State Research, Education, and Extension Service: "A Quantitative Analysis of Nonpoint and Point Source Pollution GIS Modeling in the Lower Cape Fear Watershed" Joanne Halls (Lead PI) with Mike Mallin, Doug Gamble, and Mike Benedetti. Submitted November 2001.
40. National Marine Fisheries Service: "Development of a Novel Sampling Approach and Predictive Model to Assess Species/Habitat Associations of Benthic Communities in Onslow Bay, NC" co-PI with Nancy Grindlay and Martin Posey, submitted April 23, 2001.
41. NC Sea Grant: "Modeling the effects land use development on water quality in tidally influenced watersheds of New Hanover County, North Carolina" Lead PI, submitted April 27, 2001.
42. NC Sea Grant: "Geological and GIS investigation of developed versus undeveloped barrier islands and the effects on marsh stability" Lead PI with co-Investigator Lynn Leonard. Submitted July 20, 2001.
43. North Carolina Water Resources Research Institute, Water Quality Workgroup: "A GIS-Based Study of the Impact of Land Use on Rural Non-Point Source Pollution" submitted June 2, 2000.
44. American Association of University Women, American Fellowships Application, Summer Research Publication Grant: "Biological, Physical, and Socio-Economic Analysis of Coastal Plain Watersheds of Southeastern North Carolina" submitted November 15, 2000.

45. North Carolina Water Resources Research Institute, Water Quality Workgroup Initiative: “Quantitative Analysis of Nonpoint Source Pollution Modeling in the Lower Cape Fear Watershed” submitted December 8, 2000.
46. UNCW Faculty Development Opportunities Charles L. Cahill Award: “Learning S-Plus to Incorporate into a Spatial Modeling Course” submitted October 10, 2000.

Contracts (as PI or co-PI) Prior to UNC Wilmington:

1. **Research and Special Programs Administration: U.S. Department of Transportation (1997–1999)**
Environmental Indexing of Unusually Sensitive Areas
2. **Emergency Response and Removal Branch, U.S. Environmental Protection Agency: Region IV, Atlanta, Georgia (1997 – 1999)**
Technical GIS Support for Area Contingency Planning:
3. **Hazardous Materials Response and Assessment Division: National Oceanic and Atmospheric Administration, Seattle, Washington (1995 – 1999)**
Environmental Sensitivity Index GIS Atlases
Summary Environmental Index GIS
4. **Florida Marine Research Institute: Florida Department of Environmental Protection, Tallahassee, Florida (1995 – 1999)**
Environmental Sensitivity Index GIS Atlases
Riverine Sensitivity Index GIS Atlases
Conversion and Update of ESI Data to Gulf-Wide Information System Standards
5. **Minerals Management Service, New Orleans, Louisiana (1996 – 1999)**
Gulf-Wide Information System GIS Support
6. **Louisiana State University, Baton Rouge, Louisiana (1998 – 1999)**
Gulf-Wide Information System GIS Support
7. **Louisiana Department of Wildlife and Fisheries, Baton Rouge, Louisiana (1998 – 1999)**
Gulf-Wide Information System GIS Support
8. **City of Cayce, Cayce, South Carolina (June 1998)**
GIS Evaluation of Natural Resources Hazards
9. **New Jersey Department of Natural Resources (April 1998)**
Development of an Arcview Application for Tidal Inlet Protection Strategies along the New Jersey Coast
10. **Great Lakes Dredge and Dock, Inc., Ontario, Canada (1998)**
Environmental Assessment and Land Cover Mapping of Keta Lagoon, Ghana, Using SPOT Satellite Imagery
11. **Federal Geographic Data Committee, Washington, DC (September 1997)**
Development of a Clearinghouse Node for Environmental Sensitivity Index Geospatial Data
12. **Industrial Economics Corporation, Boston, Massachusetts (1997)**
Analysis of Remote Sensing Technologies for Assessing Surface Water Impoundments
13. **Central Midlands Regional Planning Council, Columbia, South Carolina (March 1996)**
Natural Resources Element of the Comprehensive Plan for Richland, Lexington, Newberry, and Fairfield Counties, South Carolina

Professional Development: Efforts to improve teaching effectiveness

1. UNCW Book Circle: Small Teaching (Spring 2018)
2. UNCW Book Circle: Dynamic Learning (Spring 2018)
3. GeoMentors: The Nationwide Effort to Improve K-12 GIS and Geography Education. 11/2/16.

4. An Ocean of Story Maps (1/20/2015) online webinar.
5. ArcGIS in the Cloud: Stay Connected and Current (5/28/2014) online webinar.
6. MarineExplore webinar on December 3, 2013.
7. Echo 360 webinar on September 26, 2013.
8. OpenNSPECT Training on August 13, 2013.
9. UNCW E-Learning training session: Bb Learn New Features (June 12, 2013).
10. UNCW E-Learning training session: Advanced WebEx (June 17, 2013)
11. UNCW E-Learning training session: Student Engagement – Beyond the Discussion Boards (June 19, 2013)
12. Participated in TerraGo webinar on 1/15/13. TerraGo is software I use in my Digital Globe class.
13. Center for Digital Education: participated in numerous webinars and white papers (Spring 2013).
14. Attended GIS Seminar “Understanding Coordinate Systems” on Feb 28, 2013
15. Seminar, "McGraw Hill Blackboard Connect", McGraw Hill. (February 14, 2012).
16. Workshop, "Creating Effective Web Applications Using ArcServer", NC AUG/ESRI, Carolina Beach, NC. (September 13, 2011 - September 14, 2011).
17. Attended Workshop: "Intro to Enhanced/Online Instruction in Blackboard Learn", UNCW, Wilmington, NC. (January 25, 2011).
18. Training, "Best Practices: Asynchronous teaching", UNCW ITSD. (November 10, 2009).
19. ADA for online development: May 11, 2009
20. Seana Webinar: May 12, 2009
21. Skillport webinar: May 12, 2009
22. Online Best Practices: May 13, 2009
23. I-Tunes Training: May 14, 2009
24. Best practices Colloquium: November 10, 2009
25. From ArcGIS to Web Maps: Techniques for Publishing GIS Maps Online by Emily Wilson of the University of Connecticut: April 22, 2010
26. Blackboard 9 Awareness session: April 28, 2010
27. Attended the CTE Event: What’s Race Got to Do with It? On Friday, 9/12/2008.
28. Received training on 1/30/2009 from Sheri Anderson in how to use Camtasia to develop video and audio for PowerPoint Lectures.
29. Participated in the online seminar “Imagine if Students Could See Your Course Through the Lens of National Geographic... Discovering the Impact of Integrating Meaningful Visuals in Your Classroom” presented by the Faculty Resource Network of the Higher Education department of John Wiley & Sons, November 16th 2006.
30. Participated in the General College workshop for becoming a teacher for Freshman Seminar (UNI 101), May 18th, 2004.
31. Participated in teaching methods for UNI 101 workshop, December 8th, 2004.
32. Participated in CTE Peer Evaluation Workshop (May 2003).
33. Participated in three CTE Summer Workshops (June 2002): Teaching and Learning Styles, Teaching Using Electronic Presentation, Problem-Solving Methods of Teaching
34. Met with Sue Cody (2001) to create a seminar in library research techniques to be presented in GGY 426.

Professional Development Related to Research/Scholarship

1. Using NASA’s AppEEARS to Slice and Dice Big Earth Data: The Application for Extracting and Exploring Analysis Ready Samples (AppEEARS) is an intuitive and powerful data extraction application for Earth Observation datasets archived at NASA’s Distributed Active Archive Centers (DAACs). Oct 19, 2017. and Oct 24, 2017.
2. Open Source GIS on 5/9/17.

