Curriculum Vitae – Sucharita Gopal

Department of Earth and Environment & Center for Remote Sensing
Pardee Center for the Study of the Longer-Range Future,
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Research Interests

- AI & Machine learning of spatial data
- GIS – Spatial analysis, and modeling, spatial statistics
- Application areas – marine management, public health, accessibility, transport (IoT).
- ESG (Environment Social and Governance) Risk assessment in supply chain and financial investments.
- Environmental decision making and risk assessment

Professional Preparation

1983 - 1988 PhD in Geography & Cognitive Science, University of California at Santa Barbara, Santa Barbara, CA.
1981 - 1983 MPhil in Geography, Madras University, Madras, India.
1979 - 1980 BEd, Madras University, Madras, India.
1977 - 1979 MSc in Geography, Madras University, Madras, India.
1974 - 1977 BA in Geography, Madras University, Madras, India.

Appointments

2018 - Present Inclusion & Diversity (ID) Steering Committee
2019 –The Hariri Institute for Computing
2016 - Present Visiting Professor, Vienna University of Economics and Business, Austria
2018 - Present Affiliated Faculty, Institute for Sustainable Energy, Boston University
2017 - Present GEGI Core Faculty, Global Development Center, Boston University
2015 - Present Research Professor, Boston University Initiative on Cities
2010 - Present Research Professor, Pardee Center for the Study of the Longer-Range Future
2011 - Present Research Professor, Boston University Marine Program (BUMP)
1989 - Present Tenured Full Professor, Department of Earth & Environment, Boston University

Professional Activities

- Departmental faculty search committee representative, 11/01/2024 - 03/31/2025, [Served on the faculty search committee for remote sensing hire]
- External faculty search representative, Boston University, 11/01/2023 - 03/31/2024, [Served on the faculty search committee of philosophy]
- UAPT Committee (tenure and promotion), Boston University, Boston University, Provost Office, Commonwealth Av, Boston, Massachusetts, 02215, USA, 10/01/2023 - 06/30/2024, 10/01/2021 - 06/30/2022).
- Visiting Professor Vienna University of Economics and Business (Summer 2016-2021).
- From 2020-2021: Visiting Professor, World Class Professor Program, Diponegoro University (UNDIP) in Northern Central Java, Semarang, Indonesia.
- Scientific Advisor. State and City Committees: Governor of Massachusetts Decarbonization Academic Steering Committee (2019-). Mayor of Boston –Social Equity Advisory Group (2018-).

Carbon Free Boston Report.

- External Reviewer for Tenure & Promotion (listing only 2013-22). 5 Universities.
- External Reviewer for Tenure & Promotion (listing only 2015-21). Dartmouth College, Hunter College, SUNY Buffalo, University of Maryland, and University of Arizona.
- Reviewer – Funding Agencies. NSF, EPA (STAR), NIH, NASA, Small Business (SBIR), Foundations.
- Reviewer – Journals. Geographical Analysis, Geographical Systems, Photogrammetric Engineering and Remote Sensing, Remote Sensing of the Environment, Intelligent Systems, IEEE Transactions on Geoscience and Remote Sensing, IEEE Neural Networks, Transactions in GIS, Environment and Planning A, International Journal of Geographical Information Science, IEEE Data Mining and Intelligence.
- Editorial Board – Geographical Analysis, Peer J, ISPRS International Journal of Geo-Information, (special issue), Cogent Geoscience, MDPI -Geomatics.
- Consultant (unpaid). Massachusetts State Police, Boston, Brookline, Watertown, Boston University Police, Boston University Sustainability Center, Audubon Society
- Judge (unpaid). Judge - LEGO League Tournament, STEM competitions in Schools (Cambridge, Brookline, Boston), Outreach to High School teachers, and other events.
- Consultant (paid). Fortune 500 Companies – Big data analysis- Marketing and consumer journey mapping
- Memberships. Corresponding Member of the IGU commission on Mathematical Models, Association of American Geographers, National Geographic Society University Consortium of Geographic Information Sciences (UCGIS).
- State and City Committees. Governor of Massachusetts Decarbonization Academic Steering Committee (2019-) Mayor of Boston –Social Equity Advisory Group (2018-). Carbon Free Boston Report.