3. Towards a Global Integrated Hydrology Platform: Perspectives and Advances in Large-scale Modeling: September 20: Global hydrology and water resources: review, challenges and directions | Marc Bierkens, Utrecht University September 27: Groundwater-to-atmosphere simulations including human water use at the continental scale | Stefan Kollet, Research Center Jülich and Bonn University October 4: Update on the U.S. National Water Model, recent comparisons to observations | David Gochis, NCAR October 11: Evaluating groundwater surface water interactions across the Continental U.S using an integrated hydrologic model | Laura Condon, Syracuse University
4. Introduction to Remote Sensing for Scenario-Based Ecoforecasting: This four-week webinar series, in collaboration with the USGS North Central Climate Center, will include an overview of the satellites, sensors, and tools relevant to ecological forecasting; available climate products and data for ecological modeling; scenario planning; and the application of modeling for species distribution and state-and-transition simulations. Every Thursday from 9/7/17 until 9/28/17 12:00pm to 1:00pm. Received certificate recognizing that I completed all assignments and passed tests.
5. Google: Wrote a proposal and was selected to attend the Google Earth Engine Summit, Mountain View, California, June 28-July 2, 2015.
6. Google Geo for Higher Ed Summit: Mountain View, CA, 8/10/14 to 8/17/14. Several hundred applications were submitted and mine was one of 75 accepted.
7. Spike by ikeGPS: Laser Accurate Smartphone GPS Accessory, March 27, 2014.
8. The ALCES Toolkit: Regional Development and Land-Use Dynamics webinar on March 4, 2014.
9. Attended a presentation by Dr. Alcolado on September 3, 2013. Met with him to talk about how his research institute and UNCW could collaborate using GIS and marine science.
10. Society for Conservation GIS webinar on June 12, 2013.
11. Attended webinar "GIS Strategic Planning: Building a RoadMap for your GIS" on Jan 31, 2013.
12. Attended NC ArcGIS Users Group, annual conference, Carolina Beach. Oct 24-26, 2012.
13. Seminar, "Water Quality, Coastal Hazards, Climate Change and Critical Land Analysis for the Houston/Galveston Region". (March 14, 2012).
14. Seminar, "Census 2010 and American Community Survey", CIVIC Technologies, ESRI, Library Journal, 2 credit hours. (February 23, 2012).
15. Attended NC Arc Users Group (NC AUG) Annual Conference, Carolina Beach, NC. (September 15, 2011 - September 16, 2011).
16. Attended Seminar: "Salt River Bay MREC project overview", Environmental Resources Management, Annapolis, MD. (May 5, 2011).
17. Attended Conference: Southeastern Geological Society of America, Wilmington, NC. (March 23, 2011 - March 25, 2011).
18. Attended Conference: Geological Society of America, Denver, CO. (October 31, 2010 - November 3, 2010).
19. Attended Conference: NC Arc Users Group Annual Conference, Carolina Beach, NC. (September 14, 2010 - September 17, 2010).
20. Attended Conference: "NC Arc Users Group Fall Conference", Carolina Beach, NC. (September 16, 2009 - September 18, 2009).
21. Copyright Online webinar: May 11, 2009
22. Deeper Analysis, Faster Insight: Enhanced Applications with WorldView-2's Eight Spectral Bands. Webinar on July 29, 2009.
23. Presenting a New Face to the World - IMAGINE the Difference: January 19, 2010
24. Demonstration of a Coastal Web Atlas Interoperability Prototype by Dawn Wright, Tanya Haddad, and Liz O'Dea Part 1: March 25, 2010
25. Demonstration of a Coastal Web Atlas Interoperability Prototype by Dawn Wright, Tanya Haddad, and Liz O'Dea Part 2: April 6, 2010
26. What's New in ERDAS Software 2010, Version 10.1: April 13, 2010
27. Attended the workshop "Writing proposals for NSF Geography and Regional Science" on Thursday, April 17, 2008 while attending the AAG Annual Conference, Boston, MA.

28. On January 23, 2008 I met with Keith Debbage, a geographer from UNCG who was visiting UNCW to begin discussing a collaborative research program to quantify various economic development and community outreach efforts.
29. On April 15, 2008 (8 am to 5 pm) I attended the workshop Multilevel Modeling: An Introduction at the AAG annual convention in Boston. I learned how to program and use MLwiN which is statistical modeling software for analyzing data in multiple levels by structuring your data hierarchically, in multiple-membership, or by cross-classified structure.
30. On April 17, 2008 I participated in a downtown Boston field trip where we met with the lead architect, Robert Kroin, for the Planning and Redevelopment department for the City of Boston.
31. I attended several (6) paper sessions at the annual AAG conference in Boston.
32. I attended the Geographic Information Science Specialty Group Business Meeting (Thursday, April 17, 2008).
33. Attended a library seminar on Seahawks DOCKS on 2/9/2009 which is a new web-based system of disseminating faculty journal articles.
34. Attended the NC Arc User's Group conference on 9/17/2008 through 9/19/2008 and sponsored several students to attend.
35. Attended the NC Geographical Society annual meeting on 11/22/2008 at UNCG's Dept. of Geography where society news, business, awards (Gordon Bennett, lifetime achievement) and a seminar was given by Jeff Patton on historical cartography.
36. Attended the Margins Speaker seminar on 2/12/2008, the AAG seminar speakers on 4/11/2008, Anthony Snider seminar on 8/29/2008, Naikoa Aguilar-Amuchastegui's seminar on 9/12/2008, Joni Backstrom on 9/19/2008, Richard Leakey seminar on 10/13/2008, Dan Royall on 10/24/2008, Doug Gamble on 10/31/2008, Michael O'Driscoll on 11/7/2008, Roy Stine on 11/19/2008, Derek Alderman on 1/16/2009, Dylan McNamara on 1/29/2009, Dave Mallinson on 2/13/2009, Brian Arbogast on 2/26/2009.
37. Attended the Writing Winning Proposals workshop on January 8, 2007 at UNCW's Executive Development Center.
38. Attended the North Carolina Geographic Society annual meeting, Charlotte, October 7-8, 2007.
39. Attended dept seminars: Steve Pfaff, September 21, 2007; Tom Allen, ECU, September 28, 2007; Mike Savarese, October 1, 2007; Gregg Snedden, October 12, "Losing Ground: Coastal Erosion on the Mississippi River Delta" and Doug Gamble, October 26, "Jamaica and Chile: My Latest Adventures"
40. Attended the lecture "Past & Present Discoveries in the World of the Ancient Maya" by Dr. George Stuart on November 20, 2006.
41. Attended the new Caribbean Region Research Workgroup formed by OSP on October 2, 2006.
42. Attended a meeting on October 25, 2006 where the new Director of NC Sea Grant, Michael Voiland, and Associate Director, Steve Rebach, came to UNCW to ask for input in the development of a new strategic plan and to give guidance and answer questions related to grant proposal development.
43. Attended "Coastal Conference on Ecosystem-Based Approaches to Management in the Southeast Region" March 19-21, UNC Wilmington, Holiday Inn Sunspree.
44. Attended the ISPRS Mid-Term Symposium 2006 Remote Sensing: From Pixels to Processes, Enschede, the Netherlands, 8-11 May 2006 at the Institute for Geo-Information Science and Earth Observation.
45. Attended the Spatial Accuracy 2006 (7th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences) conference, 5-7 July, Lisbon Portugal.
46. Attended the 2006 Summit on Environmental Modelling and Software (3rd Biennial meeting of the International Environmental Modelling and Software Society) conference, 9-13 July, Burlington, Vermont where I was invited to participate in workshop #2: Sensitivity and Uncertainty Assessment of Integrated Environmental Models. I also attended several sessions and other workshops, and I was asked to contribute to a chapter in an upcoming book from the conference. The deadline to submit my contribution is August 25, 2006.

47. Attended the “DUNCOC – The Next 25 Years” 20th Annual Meeting of the Duke/UNC Oceanographic Consortium, November 17-18, 2006, Morehead City, NC.
48. Applied and then accepted to participate in a workshop given by William Germano (vice-president and publishing director of Rutledge Press) regarding how to get a book published. September 29, 2005.
49. Met with Ron Podraza on September 7, 2005 to discuss technology transfer and GIS.
50. Participated in “Introduction to Geostatistical Analysis” – All-Day Seminar at the ESRI International Users Conference, July 2002. (I paid \$500 for this workshop).
51. Attended Cambridge Scientific Abstracts training session, June 11, 2001.
52. Attended the Smart Growth presentation given by the NC Coastal Federation. April 14, 2000
53. Attended the NC Wetlands Restoration Program meeting. June 22, 2000.
54. Attended the Smart Growth Forum held at UNCW. September 22, 2000
55. Attended the annual State of the Coast Meeting organized by the North Carolina Coastal Federation and held in Morehead City. October 6, 2000
56. Attended the Stormwater Management Conference: October 23, 2000

Professional Development Related to Service to University

1. Participated in Cascade Web Content Manager Training on Aug 3, 2016.
2. UNCW NextUp Faculty Leadership Development Fellows: Monthly meetings from Sep. 2015 – May 2016.
3. Training, "Apply Yourself", UNCW Grad School. (February 28, 2012).
4. ImageNow Training (April 5, 2011).
5. Attended the Web Image Server training seminar on 3/13/2008.
6. Attended an all-day meeting on February 2, 2007, entitled Development of a Regional Engagement Center, at the Executive Development Center, where several experts gave us advice on how to create and sustain a center.
7. UNCW Assessment meeting held at the Center for Faculty Leadership, Randall Library, April 21, 2006.
8. Attended an Assessment Seminar on April 21, 2006.
9. Attended a meeting on confidentiality on September 9th, 2004.
10. Attended Introduction to Dreamweaver seminar on February 24th, 2004 presented by ITSD.
11. Attended Panel Discussion on RPT in Cameron Auditorium on April 3, 2000 to learn about the various requirements that departments have for evaluating RPT.

TEACHING ACTIVITIES

Graduate Students (advised):

1. Jordan Skinner (MS Geoscience, Geospatial): non-thesis (started Spring 2019)
2. Will Benfield (MS Geoscience, Geology): thesis: Barrier island land habitats and geomorphology: an integrated remote sensing and geospatial model tested at Masonboro Island, NC (started Fall 2018, in progress).
3. Erin Burgess (MS Geoscience, Geospatial & GIS Cert) (co-advisor with Dr. Rachael Urbanek, EVS): thesis: Connectedness, fragmentation, and corridor analysis of urban land cover for wildlife pattern analysis (started GIS Cert Spring 2018 & MS Fall 2018, in progress)
4. Jeffry Edwards (MS Geoscience, Geospatial & GIS Cert): final project: Investigation of population and socio-economic conditions with relationship to floodplain extent in United States counties (1970 through 2010) (started Jan. 2018, in progress).
5. Lisa Bishop (MS Geoscience, Geology): final project: Development and Analysis of US Flooding Events Using A Geospatial Time-Cube (started Fall 2017, in progress).

6. Sarah Chahin (MS Geoscience, Geospatial): Internship at Coastal Federation (started Fall 2017, in progress)
7. Jessica Magolan (MS Geoscience, Geospatial): thesis: identification of wetland transitions, from freshwater to saltwater, in southeastern North Carolina (started Fall 2017, in progress).
8. Michael Okely (MS Geoscience, Geospatial & GIS Certificate): Internship: US Army Corps of Engineers (Aug. 2015 – Dec. 2017).
9. Erin McCarthy (MS Marine Science & GIS Certificate) (co-advisor with Dr. Ai Ning Loh): thesis: Trophic transfer and habitat use: Assessing the pre-restoration impact of the Faka Union Canal in southwest Florida. (Aug. 2015 – May 2018)
10. Maria Frishman, (MS Geoscience, Geology & GIS Certificate): thesis: Development of an Automated Model to Classify and Analyze Change in Geomorphic Features on Barrier Islands of North Carolina (Aug. 2015 – May 2017).
11. Scott Piner (MS Geoscience, Geospatial & GIS Cert, part-time): (Aug 2014 – Aug 2017; withdrew from the program).
12. Alyssa Randall (MS Geoscience, Geospatial & GIS Certificate): thesis: Nesting Patterns of Loggerhead Sea Turtles (*Caretta Caretta*) in North Carolina (2005 – 2014) (Aug. 2013 – Dec. 2015).
13. Jacquelyn Putnam (MS Geoscience & GIS certificate): thesis: Effective Emergency Sheltering: A GIS Approach to Shelter Location Analysis and Population Allocation for Eastern North Carolina (Aug. 2013 – Dec. 2015).
14. Timothy Moss (MS Marine Science): thesis: An Investigation of Barrier Island Topographic Change Using LIDAR (Masonboro Island, NC) (Jan. 2011 – Dec. 2015).
15. Kaitlyn Costin (MS Marine Science): thesis: Tidal Creek Habitat Mapping: An Assessment of WorldView-2 Imagery for Mapping Estuarine Habitats and Deriving Bathymetry (Jan. 2012 - May 2015).
16. Matthew McCarthy (MS Marine Science): thesis: Using Spatial Analysis Technology to Assess Habitat Change on North Carolina Barrier Islands: An Investigation Using IKONOS, QuickBird and WorldView-2 (Aug. 2010 – Dec. 2013).
17. Holly Gabries-Beck (MS Marine Science): thesis: Hyperspectral Analysis of North Carolina Salt Marshes: A Case Study of Carolina Beach State Park (Aug. 2006 – 2011; did not finish).
18. Amanda Williams (MS Marine Science): thesis: Remote Sensing Analysis of Two Coral Reefs in the Philippines (Jan. 2006 – May 2009).
19. Lindsey Kraatz (MS Marine Science): thesis: Distribution of back barrier marsh between 1938 and 2002 for two barrier islands in southeastern North Carolina (Fall, 2003 – 2008; did not finish).
20. Courtney Hanby (MS Marine Science) (co-advisor with Dr. Laela Sayigh, Department of Biology and Marine Biology): thesis: Use of a Geographic Information System (GIS) to Examine Bottlenose Dolphin Community Structure and Habitat Use in Southeastern North Carolina (Aug. 2002 - May 2005).
21. Brent Manning (MS Marine Science): thesis: Topographic analysis of the Oculina Habitat Area of Particular Concern using a multimedia geographic information system (GIS) (Aug. 2001 – May 2003).

Graduate Students (committee member):

1. Britton Baxley (MS Geoscience): Predictive modelling of anthropogenically-enhanced *Phragmites australis* invasion. Advisor: Dr. Narcisa Pricope. Started Aug 2017, in progress.
2. Lauren Rosul (MS Geoscience & GIS Certificate): Modeling vulnerability to inundation in coastal North Carolina using high-resolution finished-floor elevations. Advisor: Dr. Narcisa Pricope. Graduated May 2018.
3. Shawn McGuire (MS Geology): The Morphology of a Fast-Spreading Mid-Ocean Ridge Based on High Resolution Bathymetry of the East Pacific Rise Between 9° – 10° N. Advisor: Dr. Scott Nooner. Aug. 2012 – Summer 2017.

4. Anna Robuck (MS Marine Science): The impacts of urban and suburban stormwater runoff on selected metabolic processes in a southeastern North Carolina tidal creek. Advisor: Dr. Michael Mallin. Aug. 2012 - July 2015.
5. Elizabeth Roddy (MFA Creative Writing) (2013-2015).
6. Aaron Caldwell (MS Computer Science/Information Systems): ArcGIS Server: An Application Migration, Application Template Construction and Server Analysis & Design for the University of North Carolina Wilmington Department of Geography & Geology. Advisor: Dr. Douglas Kline. Aug. 2010 – Dec. 2013.
7. Lindsey Deignan (PhD student in Marine Biology): provided GIS support in summer 2012.
8. Erin Scher (MS Geology): Storm Overwash in a Back Barrier Marsh and the Implications for Sea Level Rise on Masonboro Island, NC. Advisor: Dr. Lynn Leonard. Aug. 2009 – Dec. 2012.
9. Amanda Maness (MS Marine Science): Acoustic and Visual Seabed Classification of the Oculina Habitat Area of Particular Concern (OHAPC), Eastern Florida Shelf. Advisor: Dr. Nancy Grindlay. Aug. 2004 – Dec. 2011.
10. Carlos Zavalaga (PhD Marine Biology): Foraging behavior of Peruvian boobies *Sula variegata* in northern Peru: an analysis of intersexual foraging segregation and marine habitat use. Aug, 2004 - Dec, 2008. Advisor: Dr. Steve Emslie
11. Srinivasan Dharmapuri (PhD Engineering, Andra University, India): Digital Processing Techniques for Generating Photogrammetric Products Using High Resolution Aerial, Satellite and LIDAR Images. 2006
12. Brooke Landry (MS Marine Science): Decadal Scale Changes in the Abundance and Distribution of Macroalgae in Florida Bay. Advisor: Dr. Mike Durako. Aug. 2002 – Dec. 2005.
13. Michelle Barbieri (MS Marine Biology): Assessment of Mechanisms of Physiological and Behavioral Thermoregulation in Bottlenose Dolphins (*Tursiops truncatus*) in Sarasota, Florida. Advisor: Dr. Ann Pabst. Graduated Spring 2005.
14. Carlos Zavalaga (MS Marine Biology): Testing the feeding-niche partitioning hypothesis in the sexually dimorphic blue-footed booby. Aug, 2002 – May, 2004 Advisor: Dr. Steve Emslie
15. Michael Delaney (MS Marine Science): started Fall 2003.
16. Beth Reimer (MS Geology): Influences of major storm events on backbarrier salt marsh change: Masonboro Island, Southeastern North Carolina. Co-advisor with Dr. Leonard, Department of Earth Sciences. Jan. 2003 – Dec. 2004.
17. Laura Mortell (MA MPA): started Fall 2003.
18. Jason Minton (MS Biology): Habitat Relationships of Cranes (*Aves: Gruidae*) in Northeast Asia. Co-advisor with Dr. Steve Emslie, Department of Biology and Marine Biology. 2002
19. Shelly Miller (MS Marine Science): The Effects of Land Use Development on Phosphorus Compounds of Small Tidal Watersheds. Advisor: Dr. Lynn Leonard. 2001 – 2002.
20. Paula Whitfield (MS Marine Science): The Role of *Thalassia testudinum* Seedlings on the Recovery of Motor Vessel Disturbances on Seagrass-Porites Coral Bank. Advisor: Dr. Mike Durako. Aug 1999 - Dec 2002.
21. Andrew McLeod (MS Geology): Sediment Distribution of the Oak Island, North Carolina Shoreface. Advisor: Dr. Bill Cleary. Aug 1999-Dec 2002.
22. Rick Civelli (MS Geology): Effects of culvert geometry on estuarine sediment dispersal. Advisor Dr. Lynn Leonard. 2000 – did not finish.

Graduate GIS Certificate Students (Advised) (Fall 2011 – present):

1. Zoe Carroll: Fall 2018 –
2. Will Paynter: Fall 2018 -
3. Zachary Pope: Fall 2018 –
4. Alexandria Reimold: Fall 2018 –
5. Rhys Young: Fall 2018 -

6. Joseph Britton Baxley: Spring 2018 –
7. Erin Burgess: Spring 2018 –
8. Jessica Magolan: Spring 2018 –
9. Henry McCormick: Spring 2018 -
10. Matthew Nolasco: Spring 2018 -
11. Jeffry Edwards: Fall 2017 –
12. Talor Galloway: Fall 2017 -
13. Jeffery Canaday: Fall 2017 – Spring 2018
14. Holly Ferreira: Fall 2017 – Spring 2018
15. Zachary Hahn: Fall 2017 – Summer 2018
16. Kat Tregaskis: Fall 2017 – Spring 2018
17. Allison Weide: Fall 2017 – Spring 2018
18. Colleen Barry: Spring 2017 – withdrew
19. David Graybill: Spring 2017 – Spring 2017
20. Olivia Koster: Spring 2017 – Spring 2018
21. Kerry Mapes: Spring 2017 – Spring 2018
22. Joseph Aaron Walker: Spring 2017 – Fall 2017
23. Stephanie Bush: Fall 2016 – did not finish
24. Matthew Campbell: Fall 2016 – Fall 2016
25. Sarah Eure: Fall 2016 – Spring 2017
26. Steele Olsen: Fall 2016 – Fall 2017
27. Marissa Parker: Fall 2016 – Spring 2017
28. Carl Daniel Pate: Fall 2016 – Fall 2017
29. Lauren Rosul: Fall 2016 – Spring 2018
30. Nicholas Young: Fall 2016 – Spring 2017
31. Mellissa Dionesotes: Spring 2016 – Summer 2017
32. Erin McCarthy: Spring 2016 – Spring 2017
33. Renee Pelletier: Spring 2016 – Spring 2017
34. Scott Stanley: Spring 2016 – Spring 2017
35. Robert Eisenrich: Fall 2015 – Spring 2017
36. Stephen Fabian: Fall 2015 – Spring 2017
37. Stephen Flaherty: Fall 2015 – did not finish
38. Maria Frishman: Fall 2015 – Spring 2017
39. Michael Okely: Fall 2015 – Fall 2017
40. Scott Piner: Fall 2015- withdrew
41. Wesley Cartner: Spring 2015 – Spring 2015
42. Andrea Fry: Spring 2015 – Spring 2016
43. Alyssa Le: Spring 2015 – did not finish
44. Janardan Mainali: Spring 2015 – Summer 2016
45. Brendan Manley-Bryant: Spring 2015 – Fall 2016
46. Karl Mohr: Spring 2015 – Spring 2015
47. Kimberly Cooke: Fall 2014 – did not finish
48. Amelia Sosnowski: Fall 2014 – Spring 2016
49. Keith Walls: Fall 2014- Summer 2015
50. Keleigh Yelverton: Fall 2014 – Fall 2015
51. Christian Alexander: Spring 2014 – did not finish
52. Kaylee Barket: Spring 2014 – Spring 2015
53. Andrew Lade: Spring 2014 – Spring 2015
54. Troy Martin: Spring 2014 – did not finish
55. Robert Moore: Spring 2014 – did not finish
56. Erik Pavia: Spring 2014 – Spring 2015