Fields of Scholarship (underlined word and relevant publications).

- Geospatial Finance. Gopal, S., & Pitts, J. (2024). The FinTech Revolution Bridging Geospatial Data Science, AI, and Sustainability. Springer.
- AI & Big Data. Gopal, S., (2017). Artificial Neural Networks in Geospatial Analysis, The International Encyclopedia of Geography: People, the Earth, Environment, and Technology. Online ISBN: 9781118786352. DOI: 10.1002/9781118786352.
- AI & Big Data. Pitts, J., Gopal, S., Ma, Y., Koch, M., Boumans, R., and Kaufman L. (2020). Leveraging BigData and Analytics to Improve FEWS Sustainability. Frontiers in Big Data. 28 April 2020, | https://doi.org/10.3389/fdata.2020.00013.
- Sustainable Finance and Climate Risk: Gopal, S., Pitts, J., Inampudi, K., Xu, Y., & Cook, G. (2021). The Evolving Landscape of Big Data Analytics and ESG Materiality Mapping. The Journal of Impact and ESG Investing, 2(2), 77-100. DOI: https://doi.org/10.3905/jesg.2021.1.034
- Public health & Social Vulnerability. Chan, D. V., Helfrich, C. A., Hursh, N. C., Rogers, E. S., & Gopal, S. Measuring community integration using Geographic Information Systems (GIS) and participatory mapping for people who were once homeless. *Health & place*, 27, 92-101, 2014.
- Public health & Infectious diseases: Gopal, S., Ma, Y., Xin, C., Pitts, J., and Were, L. (2019). Characterizing the Spatial Determinants and Prevention of Malaria in Kenya, International Journal of Environmental Research and Public Health, 16(24), 5078.
- Landcover Change. Mann, Michael L. & Kaufmann, Robert K. & Bauer, Dana Marie & Gopal, S. & Nomack, Mallory & Womack, Jesse Y. & Sullivan, Kerry & Soares-Filho, Britaldo S. "Pasture conversionand competitive cattle rents in the Amazon," *Ecological Economics*, Elsevier, vol. 97(C), pages 182- 190, 2014.
- Coastal and Marine Ecosystems. Gopal, S., Kaufman, L., Holden, C., Ribera, M., Pasquarella, V., Shank,B., & Pitts, J. "Modeling Coastal and Marine Environmental Risks in Belize using MIDAS". *Coastal Management*, 43(3), 217-237, 2015.
- Urban & Built Environment. Gopal, S., Tang, X., Phillips, N., Nomack, M., Pasquarella, V., & Pitts, J.(2016). Characterizing urban landscapes using fuzzy sets. *Computers, Environment and Urban Systems,* 57, 212-223.
- Urban & Built Environment.Ma, Y., Wright, J., Gopal, S. and Phillips, N. (2020). Seeing the invisible:From imagined to virtual urban landscapes, Cities: The International Journal of Urban Policy and Planning, 98, 102559.
- Climate Change & Individual Perception. Kaufmann, R., Mann, M., Gopal,S., Liederman, J., Howe, P., Pretis, F., Tang, Xiaojing, and Gilmore, M. (2017). Spatial heterogeneity of climate change as an experiential basis for skepticism, PNAS, *Proceedings of the National Academy of Sciences* 114(1) 67- 71.
- Spatial Analysis. Ma, Y., & Gopal, S. (2018). Geographically Weighted Regression Models in EstimatingMedian Home Prices in Towns of Massachusetts Based on an Urban Sustainability Framework. *Sustainability*, 10(4), 1026.
- Energy. Gopal, S., Pitts, J., Li, Z., Gallagher, K., Baldwin, J., & Kring, W. (2018). Fueling Global Energy Finance: The Emergence of China in Global Energy Investment. *Energies*, 11(10), 2804.
- Methane; Wright, J., Ackley, R., Gopal, S., & Phillips, N. (2022). The BosWash Infrastructure Biome and Energy System Succession. Infrastructures, 7(7), 95.
- SDGs: Kelly-Fair, M., Gopal, S., Koch, M., Pancasakti Kusumaningrum, H., Helmi, M., Khairunnisa, D., & Kaufman, L. (2022). Analysis of Land Use and Land Cover Changes through the Lens of SDGs in Semarang, Indonesia. Sustainability, 14(13), 7592.
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Recent Grants (2016-2025).