57. Elliot Swain: Spring 2014 – did not finish
58. Margaret Byrd: Fall 2013 – did not finish
59. Erik Hilliard: Fall 2013 – Spring 2015
60. Andrew Neylon: Fall 2013 – did not finish
61. Alyssa Randall: Fall 2012 – Fall 2015
62. Oliver Smith: Fall 2012 – Spring 2014
63. Jacquelyn Putnam: Spring 2013 – Spring 2014
64. Kim Abramowski: Fall 2012 – Spring 2013
65. Samantha Bobbitt: Fall 2012 – did not finish
66. Jerry Brown: Fall 2012 – Summer 2013
67. Kaitlyn Costin: Fall 2012 – Spring 2015
68. Sharna Tolfree: Fall 2012 – Fall 2012
69. Amelia Baysden: Spring 2012 – did not finish
70. Alina Jakubcanin: Spring 2012 – Fall 2012
71. Eileen Pye: Spring 2012 - withdrew
72. Anna Robuck: Spring 2012 – Summer 2015
73. Gigi Baggarley: Fall 2011 – Spring 2013
74. Sean Burke: Fall 2011 – Fall 2012
75. Cory Darnell: Fall 2011 – Spring 2012
76. Marcus Lithman: Fall 2011 – withdrew
77. Marc Ben Sciance: Fall 2011 – Spring 2012
78. Holly Springer: Fall 2011 – Spring 2013
79. Rhonda Sturgill: Fall 2011 – Spring 2013
80. Sam Woolard: Fall 2011 – Fall 2011

Undergraduate Honors Students (Advised):

1. Trevor Lancaster, BS Environmental Studies, GIS Certificate, Graduated December 2009. A Spatial and Temporal Analysis of Coastal Engineering Activities in Southeastern North Carolina.
2. David P. Johnson, BA Geography, GIS Certificate, Graduated May 2009. Topographic Analysis of a Barrier Island: A Comparison of High Resolution GPS and LIDAR at Masonboro Island, NC.

Undergraduate Honors Students (Committee):

1. Amelia Bradshaw
2. Josh Kraft
3. Tara Kahn
4. Julianna Schoeger
5. Hannah Liberatore
6. Jessica Patrick
7. Kama Varney-Keck

Undergraduate advisees:

BA in Geography:

1. 4 (Fall 2014 - Spring 2015)
2. 5 (Fall 2013 - Spring 2014)
3. 5 (Fall 2012 - Spring 2013)
4. 10 (Fall 2011 – Spring 2012)
5. 10 (Fall 2010 – Spring 2011)
6. 10 (Fall 2009 – Spring 2010)

7. 3/4 (Fall 2008 - Spring 2009)
8. 7/4 (Fall 2007 - Spring 2008)
9. 6/8 (Fall 2006 - Spring 2007)
10. 11/12 (Fall 2005 - Spring 2006)
11. 15 (Spring 2005)

Minor in Geospatial Technology (Fall 2011 – present):

1. 25 (Fall 2014 – Spring 2015)
2. 25 (Fall 2013 – Spring 2014)
3. 25 (Fall 2012 – Spring 2013)
4. 17 (Fall 2011 – Spring 2012)

Undergraduate GIS Certificate Program (Fall 2008– Spring 2012):

1. 2 (Fall 2011 – Spring 2012)
2. 10 (Fall 2010 – Spring 2011)
3. 20 (Fall 2009 – Spring 2010)
4. 15/12 (Fall 2008 - Spring 2009)

Minor in Latin American Studies (2006 – 2009):

1. 10 (Spring 2008)
2. 10 (Spring 2007) & 12 (Fall 2007)
3. 10 (Spring 2006) & 12 (Fall 2006)

Directed Independent Studies (GGY 491/591), Teaching Practicum (GGY 594), Final Project (GEO 597), and Thesis (GEO 599) (Teaching not included in workload):

Semester/Year	Course Number	Title	Number of Credits	Student
Fall/2018	GEO 591	Food Desert GIS	1	Alexandria Reimold
Fall/2018	GEO 591	Pender Flood Vulnerability	2	Jessica Magolan
Spring/2018	GGY 594	Teaching Practicum in GIS	1	Yvonne Marsan
Fall/2017	GEO 591	Barrier Island Geomorphology	2	Sarah Chahin
Fall/2017	GEO 591	Flood & Pop GIS	3	Jeffry Edwards
Fall/2017	GGY 594	Teaching Practicum in GIS	3	Maria Frishman
Fall/2017	GEO 597	Final Project	3	Michael Okely
Fall/2017	GEO 599	Thesis	3	Maria Frishman
Spring/2017	GEO 591	GIS Curriculum Development	3	Maria Frishman
Spring/2017	GEO 599	Thesis	3	Maria Frishman

Fall/2016	GEO 591	Tidal Creek Image Analysis	3	Steele Olsen
Fall/2016	GEO 591	Coastal Watershed GIS	3	Matthew Campbell
Fall/2016	GEO 591	Water Quality GIS in SW FL	2	Erin McCarthy
Fall/2016	GEO 591	Oyster GIS	1	Brendan Manley
Fall 2016	GEO 491	FEMA Floodplain Analysis of NC	3	John Hill
Spring/2016	GEO 597	Final Project	3	Stephen Horne
Spring/2016	GGY 594	Teaching Practicum in GIS	1	Alyssa Le
Spring/2016	MSC 599	Thesis	3	Erin McCarthy
Fall/2015	GGY 591	Investigation of Barrier Island Changes Using GIS	3	Keleigh Yelverton
Spring/2015	GEO 591	Sea Turtle GIS Database Development	3	Alyssa Randall
Fall/2014	GGY 491	DIS: Development of GIS Data and Analysis for the City of Charlotte	3	Drew Gaertner
Spring/2014	GGY 491	Predictive Model for Tidal Creek Benthic Habitats	4	Jennifer Laws
Fall/2013	GGY 491	Investigation of Urban Infrastructure	3	Drew Gaertner
Summer/2013	GGY 491	Analysis of LiDAR data to extract topographic features	3	Russell Webster
Spring/2013	GGY 591	Painted Bunting GIS	3	Kimberly Abramowski
Spring/2012	GGY 491	Investigation of Solar Potential for UNCW Buildings: Part 2		Emma Bennett
Fall/2012	GGY 591	Spatial Analysis of Confined Animal Feeding Operations	3	Sean Burke
Fall/2012	GGY 591	GIS analysis of Masonboro Island	3	Sharna Tolfree
Fall/2012	GGY 491	Estimation of Solar Power Potential at UNCW	2	Emma Bennett

Spring/2011	GLY 599	Thesis	2	Matthew McCarthy
Spring/2011	GLY 599	Thesis	2	Timothy Moss
Fall/2010	GGY 591	GPS Technology For Coastal Resource Management	3	Yodi (Kyle) Davies
Fall/2010	GLY 599	Thesis	2	Matthew McCarthy
Spring/2010	GGY 491	GIS Analysis of Masonboro Island	3	Kaitlyn Costin
Fall/2009	GGY 499	Honors	3	Trevor Lancaster
Spring/2009	GGY 499	Honors	3	David Johnson
Spring/2009	GGY 499	Honors	3	Trevor Lancaster
Fall/2008	GGY 499	Honors	3	David Johnson
Spring/2008	GGY 599	Thesis	1	Amanda Williams
Spring/2008	GGY 599	Thesis	2	Holly Gabries- Beck
Spring/2007	GGY 491	Grocery Store GIS	3	Adam Crain
Spring/2007	GGY 491	Star-News GIS Database Development	3	Joe Waple
Fall/2007	GGY 599	Thesis	1	Amanda Williams
Fall/2007	GGY 599	Thesis	2	Holly Gabries- Beck
Spring/2007	GGY 491	Coastal GIS	3	Adam Crain
Spring/2007	GGY 491	Coastal GIS	2	Ileana Torruelleas
Fall/2006	GGY 491	GIS Devel. for Holden Beach CAMA Land Use Plan	3	Scott Logel
Fall/2006	GGY 591	Field work GIS	3	Holly Gabries
Fall/2006	GLY 599	Thesis	3	Amanda Williams
Fall/2006	GLY 599	Thesis	2	Lindsey Kraatz
Fall/2006	GGY 498	Internship	3	3 students
Spring/2005	GGY 491	Rectification of Topsail Island Aerial Photography	3	Jason Eversole
Fall/2004	GGY 498	Internship	3	2 students
Spring/2004	GLY 599	Thesis	2	Lindsey Kraatz

Fall/2004	GGY 491	Cartographic Products from Environmental Health & Safety Office Internship	1	Courtney Jenkins
Spring/2003	GGY 491	GIS Improvements to the River Run Web Site	1	Darrell Dewayne Dodgens
Fall/2003	GLY 591	Developing GIS Knowledge for Thesis	3	Brooke Landry
Fall/2003	GLY 591	Developing GIS Skills for Thesis	3	Michelle Barbieri
Fall/2003	GLY 591	Using a GIS for studying how fishing communities have changed on the Gulf coast of Florida	3	Laura Mortell
Fall/2003	GGY 491	Development of a GIS Database and Atlas for Gulf of Mexico Fishing Communities	3	Melissa Butler
Fall/2003	GLY 491	Spatial Analysis Techniques for Measuring Dolphin Distribution	2	Courtney Hanby
Spring/2002	GGY 491	Developing a Web-Based GIS for River Run and Oculina Reserve	3	Justin Arnette
Spring/2002	GGY 498	New Hanover County Planning Department	3	Melanie Bossert
Spring/2002	GGY 498	U.S. Army Corps of Engineers	3	Justin Arnette
Spring/2002	GGY 498	Coastal Federation	3	Adam Faircloth
Spring/2002	GGY 498	DARE	3	Rebecca Lashus
Spring/2001	GGY 499	Methods for Incorporating Spatial and Temporal Analysis in an Internet-based GIS of the Lower Cape Fear River	3	Kevin Hahn

Fall/2000	GGY 491	Developing Interactive Maps	3	Christopher Milam
Fall/2000	GGY 491	change in forest cover in New Hanover County	3	Todd Kleinhans

Selected Awards:

1. Sarah Chahin: received AAG Applied Geography Specialty Group Research Fellowships (\$500) in Spring, 2018. Also received \$250 from EOS research award.
2. Jessica Magolan: received AAG Applied Geography Specialty Group Research Fellowships (\$500) in Spring, 2018. Received \$250 from EOS research award. Received Marine Science summer 2018 research award. Received \$2,500 GSA Grad Student Research award.
3. Maria Frishman, 2017. Development of an Automated Model to Classify and Analyze Change of Barrier Island Features in North Carolina. "Making a Difference" award from UNCW's Graduate School
4. Steele Olsen, 2017. Investigating the Relationship Between Parkinson's Disease and Environmental and Socioeconomic Variables. "Making a Difference" award from UNCW's Graduate School
5. Maria Frishman: G. Herbert Stout Graduate Student Scholarship, 2017 NCGIS conference.
6. Kerry Mapes: 2017 NC ArcGIS Users Group Student Scholarship.
7. Maria Frishman: 2017 UNCW Research Showcase: Selected to represent UNCW at State Research Symposium.
8. Steele Olsen: 2017 UNCW Research Showcase: Selected to represent UNCW at State Research Symposium.
9. Alyssa Randall: NC GIS Conference student scholarship (Spring 2015).
10. Sean Burke: G. Herbert Stout Graduate Student Scholarship, 2013 NC GIS conference.
11. Matthew McCarthy was accepted to a PhD in Oceanography at the University of South Florida (started August 2014).
12. Oliver Smith was accepted to the MA in physical anthropology at University of Alaska, Anchorage (started August 2014).
13. Matthew McCarthy: NOAA Hollings Award 2012.
14. Ben Science: Smithsonian summer assistantship 2013.
15. Sara Casey (BA Geography and BA Economics, May 2011): G. Herbert Stout Undergraduate Student Scholarship, 2011 NCGIS conference.
16. Matthew McCarthy: G. Herbert Stout Graduate Student Scholarship, 2011 NCGIS conference.
17. David P. Johnson: G. Herbert Stout Student Undergraduate Scholarship, 2009 NC GIS conference.
18. Holly Gabries: G. Herbert Stout Student Graduate Scholarship, 2009 NC GIS conference.
19. Amanda Williams received a Geography and Geology Student Research Grant (\$500) in Spring 2007 for her thesis research "Mapping land cover change as an indicator for coral distribution in Boracay Island, Philippines".
20. Amanda Williams received the G. Herbert Stout Student Award at the 2007 NC GIS Conference, March 1-2, 2007 for her paper presentation "Investigating Changes in Land Use/Cover and Coral Cover, Boracay Island, Philippines".
21. Amanda Williams received the Jordan Lyle Vidars Memorial Award from the Women Divers Hall of Fame (September 26, 2007). The award is for \$5,000 and will go to support Amanda's field research in the Philippines.
22. Brooke Landry won the 2007 Innovative Application of Technology in a Master's Thesis Award to be received at the 36th Annual Meeting of the Conference of Southern Graduate Schools in Chattanooga, Tennessee.

23. Amanda Williams received 3 awards in 2006: UNCW Graduate Student Association Travel Grant, Dept of Earth Sciences Research Grant, and a scholarship from the International Women's Fishing Association.
24. Halls, J.N. and L.M. Kraatz won Best Paper Award: "A Spatio-Temporal Assessment of Back-Barrier Salt Marsh Change: A Comparison of Multi-date Aerial Photography and Spatial Landscape Indices". International Society of Photogrammetry and Remote Sensing (ISPRS), Technical Commission 7, Mid-Term Symposium 2006: From Pixels to Processes, 8-11 May, 2006, Enschede, the Netherlands.
25. Amanda Williams received an Earth Sciences Student Research Grant (\$500) in Spring 2006 for her project "An investigation of coral reefs within and outside a Marine Protected Area in the Philippines".
26. Amanda Williams received a scholarship (\$1,000) in April, 2006 from the International Women's Fishing Association.
27. Amanda Williams received a UNCW Graduate Student Association (\$400) Travel Grant (Spring 2006).
28. Lindsey Kraatz received a Department of Earth Sciences Student Research Grant (Spring 2005).
29. Lindsey Kraatz was awarded \$400.00 for travel expenses to attend and present at the Association of American Geographers conference (April 2005).
30. Joanne Halls, 2000. Second Place, ESRI Best Paper Award from the American Society of Photogrammetry and Remote Sensing.
31. Joanne Halls, 1990. First place, student paper competition, South Carolina Academy of Sciences.

TEACHING: Courses Developed and Taught at UNCW:

1. **Practical Methods in Geography (GGY 205)**
An introduction to the variety of methods, such as map reading, orienteering, GPS, elementary statistics, cartography, and introductory GIS. The goal is to provide a broad understanding of the variety of techniques used by both qualitative and quantitative geographers.
2. **The Digital Globe (GGY 215) (Fall 2009 to present)**
Introduction to the maps, data, and methods commonly used by geographers to investigate spatial relationships from local to global scales. Includes the examination of geography as a discipline whereby human and physical environments are spatially explored. First 100% online course taught via Blackboard. Includes multi-media instructional videos and experiential learning exercises using a variety of websites, software (e.g. Google Earth) and quantitative techniques and tools.
3. **Introduction to Geographic Information Systems (GGY 328 now GGY 281)**
Theory and practical GIS exercises using ESRI's ArcGIS. The emphasis in this course is the foundation in spatial information theory as well as some interesting exercises that expose the students to a variety of applications. (2-hour lecture and 2-hour lab)
4. **Geography of Latin America (GGY 386)**
This course explores the geography of Latin America and its constituent regions, including Mexico, Central America, and South America. We will not cover the Caribbean since this is covered in another course. We will study the region as a whole and then explore each country individually. Some of the geographical topics will include: landforms, climate, vegetation, soils, migration, diffusion, agricultural systems, religion, ethnicity, territorial conflicts, economic development, deforestation, and urbanization.
5. **Advanced GIS (GGY 424/524)**
Advanced theory and application of the use of Geographic Information Systems (GIS) including concepts and issues of spatial data collection, data structures, database management, spatial

analysis, and display of geographic information. Instruction will be provided through lectures, field work, and lab work. The students are responsible for completing the reading assignments, participating in classroom discussions, and completing a project. The GIS lab work will consist of various applied techniques using the UNCW campus. Each member of the group will perform field work, data collection, data encoding, data integration, spatial analysis, and lastly data products and map deliverables. At the end of the semester each student will present his/her results to the class and turn in a portfolio detailing the goals, methodologies, and results of the semester-long GIS project.

6. **Environmental GIS (GGY 426/526)**

Scientific articles spanning the variety of environmental GIS applications are critiqued and each student completes a GIS project. The projects run the length of the course and require the student to propose a research topic, gather data, build a GIS databases, perform spatial analysis, and present results using Powerpoint and a final term paper.

7. **Aerial Photography and Remote Sensing (GGY 422)**

Both theory and practical exercises using ESRI's Image Analysis and ERDAS Imagine. The students also use the NASA remote sensing tutorial and exercises that introduce a variety of image types and processing techniques.

8. **Senior Seminar (GGY/GLY 495)**

The purpose for this course is to integrate the skills and knowledge you have learned throughout your college career and to put this information into practice. Therefore, you will work on a research project and present your results to the department. The research theme is "Resources in the News: From Global to Local". Since this course meets the oral competency requirements for the Geography and Geology degrees, you will prepare and give a presentation to the class based on the research you will conduct throughout the semester.