- National Science. Foundation (NSF). Coupling of infrastructure, Green Infrastructure, And communities (Co-PI). 08/01/2016 - 01/31/2020 $484,136 $484,136.
- MacArthur Foundation. Ecosystem Service Tradeoffs for Lake Tonle Sap. (Co-PI). 01/01/2016 - 06/30/2018.
- NSF. IRES Track I: Collaborative Research: U.S.- Indonesian Research Experience for Students onSustainable Adaptation of Coastal Areas to Environmental Change. (Co-PI). 10/01/2018 - 09/30/2021
  $199,304 $199,304.
- National Institute of Health (NIH) - Center for Aids Research. Providence/Boston CFAR Developmental Award: Insurance Status and Health Outcomes among HIV and HIV TB Coinfected Persons in Kenya. (Senior Collaborator). 06/18/2018 - 06/17/2019. $150,000.
- Bureau of Ocean Management (BOEM). Environment Science. Productivity and Ecology of Sand Shoals System Modeling. Contract No. 140M0119C0013. (Co-PI). 08/05/2019 - 02/04/2021. $350,000.
- Boston University Faculty Ignition Award. ESGAnalytics.Ai Platform – (Environment, social and governance/SDG). PI. 11/1/2019 - 12/31/2020.
- National Science Foundation (NSF). "IRES Track II: Multidisciplinary Coastal Zone Hazards Institute-France, Japan, Indonesia" Co-PI 4/1/2022 to 3/2025. $399,636.
- National Science Foundation (NSF). "Large-scale CoPe: Reducing Climate Risks with Equitable Nature-based Solutions: Engaging Communities on Reef-Lined Coasts" Co-PI . 4/1/2022 - 3/2025. Project Start Date:01 Sep 2022. Amount $2 Million.
- Bureau of Ocean Management (US Department of Interior). "Standardizing Integrated Ecosystem-Based Assessments" Co-PI 5/1/2022 - 3/2025. $483,048. Contracted to Blue World Research Institute, Inc.

Special Awards and Invited Speaker 2020-25

- **Nominated for 2020 Metcalf Teaching Award,** The University's highest recognition for excellence in teaching. (Semi-finalist in 2017).
- **Invited Lecture in Speaker Series,** COVID-19 Pandemic Impacts on Pharmaceutical, and Agricultural Global Supply Chains**.** Research Institute for Supply Chain Management. Summer semester 2020. Vienna University of Economics and Business, Austria Wednesday 24h June 2020.
- **Invited Speaker**. Prove I Made a Low Carbon Choice – Can smart systems do this? ASU Series on HowSmart Systems Can Power Our De-Carbonized Future, Wednesday October 28, 2020
- **Invited Discussant**. Rethink How You View the Future. Future Forces That will Disrupt Sustainable Business Webinar. A full-spectrum thinking approach to building sustainability, 2019–2029. August 5,2020.
- **Invited Keynote Speaker**. The 6th International Conference on Tropical and Coastal Region Eco-Development 2020" Diponegoro University of Indonesia. October 27-28th, 2020.
- **Invited Speaker**. Geo-informatics and Application of AI/ML on Satellite Images with special emphasison the Pandemic View from Satellite Images. Maulana Abul Kalam Azad University of Technology, a State Govt. Technological University in West Bengal, India. May 30, 2020.
- ESGAnalytics.Ai Platform featured in The Forrester New Wave™: Climate Risk Analytics, Q3 2020. Ourpositioning in advanced analytics ranked the highest in the report. Related to BU Ignition Award 2019. https://www.forrester.com/report/The Forrester New Wave Climate Risk Analytics Q3 2020/-

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- ESGAnalytics.Ai Platform featured in The Forrester New Tech: ESG Reporting and Analytics, Q3 2021. Related to BU Ignition Award 2019.Forrester's Landscape Overview Of 40 Providers lists us as a top contender in this space.

Special Awards and Invited Speaker (prior to 2020)

- **1995 ERDAS Award** (With Curtis Woodcock) for Best Science Paper in Remote Sensing, AmericanSociety of Photogrammetry and Remote Sensing for the paper: Gopal, S. and C.E. Woodcock, 1994.
- **Dangermond Lecture Series Speaker 2005** - Annual Lecture Series, UC Santa Barbara.
- Jack Dangermond Speaker (2005) and delivered the annual lecture at ESRI headquarters in RedlandsCA, University of Redlands CA and UC Santa Barbara in May 2005.
- **The 27th Darwin Festival at Salem State College, Salem MA Feb.11, 2007.**The eternal triangle: Science, People and public policy in managing and sustaining marine areas. *Sponsored by the Department of Geography and the Charles Albert Read Trust.*
- **Boston Athenaeum Public Lecture January 20, 2016.** *Mapping in the 21st century: Maps, apps, tools & beyond***.** Boston.
- **Vienna University of Economics & Business Administration, Austria.** Research Institute for Supply Chain Management, Women in Fisheries and Clothing Supply Chain in Cambodia - A Spatial Scenario Analysis, May 17, 2016, 05:00 PM Building TC, Upper Level 34, Room 4.12, Welthandelsplatz 1, 1020 Vienna University of Business and
- **Invited lectures in Cambodia** (multiple locations in Phnom Penh and Seam Reap), **Indonesia,** (Semarang), and India (Chennai) – 2016-2019 (listed under meetings).
- **GWISE Mentor of the Year 2019.** Grad Students in STEM at Boston University award for mentor of the year for diversity.
- **2019 Winner of Boston University Ignition Faculty Awards**. Funding for early-stage projects withclear commercial potential. $75K
- **2020 World Class Professor Program**, Diponegoro University (UNDIP) in Northern Central Java, Semarang, Funded by Government of Indonesia.
- **2020. Best paper award.** Eight Annual International Conference on Sustainable Development (ICSD) 2020. Jessica Weight (PhD Student), Ma, Y., Gopal, S., and Phillips, N. "Spatial Analysis of Street Tree Condition and Proximity to Gas Leaks and Leak-Prone Infrastructure".

Gopal, S. - List of Publications

Gopal Research Profile

h-Gopal publication record (66 refereed journal articles, 22 book chapters and one edited book) includes publications in diverse fields in leading high quality journals, including International Journal of Geographical Information Science (IF=3.545), Geographical Analysis (IF=1.905). Journal of Regional Science (IF=1.944), Journal of the American Statistical Association (IF=3.412), IEEE Transactions on Geoscience and Remote Sensing (IF=5.63), Photogrammetric Engineering and Remote Sensing (IF=3.15), Remote Sensing of Environment (IF=8.218), Ecological Economics (IF=4.281), Environment and Resource Economics (IF=2.154), International Journal of Climatology (IF=3.609), and Energy Policy (IF=4.880). Her research is highly respected and widely cited as evidenced by Google Scholar (citations: 10531. h-index 38 and i10-index 72 (since 2018).

Scholarly Books

Goodchild, M., and Gopal, S. (Eds.). The Accuracy of Spatial Databases, Francis and Taylor, London, 1990.