9. **Fundamentals of Geographic Information Systems (GGY 520)**

The purpose of this course is to provide an introduction to Geographic Information Systems (GIS). The course covers concepts and issues of data structures, data management, visualization of geographic information, and spatial analysis. Instruction is provided through lectures, demonstrations, and software exercises using ArcGIS. We will investigate GIS concepts/techniques and how these can be useful in your graduate research projects.

10. **Advanced Topics in Geospatial Science (GGY 593):** New courses developed in Spring 2018.

11. **GIS in India:** Developed a new study abroad experience with Dr. Elizabeth Hines and Dr. Rakesh Malhotra: Fall 2010.

Selected Professional Workshops Designed & Delivered:

1. "INSTAR: Investigating Nature Through Science Teacher Active Research" A collaborative project between UNC Charlotte and UNC Wilmington. High school science teachers from North Carolina were given experiential instruction in marine science and Geographic Information Systems from which they gathered data, analyzed information, wrote a paper, and created a poster. Held in Wilmington, July 2001 and June 2003.
2. "Gulf-Wide Information System: The Complexities of this Relational Data Model", Minerals Management Service, New Orleans, Louisiana (August 1998)
3. "Oil Spill Preparedness and the Environmental Sensitivity Index: What is it and how it is organized in a GIS?" Environmental Protection Agency, Oil Spill Coordinators Headquarters, Washington, DC (August 1997)

4. “GIS Options for Analyzing Unusually Sensitive Ecological Areas”, American Petroleum Institute and the Department of Transportation, Office of Pipeline Safety, Denver Colorado (February 1997)

SERVICE ACTIVITIES

Service to UNCW:

1. Founding member of the UNCW Clocktower Society (2013 – present)
2. Campus GIS Development: gather data, licensing for the GIS server, develop web server, data dissemination and visualization applications for web-GIS user community. Help faculty, staff, and students throughout UNCW who have GIS questions. Develop and teach GIS workshops for faculty, staff, and students. (1999 – present)
3. UNCW Women Faculty Mentoring: monthly meetings (January - May 2018)
4. SACS: reporting for GIS Cert and MS Geoscience (January through May 2018)
5. Library: assist Peter Fritzler with technical specs for a data visualization display board & software. Spring, 2018.
6. Member, Faculty Senate Information Technology Committee (August 2015 – May 2018)
7. UNCW Convocation: Lead “Small Group Discussion” on 8/15/16
8. Participated in “Focused Research Meetings” at UNCW’s CMS: Estuarine and coastal sounds discovery, applied issues, and modeling (Fall 2016 – Spring 2017)
9. Faculty representative, UNCW Identity and Access Management Committee (November 2015 - April 2016).
10. Member, UNCW’s College of Health and Human Services Search Committee (Fall 2015 – Spring 2016)
11. Osher Lifelong Learning Institute: GIS analysis of customers attending OLLI classes. Compiled a database, geocoded addresses, made several maps, and derived several statistics. Fall, 2015.
12. Created and delivered a presentation at the Center for Teaching Excellence “Data Visualization Panel” on Nov 17, 2015
13. UNCW Dean of Students: Created a new campus and surrounding area (2 mile radius) map (submitted Nov 4, 2015).
14. Liaison to Career Services (2008-2015)
15. Member, UNCW Coastal Health Initiative Group: Monthly meetings (2013 – 2014) and then quarterly meetings (2014-2015) discussing initiatives to promote regional engagement activities.
16. Renovation planning for Social & Behavioral Sciences Building (2013-2015).
17. Organized GIS Day! (Nov 24, 2014): designed and implemented a full day of activities including: 1) middle school students (coordinated with the help of Dennis Kubasko); 2) Careers and Advice Panel Session of alumni who gave advice and answered questions from undergrad and grad students; and 3) a research poster session and keynote address by Drs. Ghoneim, Pricope and Halls (financial assistance provided by Dr. Vetter in the Graduate School and Dr. Lynn Leonard in the Dept of Earth & Ocean Sciences).
18. Joint ECU-UNCW PhD in “Marine Science” meetings (2014 – 2015)
19. UNCW Graduate School banner carrier for the May 19, 2014 commencement.
20. Seahawk Saturday: April 5, 2014, April 2013, March 2012, April 5 2008.
21. Attended CREST organizational meetings. Reviewed and provided comments on the organization plan (Fall 2013 – Spring 2014).
22. Organized GIS Day! (November 20, 2013) designed and implemented a full day of activities including: 1) local businesses/organizations and guest speakers for a “what’s happening in GIS” session; 2) visiting middle school students from the Exploris Middle School in Raleigh and teachers and students from our region; 3) Careers and Advice Panel session of alumni who gave advice and answered questions from undergrad and grad students; and 4) a research poster session and keynote address (financial assistance provided by Dr. Vetter and Lynn Leonard).

23. Attended a planning meeting for a new Professional Science Master's program in Data Analytics, October 15, 2013.
24. Attended and participated in the "Research Support Meeting" hosted by UNCW's Dean of Research and the Graduate School (September 23, 2013).
25. Provided assistance to UNCW's Business Applications department (Business Affairs) with GIS database design, web development, and application ideas to help with campus planning and management. Monthly meetings, emails, phone calls, and software technical support was provided. (Fall 2013 – Spring 2014)
26. Member, Provost Advisory Council: monthly meetings with the Provost (Fall 2012 – Spring 2013).
27. Faculty senate (Fall 2012 – Spring 2013)
28. Marine Science graduation ceremony: May 11, 2012.
29. Attended monthly meetings, led by UNCW's Graduate School, to discuss Professional Science Masters at UNCW, (October 2011 – April 2012).
30. Guest Speaker, Visitors from Kenya. (August 1, 2011 - August 4, 2011).
31. Faculty Advisor, E-Learning Review of new Interactive Software to work with Blackboard. (April 9, 2012 - April 23, 2012).
32. Member, planning committee, new BA in International Studies (2008-2010)
33. Member, Chancellor's Council on Health and Wellness (2003-2010)
34. Gave presentations to UNCW's Computer Science Summer Program: Developed and Presented Intro to GIS Seminar to 3 groups of students from the Computer Science summer program visited the dept to learn about GIS. (June 23, 2009 and June 22, 2010).
35. Director, Minor in Latin American Studies (2006-2009)
36. Member, ad-hoc steering committee to write proposal for a new Masters in Coastal Ocean Policy (2008-2009)
37. Member, UNC Tomorrow, Economic Transformations Committee (2008)
38. Member, Faculty Hearings Panel of the Faculty Senate (2007 - 2008)
39. Member, Campus Recreation Advisory Board (2005 - 2008)
40. Member, Steering Committee for proposed UNCW Center for Regional Engagement (2005).
41. Member, Center for Marine Science Internal Advisory Committee (2004-2012) including MS Marine Science program review Fall 2011 – Spring 2012.
42. Met with UNCW's Facilities Management staff to discuss GIS needs (2008).
43. Attended the Provost's meeting on 2/4/2009 to discuss the creation of a new School of Marine Science.
44. Member, ad-hoc steering committee that is writing the proposal for a new Masters in Coastal and Ocean Policy. I have also been selected to be a member of the curriculum sub-committee.
45. I have been helping EVS faculty with several projects related to creating GIS and dissemination tools such as Internet GIS using the web server I have built. These projects include: NC water discharge violators (Bob Cutting), painted bunting bird sitings (Jamie Rotenburg), and tourism use of coastal reserves such as Masonboro Island (Jeff Hill).
46. In Spring 2008 I worked with Nelson Reid (Social Work) on a Quality of Life project for southeastern NC. We met on several occasions and also met with Keith Debbage, an economic geographer from UNCG.
47. Volunteered for the University College freshman advising day activities as part of convocation on 8/18/2008.
48. Attended the University Faculty meeting on 9/2/2008.
49. Worked with Steve Demski in UNCW's Public Service and Continuing Ed to develop curriculum for his division. We met on 11/14/2008.
50. Member, planning committee, new BA in International Studies (2007 – 2008).
51. Major's Fair, 10/1/2008.
52. Fall Visitation, Saturday, 10/11/2008.