Original Articles

1. Simonett, D., Barrett, T., Gopal, S., Holsmuller, F., and Veregin, H. Magnitude and spatial distribution of combustible materials in San Jose area, California*, Fire and Materials*, 12, 95-108,1988.
2. Gopal, S., Klatzky, R., and Smith, T. NAVIGATOR: A psychologically based model of environmentallearning through navigation, Journal *of Environmental Psychology*, 9, 309-331, 1989.
3. Gopal, S. and Smith, T. Human way-finding in an urban environment: a performance analysis usinga computational processing approach, Environmental *and Planning A*, 22, 169-191, 1990.
4. Self, C., Gopal, S., Golledge, R., and Fenstermaker, S. Gender-related differences in spatial abilities, *Progress in Human Geography*, 16, 3, 315-342, 1992.
5. Fischer, M.M. and Gopal, S. Neurocomputing-a new paradigm for geographic information processing, *Environment and Planning A*, 25(6), 757-760, 1993.
6. Gopal, S. and Woodcock, C. Theory and methods for accuracy assessment of thematic maps usingfuzzy sets, *Photogrammetric Engineering and Remote Sensing*, 60, 2, 181-188, 1994.
7. Woodcock, C.E., Collins, J., Gopal, S., Jakabhazy, V., Li, X., Macomber, S., Ryherd, S., Wu, Y., Harward, V.J., Levitan, J., and R. Warbington. Mapping forest vegetation using Landsat TM imagery and a canopy reflectance model, *Remote Sensing of Environment*, 50, 240-254, 1994.
8. Fischer, M., and Gopal, S. Neural network models and interregional telephone traffic: comparative performances between multilayer feedforward networks and the conventional spatial interaction model, *Journal of Regional Science*, 34, 4, 503-527, 1994.
9. Gopal, S. and Scuderi, L. Predicting sunspot cycles using feedforward neural networks, *Geographical Analysis*, 27(1), 42-60, 1995.
10. Gopal, S. and Fischer, M. Learning in single hidden layer feedforward neural network models: backpropagation in a spatial interaction modeling context, *Geographical Analysis*, 28 (1), 38-55, 1996.
11. Gopal, S., Woodcock, C., and Unis, G. Optimizing rules for labeling polygons for per-pixel classification using fuzzy sets, *Geographical Systems*, 2, 83-101, 1996.
12. Gopal, S. and Woodcock, C. E. Remote sensing of forest change using artificial neural networks, *IEEE Transactions on Geoscience and Remote Sensing*, 34 (2), 398-404, 1996.
13. Abuelgasim, A., Gopal, S., Irons, J., Strahler, A. Classification of ASAS multiangle and multispectralmeasurements using artificial neural networks, *Remote Sensing of Environment*, 57(2), 79-87, 1996.
14. Woodcock, C E., Gopal, S. and Albert, W. Evaluation of the potential for providing secondary labelsin vegetation maps, *Photogrammetric Engineering and Remote Sensing*, 62 (4), 393-399, 1996.
15. Moody, A. and Gopal, S. and Strahler, A. H. Sensitivity of neural networks to subpixel land-cover mixtures in coarse-resolution satellite data, *Remote Sensing of Environment*, 58, 329-343, 1996.
16. Carpenter, G., Gjaja, M., Gopal, S. and Woodcock, C. ART networks in Remote Sensing, *IEEE Transactions on Geoscience and Remote Sensing*, 35(2), 308-325, 1997.
17. Fischer, M M., Gopal, S., Staufer, P. and Steinocher, K. Evaluation of neural pattern classifiers fora remote sensing application, *Geographical Systems*, 4, 195-225, 1997.