53. Attended Commencement in Trask and the department ceremony on May 10, 2008 and Dec 13, 2008.
54. Participated in the UNCW Harassment Training on 10/10/2008.
55. Center for Regional Engagement: I'm on the steering committee and I've participated in all meetings dealing with the development of this new center. (2007)
56. Member, UNC-Community College committee to create a Community College Transfer Agreement for geography. We had one conference call, on February 23, 2007.
57. UNCW Faculty Hearings Committee (2006 - 2007).
58. Attended the Hodder Reception at CMS, January 9, 2007.
59. On January 27, 2006, I attended UNCW's Alumni Association Annual Awards Banquet where one of our graduates, Kristen Dunn, received "Young Alumni of the Year" award.
60. Attended the Ellis Yochelson's seminar on February 3, 2006 and went to dinner with our guest.
61. Attended the world premier screening of "La Vida No Es Facil (Life is not Easy)" a documentary by Maurice Martinez, February 10, 2006, part of UNCW's Intercultural Week.
62. I gave the presentation "Population Growth and Migration in Latin America" on February 9, 2006, as part of Intercultural Week.
63. I helped Chris Dumas (Cameron School of Business, Department of Economics) with GIS analysis of NC stream restoration sites on August 2-9, 2006.
64. I attended the "Civil Society" conference on November 7, 2006.
65. I helped Bob Cutting, EVS, with data analysis for one of his projects. I gathered, projected, and analyzed data to determine the location, by congressional and senate district, of each surface water discharger in North Carolina.
66. I attended the NSSE Student Perception Forum on March 20, 2006.
67. I attended the International Studies Group meeting on April 28, 2006.
68. Helped setup and man the GAG booth for Fall Major's Fair (Oct. 19, 2006).
69. Non-Resident Member, Center for Marine Science's Internal Advisory Board (2004 - 2006).
70. Member, Marine Science Program Graduate Advisory Committee (2005)
71. Member, ad-hoc committee investigating a new Marine Policy master's program at UNCW (2005).
72. Created cartographic products in support of Steve Meinhold's response to Hurricane Katrina and impacts on Higher Education.
73. Attended several CMS meetings (e.g. welcome new grad students).
74. Attended CMS graduation ceremony, May 6, 2005.
75. I setup and manned the ERS booth at the Fall Major's Fair, October 12, 2005.
76. I manned the ERS booth and talked with many prospective students at the Spring Open House (April 16, 2005).
77. Gave a guest lecture for Bob Cutting and Larry Cahoon's Forensic Environmental Science class (March 2nd, 2004).
78. Member, UNCW Technology Standards Committee (2003).
79. Member, UNCW Computer Replacement Committee (2003).
80. Member, two Fulbright Evaluation committees (October 14 and 15, 2003): Shauna Riggs, who is applying to be a Teaching Assistant in Romania and Caroline Cutler, who is applying for a research position in New Zealand (committee chair)
81. Developed and gave GIS workshop for professors in the Watson School of Education: 19-23 May 2003.
82. Provided GIS technical support for all users (approx. 50) scattered around campus and CMS.
83. Center for Marine Science: Advising and consulting with GIS users at CMS (2000 - 2004).
84. Technology Standards Committee: determined strategy for computer recycle with John Huntsman (2001 - 2002)
85. Invited guest lecture for Dr. Jim Herstine's Park Planning and Design course. March 11, 2002.
86. Faculty Senate (2000 - 2002)

87. In Spring 2002 I served on the search committee for Career Services to hire a career counselor.
88. Appointed by Provost Cavanagh to serve on a committee that is investigating partnership ideas between UNCW and New Hanover County for computing infrastructure and GIS. (2001 – 2002)
89. UNCW SACS re-accreditation: Educational Support Services and Administrative Processes Committee (2000 - 2001)
90. Met with a candidate, Scott Simmons, for a faculty position in Anthropology/Archaeology. (2001)
91. Served as Graduate School representative for Jennifer Parrack-Rogers' thesis defense (English) (2001).
92. UNCW SACS re-accreditation: Athletics department (2000 – 2001)
93. Guest Lecture "GIS for Environmental and Watershed Management" for Dr. Cahoon and Dr. Cutting's BIO 488/588: Forensic Environmental Science on April 4, 2000.
94. Fulbright Scholarship: reviewed and interviewed Cristen Bajnai's application "Interactive Sciences: Biological, Social Sciences and the Humanities" (2000)
95. Developed and taught Introductory GIS workshops for UNCW faculty and staff at the ERS Spatial Analysis Lab. Partial funding for the development of this workshop was provided by a Summer Curriculum Development Initiative. October 28 and November 11, 2000.
96. Served as Graduate School representative for Gina Morris' thesis defense (Psychology) (2000).
97. Digitizing and creation of GIS maps for the Handicap Accessibility map of UNCW (2000).

Service to UNCW (College of Arts and Sciences):

1. College of Arts and Sciences Visiting Artist and Scholar Program Search Committee (Fall 2018 - Spring 2019)
2. UNCW STEAM: designed a 1-day GIS session (June 21, 2018) for high school students.
3. CAS Convocation: May 2018, May 1, 2012, April 27, 2010, May 1, 2007, May 2, 2006
4. Ran the College of Arts and Sciences 5k on 2/4/17
5. College of Arts and Sciences Open House/Seahawk Sat: helped to organize geospatial materials for the event on April 1, 2017
6. Member, College of Arts and Sciences advisory committee for Lifecycle computer replacement (2008)
7. I gave a presentation at "College Day" on Saturday, November 11, 2006: "Southeastern North Carolina Barrier Island Marshes: An Historical Analysis of Where Change Has Occurred".
8. Dr. Gamble and I gave the presentation "Hurricanes and Population Growth along the Southeastern U.S." at College Day (November 12, 2005).

Service to UNCW (Dept. of Geography & Geology/Earth & Ocean Sciences):

1. Graduate Coordinator, MS Geoscience (January 2016 – present)
2. Graduate Coordinator, Certificate in GIS (August 2010 - present)
3. Senior Faculty Meetings: Discuss progress of untenured faculty in the department (2005 – present)
4. Advisor for undergraduate students in Geography (2002 - present)
5. Director of the Spatial Analysis Lab (1999 - present)
6. Manage software and hardware for Applied Learning GIS labs (40 computers in OS 1002, 8 in OS 1004, and multiple peripherals and GPS equipment) (2016 – present)
7. Guest presentations in GEO 501 and GEO 502 (2016 – present)
8. Member, Dept. of Earth & Ocean Sciences assessment committee (2010 - present)
9. Member, Geography curriculum committee, Dept. of Earth & Ocean Sciences (2010 - present)
10. Faculty Mentor to Dr. Sharon Hoffmann (2013 – 2018)

11. Developed US Geospatial Intelligence Foundation (USGIF) proposal (led by Narcisa Pricope) to create UNCW GEOINT Certificates (undergrad and grad) (Fall 2017 – Spring 2018). Approved August 2018.
12. Joanne Halls & Narcisa Pricope organized a table for the annual WITX conference (UNCW Computer Science Dept) on 4/10/17
13. Director, Minor in Geospatial Technology (2008 - 2016)
14. Participated in faculty searches: (3) Spring 2018, Spring, 2016, (2) Spring 2011.
15. Search Committee Member: Remote Sensing Fall 2009 – Spring 2010, dept. chair Fall 2007 – Spring 2008, Geoscience Educator Fall 2004 – Spring 2005. Member, Geology Search Committee for hydrology faculty position 2001-2002, two positions: Climatology and Geomorphology 2000 - 2001.
16. Member, Graduate Advisory Committee (2012 – 2016)
17. Lead author for the MS in Geoscience 7-year Self-Study and Response Report (Fall 2014 – August 2015).
18. Coordinated the visiting research presentation given by Dr. Scott Ensign, Oct. 7, 2013.
19. Chair, Applied Geography Search (2011 – 2012)
20. Director of the Undergraduate Certificate in Geographic Information Science (2004-2012).
21. Post-tenure review committee (March 2012).
22. Co-director (with Dr. Hines), Geography Internship Program (2000-2010)
23. Chair, Online Education committee, Dept. of Geography & Geology (2009-2010)
24. Dept. Liaison to University College, Dept. of Geography & Geology (2008-2010)
25. Chair, Public Relations committee, Dept. of Geography & Geology (2008-2010)
26. Wrote proposal to establish Graduate GIScience Certificate Program. (January 15, 2010 - June 30, 2010).
27. Scholarships/Awards Committee, Committee Member (August 15, 2009 - May 15, 2010).
28. Public Relations/Recruiting Committee, Committee Member. Organized Earth Science Week activities, developed materials for the annual photo contest, campus visitation. (August 10, 2009 - May 15, 2010).
29. Seminar Speaker Series, Committee Chair (August 10, 2009 - May 15, 2010).
30. Annual Evaluations committee, Dept. of Geography & Geology (2009)
31. Attended and participated in the grad program review on (2008).
32. Chair, Public Relations and Recruitment Committee, Fall 2008 through Spring 2009.
33. Member, Dept Annual Evaluation Committee (Spring 2009).
34. Liaison to Career Services (2008).
35. Member, Dept. Curriculum Committee (2008).
36. Member, Online Education Committee (2009).
37. Recruited and coordinated the Randall speaker (Dr. Ross Meentemeyer, UNCC) for the Randall/Zulo Lecture Series (2008).
38. Attended the department Awards Ceremony and Spring Banquet on April 29, 2008.
39. Participated in RPT review of Craig Tobias on 9/19/2008.
40. Member, dept. Public Relations committee (2004 - 2007).
41. Co-director (with Liz Hines) of the Geography Internship Program, Spring 2007.
42. Attended the department Awards Ceremony and Spring Banquet on May 1, 2007.
43. Attended seminar on January 3, 2006.
44. Attended the First Annual Duncan Randall Lecture Series: Current Research in Geography, February 24, 2006.
45. Attended Dr. Lynn Leonard's Faculty Research Reassignment presentation on March 17, 2006.
46. Attended Dr. Miller's presentation on geological record of sea surface levels given on November 7, 2006.
47. Committee member: search for the Geoscience Educator position (2006).
48. Created, invited, and hosted the Earth Science Week Seminar (Oct. 20, 2006).