18. Abuelgasim, A., Gopal, S. and Strahler, A. Forward and inverse modeling of canopy directional reflectance using a neural network, *International Journal of Remote Sensing*, 19 (3), 453-471, 1998.
19. Albert, W. Reinitz, M., Beusmans, J. and Gopal, S. The role of attention in spatial learning during simulated route navigation, *Environment and Planning A*, 31, 1459-1472, 1999.
20. Carpenter, G., Gopal, S., Martens, S., and Woodcock, C. A Neural Network Method for Mixture Estimation for Vegetation Mapping, *Remote sensing of the Environment*, 70 (2), 138-152, 1999.
21. Gopal, S., Woodcock, C. and Strahler, A. Fuzzy ARTMAP classification of global land cover from the1 degree AVHRR data set*, Remote Sensing of the Environment*, 67, 230-243, 1999.
22. Abuelgasim, A., Ross, W. D., Gopal, S. and Woodcock, C. E. Change detection using adaptive neural networks: Environmental damage assessment after the Gulf War, *Remote Sensing of the Environment*, 70 (2), 208-223, 1999.
23. Gopal, S. and Woodcock, C. E. Artificial Neural Networks for Detecting Forest Change in Chen, C.H. (ed.), *and Information Processing for Remote Sensing,* pp. 225-236, World Scientific: Singapore, 1999.
24. Kaufmann, R. K., Snell, S. E., Gopal, S. and Dezzani, R. The significance of synoptic patterns identified by the Kirchhofer technique: A Monte Carlo approach, *International Journal of Climatology*, 19(6), 619- 626, 1999.
25. Carpenter, G., Gopal, S., Macomber, S., Martens, S., Woodcock, C. and Franklin, J. A neural network method for efficient vegetation mapping, *Remote sensing of the Environment*, 70, 326- 338, 1999.
26. Woodcock, C. E. and Gopal, S. Fuzzy set theory and thematic maps: accuracy assessment and area estimation, *International Journal of Geographical Information Systems*, 14(2), 153-172, 2000.
27. Snell, S. E., Gopal, S. and Kaufmann, R. K. Spatial interpolation of GCM forecasts using artificial neural networks, Journal *of Climate*, 13,886-895, 2000.
28. Friedl, M.A., Woodcock, C., Gopal, S., Muchoney, D., Strahler, A. H., and C. Barker-Schaaf. A note on procedures used for accuracy assessment in land cover maps derived from AVHRR data, *International Journal of Remote Sensing*, 21, (5), 1073-1077, 2000.
29. Muchoney, D., Borak, J., Chi, M., Friedl, M., Gopal, S., Hodges, J., Morrow, N., and A. Strahler, A. Application of the MODIS global supervised classification model to vegetation and land cover mapping of Central America, *International Journal of Remote Sensing*, 21, (6), 1115-1138, 2000.
30. Pax-Lenney, M., Woodcock, C.E., Gopal, S. and Macomber, S. Monitoring temperate conifer forests with Landsat TM: A new look at classification generalization, *Remote Sensing of Environment*, 77(3): 241-250, 2001.
31. Ju, J., Kolaczyk, E.D., and Gopal, S. Gaussian mixture discriminant analysis and sub-pixel land cover classification in remote sensing. *Remote Sensing of Environment,* 84(4), 550-560, 2003.
32. Weiguo Liu, Gopal, S. and Curtis E. Woodcock. Uncertainty and Confidence in Land Cover Classification Using a Hybrid Classifier Approach. *Photgrammetric Engineering and Remote Sensing*, 70 (8), 963-972, 2004.
33. Liu, W**.,** Karen Seto, Elaine Wu, Gopal, S. and Curtis Woodcock. ART-MMAP: a neural network approach to sub-pixel classification, *IEEE Transactions on Geoscience and Remote Sensing***,** 42(9), 2004.
34. Shabanov, N. V., Lo, K., Gopal, S. and R. B. Myneni. Subpixel burn detection in Moderate Resolution Imaging Spectroradiometer 500-m data with ARTMAP neural networks *Journal of Geophysical Research,* Vol. 110, 2005.
35. Ju, J., Gopal, S. and Kolaczyk, E.D. On the choice of spatial and categorical scale in remote

sensing land cover characterization. *Remote Sensing of Environment*, 96(1):62-77., 2005.
36. Proctor SP, Gopal S, Imai A, Wolfe J, Ozonoff D, White RF. Spatial Analysis of 1991 Gulf War Troop Locations in Relationship with Postwar Health Symptom Reports Using GIS Techniques *Transactions in GIS*, Vol. 9, No. 3. (June 2005), pp. 381-396, 2005.
37. Ju, J., Gopal, S. and Kolaczyk, E.D. On the choice of spatial and categorical scale in remote sensing land cover characterization. *Remote Sensing of Environment*, 96(1):62-77, 2005.
38. Kolaczyk, E.D., Ju, J., and Gopal, S. Multiscale, multigranular statistical image segmentation. Journal of the American Statistical Association, 100, 1358-1369, 2005.
39. Anderson, B. T., Wang, J., Gopal, S., & Salvucci, G. (2009). Influence of daily rainfall characteristics on regional summertime precipitation over the southwestern United States. Journal of Hydrometeorology, 10(5), 1218-1230.
40. Yeshiwondim, Asnakew K., Gopal, S., Hailemariam, Afework T., Dengela, Dereje O. and Hrishikesh P. Patel. Spatial analysis of malaria incidence at the village level in areas with unstable transmission in Ethiopia, *International Journal of Health Geographics*, 8:5, 2009.
41. Gandhi, V., Kang, J. M., Shekhar, S., Ju, J., Kolaczyk, E. D., & Gopal, S. (2009). Context inclusive function evaluation: a case study with em-based multi-scale multi-granular image classification. Knowledge and information systems, 21(2), 231.
42. Mann, Michael L. & Kaufmann, Robert K. & Bauer, Dana & Gopal, S. & Vera-Diaz, Maria Del Carmen & Nepstad, Daniel & Merry, Frank & Kallay, Jennifer & Amacher, Gregory S.. "The economics of cropland conversion in Amazonia: The importance of agricultural rent," Ecological Economics, Elsevier, vol. 69(7), pp 1503-1509, 2010.
43. Patel, H., Gopal, S., Kaufman, K., et al. “MIDAS: A Spatial Decision Support System for Monitoring Marine Management Areas” International Regional Science Review, April 2011 34: 191-214, 2011.
44. Michael Mann & Robert Kaufmann & Dana Bauer & Gopal, S. & James Baldwin & Maria Del Carmen Vera-Diaz. "Ecosystem Service Value and Agricultural Conversion in the Amazon: Implications for Policy Intervention," Environmental & Resource Economics, European Association of Environmental and Resource Economists, vol. 53(2), pages 279-295, October, 2012.
45. Gopal, S., "Global synthesis of Searchlight reports using knowledge discovery and visualization",
Foresight, Vol. 14 Iss: 6, pp.468 – 488, 2012.
46. Kaufmann, RK, Gopal, S., X. Tang, S. M. Raciti, PE Lyons, N. Geron, and F. Craig. Revisiting the weather effect on energy consumption; implications for the impact of climate change, Energy Policy, Volume 62, November 2013, Pages 1377–1384.
47. Chan, D. V., Helfrich, C. A., Hursh, N. C., Rogers, E. S., & Gopal, S. Measuring community integration using Geographic Information Systems (GIS) and participatory mapping for people who were once homeless. Health & place, 27, 92-101, 2014.
48. Mann, Michael L. & Kaufmann, Robert K. & Bauer, Dana Marie & Gopal, S. & Nomack, Mallory & Womack, Jesse Y. & Sullivan, Kerry & Soares-Filho, Britaldo S. "Pasture conversion and competitive cattle rents in the Amazon," Ecological Economics, Elsevier, vol. 97(C), pages 182-190, 2014.
49. Chan, Dara V., Gopal, S. and C. A. Helfrich. Accessibility patterns and community integration among previously homeless adults: A Geographic Information Systems (GIS) approach. Social Science & Medicine, 2014, vol. 120, issue C, pages 142-152, 2014.
50. Gopal, S., Kaufman, L., Holden, C., Ribera, M., Pasquarella, V., Shank, B., & Pitts, J. “Modeling Coastal and Marine Environmental Risks in Belize using MIDAS”. Coastal Management, 43(3), 217- 237, 2015.