49. Helped with Fall Visitation (Oct. 21, 2006).
50. Director, GGY Internship Program (Fall 2006).
51. Attended the department Awards Ceremony and Spring Banquet on May 2, 2006.
52. I attended the following ERS, CMS, and University seminars: Prospectus Symposium, April 15 and 22, 2005; UNCW Sigma Xi Meeting on April 20, 2005; lunch and then seminar with Dr. Crawford, BrynMar, April 21, 2005; Scott Curtis, East Carolina University, October, 2005; Danika van Proosdij, St. Mary's University, November 18, 2005.
53. Attended ERS awards banquet April 26, 2005.
54. Attended ERS graduation ceremony, May 7, 2005.
55. Hosted ERS party, August 15, 2005.
56. Committee member: ad-hoc committee to revise ERS annual evaluation procedures (2005).
57. Organized student field trip to Engineer Day at the US Army Corps of Engineers (19 February 2003).
58. Member, dept committee to investigate new faculty position in Remote Sensing (2000)

Service to the profession:

1. NC GIS Conference: Session organizer: "Coastal Resiliency: Vulnerability, Risk, and Experiences". <https://ncgisconference.com/> Feb 27-Mar 1, 2019. Winston-Salem, North Carolina.
2. Pricope, Narcisa and Joanne Halls, 2018. Southeastern Geological Society of America Session organizers: "UAV/Drone Technology and Spatial Metrics for the Coastal Zone". March 28-29, 2019. Charleston, South Carolina.
3. Board Member, NC Geographic Information Coordinating Council (quarterly meetings in Raleigh, NC) (2013-present)
4. On the organizing committee that wrote a proposal to create a NC Chapter of the ASPRS. Chapter was approved on Jan 2018.
5. Association of American Geographers Annual Meeting: Session moderator (2001).
6. Southeastern Division of the AAG: Geography Bowl Moderator (2013), Nominations Committee Chair (2009-2010), Nominations Committee member (2008 - 2009), Program Committee, 2003
7. North Carolina Geographer's Annual Meeting, May 6, 2005. Mike Benedetti, Doug Gamble, Liz Hines, and I planned and conducted the North Carolina Geographical Society meeting in Wilmington (October 15-16, 2004).
8. NC Arc Users Group: Board member, conference organizer and Student Mentor Program Coordinator (2008 - 2013), Session Moderator (2017).
9. NC GIS Biennial Conference: Conference sponsor and program committee member (2000 – present). Moderator, Grad Student Presentation Session (2013).
10. Co-editor, North Carolina Geographer (2004 - 2008).
11. Manuscript reviews: *Remote Sensing* (6), *International Journal of Geo-Information* (5), *International Journal of Environmental Research and Public Health* (1), *Ecological Indicators* (1), *Applied Geography* (2), *Cartography and Geographic Information Science* (2), *Marine Geodesy* (1), *Journal of Environmental Management* (2), *Water Resources Management* (1), *Photogrammetric Engineering and Remote Sensing* (3), *Environmental Modelling and Software* (1), *North Carolina Geographer* (4), *International Journal of Remote Sensing* (2).
12. Proposal Reviews: SC Sea Grant (2017, 2003, 2000), NSF (2015, 2010, 2008), CICEET (2006), National Estuarine Research Reserve System-wide Monitoring Program (2003), Wisconsin Sea Grant Institute (2003), Building a Geographic Information Science Working Group" for Georgia Southern University (2005). Cooperative Grants Program of the U.S. Civilian Research and Development Foundation (2001). Netherlands Organization for Scientific Research: Earth and Life Sciences (2001, 2000). South Carolina Space Grant Consortium (2000).
13. Grant review panels: EPA (2005), American Institute of Biological Science, Wildlife Habitat Policy Research Program (2008).

14. Book reviews: Curtis, Andrew and Jacqueline Mills, 2014, GIS, Human Geography and Disasters, Cognella Academic Publishing. Chang, K-T, 2008, Introduction to Geographic Information Systems, 4th Ed. McGraw-Hill. Scully, R.D., 2006, GIS for Environmental Management, ESRI Press. "Introduction to Geographic Information Systems" by Kang-tsung Chang. McGraw-Hill Publishers. (2001).
15. Provided data and assistance to the marine GIS database (OBIS-SEAMAP) developed at Duke Marine Lab (2013 – 2014).
16. Organized the UNCW 2 –day short course "National Weather Service Coastal Inundation Mapping" lead by NOAA Coastal Services Center to community GIS professionals and other UNCW staff. Held in the GIS Lab in DeLoach Hall. July 23, 2013. This workshop entailed setting up logins, working with TAC/ITS to grant permissions, provided some refreshments (thanks to the G&G dept) and provided other hospitality information including hotels and restaurants in the area.
17. Helped a grad student from Duke with GIS analysis of epidemiology data in Africa. Week of April 29, 2013.
18. Educational Testing Service, Reader for AP Human Geography (2012 – present).
19. Participated in a survey for Routledge publishing company (2007).
20. Conducted the survey "International Early-Career Faculty in American Higher Education: The Case of the Discipline of Geography" for the NSF Doctoral Dissertation Research Improvement Grant on August 7, 2006.
21. Conducted a survey for the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) on August 8, 2006.
22. Member, Remote Sensing Expert Panel: National Estuarine Research Reserve System, 2003.
23. Participated in a survey by UNC Greensboro, School of Education, to study the compliance and accommodation of students with disabilities in college classes. (2001)

Service to the community:

1. Junior ROTC Orienteering events (September 2018; October 2017, and October 2016): designed and conducted orienteering treks on UNCW campus.
2. Girls Scouts Orienteering (September 2018): Created and conducted orienteering event.
3. Eman Ghoneim and I gave presentations to students at New Hanover High School, February 14, 2014.
4. Presented at the "meet the expert" Public Service event on September 12, 2013.
5. New Hanover County School District (2007): Discussions and meetings with district administrators to investigate GIS and how it can be utilized to assess resources and population change.
6. GIS Guest Lectures at: Williston Middle School, Wilmington NC (2004 and 2005), Cape Fear Community College (2004), and New Hanover High School (2015 and 2016).
7. Friends of Lake Waccamaw: Created GIS and developed map products to support this non-profit community group. June 10, 2009 to August 20, 2009.
8. Met with New Hanover School administrators (April 24, 2008) to discuss possible use of GIS to model and forecast growth of school population by year/grade level for each school in the county.
9. GIS Guest Lectures for all 8th grade science classes at Williston Middle School: Mar 1-3, 2005.
10. GK-12 meeting, May 10, 2005.
11. Developed and Presented GIS workshop for New Hanover County middle school teachers at Williston Middle School. February 19th, 2004.
12. Presented 2nd half of GIS Workshop for NHC middle school teachers at Williston Middle School. February 21st, 2004.
13. Presented another GIS workshop. March 29th, 2004.
14. Presented another GIS workshop. April 3rd, 2004.

15. Presented “What is GIS” to Cape Fear Community College visitors, March 31st, 2004.
16. Developed & presented “Water Chemistry and GIS workshop for Community College Professors” May 29-30, 2003. 15 community college professors from southeastern North Carolina came to the Spatial Analysis Lab to learn Internet GIS and Arcview GIS as it relates to oceanography, watersheds, and water quality.
17. Developed & presented “Our River Our Responsibility – Water Quality in the Cape Fear: What you Need to Know to Make a Difference” June 16-20. This workshop enabled K-12 teachers from Pender, Brunswick, and New Hanover Counties to learn about various disciplines that work on the Cape Fear River. My component was to teach introduction GIS (mostly Internet GIS) and explore spatial and temporal data available for the Cape Fear Region (www.uncw.edu/riverrun; www.uncw.edu/oceanview; www.uncw.edu/oculina; www.uncw.edu/riverview)
18. Developed & presented “Project INSTAR (Investigating Science through Teacher Active Research)” is a program I began here at UNCW in 2001. This Institute ran this year from June 13-20 with 10 middle and high school teachers from the Charlotte/Mecklenburg School District. The teachers learned Marine Science and GIS by completing water quality analysis as it related to seven sites in the Bradley Creek watershed. Through spatial analysis (Arcview) and graphical analysis (Excel) each teacher produced a research report, a poster, and a curriculum report on how these techniques can be translated to their classrooms. Upon completion the teachers received two graduate credits as well as technology credit. Lynn Leonard and Eric Henry led the field component of the Institute.
19. Developed & presented at the NSF-GK12 Fellowship Program– GIS Workshops: September 13, 2002: Introduction to GIS, Internet GIS, ArgWorld, Geography Network; October 4, 2002: ArcExplorer, Arcview, ArcLessons.
20. Event Leader: Wilmington Regional Science Olympiad, Saturday, March 2, 2002.
21. Short presentation to students from Cape Fear Community College. March 27, 2002.
22. Consulting with New Hanover County Planning (Dexter Hayes) for development of a Smart Growth Index GIS Model and GIS watershed studies. (2000 - 2001)
23. Consulting with the City of Wilmington (Bill Austin) for integrated land use planning and forest cover change detection. (2000 - 2001)
24. Consulting with the Town of Carolina Beach (Calvin Peck, Town Manager) for development of a storm-water/drainage GIS. (2000 - 2001)
25. Consulting with the Town of Topsail Beach to implement a GIS intern program. (2000 - 2001)

Professional Memberships:

1. North Carolina Chapter of the ASPRS (founding member) (2017 to present)
2. Association of American Geographers (AAG) and the following Specialty Groups: Applied Geography, Coastal and Marine, Geographic Information Science and Systems, and Spatial Analysis and Modeling (1988-present)
3. Southeastern Division of the Association of American Geographers (SEDAAG) (1999-present)
4. North Carolina GIS (NC GIS) (2000-present)
5. North Carolina Arc Users Group (NC AUG) (1999-present)
6. Society for Conservation GIS (2015 – present)
7. North Carolina Coastal Federation (1999-2015)
8. North Carolina Geographical Society (1999-2010)
9. American Society of Photogrammetry and Remote Sensing (ASPRS) (1988-2010)
10. American Congress on Surveying and Mapping (ACSM) (1988-2010)
11. International Federation for Information Processing (IFIP), Technical Committee 5 (Computer Applications in Technology), Working Group 5.11 (Computers and Environment) (1999-2007)
12. International Society for Ecological Modelling (ISEM) (1999-2008)
13. International Association for Society and Natural Resources (2002-2008)

14. Sigma Xi (2000-2008)