51. Gopal, S., Tang, X., Phillips, N., Nomack, M., Pasquarella, V., & Pitts, J. (2016). Characterizing urban landscapes using fuzzy sets. Computers, Environment and Urban Systems, 57, 212-223.
52. Kaufmann, R., Mann, M., Gopal,S., Liederman, J., Howe, P., Pretis, F., Tang, Xiaojing, and Gilmore, M. (2017). Spatial heterogeneity of climate change as an experiential basis for skepticism, PNAS, Proceedings of the National Academy of Sciences 114(1) 67-71.
53. Ma, Y., & Gopal, S. (2018). Geographically Weighted Regression Models in Estimating Median Home Prices in Towns of Massachusetts Based on an Urban Sustainability Framework. Sustainability, 10(4), 1026.
54. Gopal, S., Pitts, J., Li, Z., Gallagher, K., Baldwin, J., & Kring, W. (2018). Fueling Global Energy Finance: The Emergence of China in Global Energy Investment. Energies, 11(10), 2804. https://doi.org/10.3390/en11102804
55. Gopal, S., Ma, Y., Xin, C., Pitts, J., and Were, L. (2019). Characterizing the Spatial Determinants and Prevention of Malaria in Kenya, International Journal of Environmental Research and Public Health, 16(24), 5078; https://doi.org/10.3390/ijerph16245078.
56. Ma, Y., Wright, J., Gopal, S. and Phillips, N. (2020). Seeing the invisible: From imagined to virtual urban landscapes, Cities: The International Journal of Urban Policy and Planning, 98, 102559. https://doi.org/10.1016/j.cities.2019.102559
57. Pitts, J., Gopal, S., Ma, Y., Koch, M., Boumans, R., and Kaufman L. (2020). Leveraging Big Data and Analytics to Improve FEWS Sustainability. Frontiers in Big Data. 28 April 2020, https://doi.org/10.3389/fdata.2020.00013.
58. Kaufmann, R. K., Newberry, D., Xin, C., & Gopal, S. (2021). Feedbacks among electric vehicle adoption, charging, and the cost and installation of rooftop solar photovoltaics. Nature Energy, 1-7.
59. Gopal, S., Pitts, J., Inampudi, K., Xu, Y., & Cook, G. (2021). The Evolving Landscape of Big Data Analytics and ESG Materiality Mapping. The Journal of Impact and ESG Investing, 2(2), 77-100.
60. Chan, D. V., Adam, M., & Sucharita, G. (2021). Applying Environmental Context to Rehabilitation Research Using Geographic Information Systems and Global Positioning Systems Geospatial Technologies. Rehabilitation Research, Policy, and Education, 35(1), 33-50.
61. Yang, Hongbo, B. Alexander Simmons, Rebecca Ray, Christoph Nolte, Suchi Gopal, Yaxiong Ma, Xinyue Ma, and Kevin P. Gallagher. "Risks to global biodiversity and Indigenous lands from China's overseas development finance." Nature ecology & evolution 5, no. 11 (2021): 1520-1529.
62. DiGiorgio, A. L., Ma, Y., Upton, E. M., Gopal, S., Robinson, N. J., Susanto, T., & Knott, C. D. (2022). Famished Frugivores or Choosy Consumers: A Generalist Frugivore (Wild Bornean Orangutans, Pongo pygmaeus wurmbii) Leaves Available Fruit for Nonfruit Foods. International Journal of Primatology, 1-22.
63. Wright, J., Ackley, R., Gopal, S., & Phillips, N. (2022). The BosWash Infrastructure Biome and Energy System Succession. Infrastructures, 7(7), 95.
64. Kelly-Fair, M., Gopal, S., Koch, M., Pancasakti Kusumaningrum, H., Helmi, M., Khairunnisa, D., & Kaufman, L. (2022). Analysis of Land Use and Land Cover Changes through the Lens of SDGs in Semarang, Indonesia. Sustainability, 14(13), 7592.
65. Ma, Y., Gopal, S., Ma, X., Gallagher, K., Koch, M., & Kaufman, L. (2023). The Deforestation and Biodiversity Risks of Power Plant Projects in Southeast Asia: A Big Data Spatial Analytical Framework. Sustainability, 15(19), 14461.
66. DiGiorgio, A. L., Ma, Y., Upton, E. M., Gopal, S., Robinson, N. J., Susanto, T., & Knott, C. D. (2023). Famished Frugivores or Choosy Consumers: A Generalist Frugivore (Wild Bornean

Orangutans, Pongo pygmaeus wurmbii) Leaves Available Fruit for Nonfruit Foods. International Journal of Primatology, 44(2), 377-398.

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68. Gopal, S., & Fischer, M. M. (2023). Opioid mortality in the US: quantifying the direct and indirect impact of sociodemographic and socioeconomic factors. Letters in Spatial and Resource Sciences, 16(1), 29.
69. Boumans, R., Kelly-Fair, M., Gopal, S., and Pitts, J. (2023). "Dynamic Integrated Modeling for Coastal and Estuarine Systems" chapter 00060, In Treatise on Estuarine and Coastal Science, 2nd Edition, Treatise on Estuarine and Coastal Science, Baird, D., and Elliott, M.(eds), Elsevier. 2nd Edition - March 15, 2024. Online December 2023.
70. Gopal, S., & Pitts, J. (2024). The FinTech Revolution Bridging Geospatial Data Science, AI, and Sustainability. Springer.
71. Gopal, S., Kapilashrami, M., Saltzberg, E., & Choi, Y. -H. (2024). Developing a National Digitalization Readiness Index for Developing Countries.. United Nations Climate Technology Centre and Network United Nations Environment Programme (10/2023-05/2024).. Retrieved from https://eem.engineering.gwu.edu/
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73. Ma, Y., Gopal, S., Koch, M., & Kaufman, L. (2024). Mapping the dynamics of aquatic vegetation in Lake Kyoga and its linkages to satellite lakes. Science of Remote Sensing, 10, 100156. doi:10.1016/j.srs.2024.100156.
74. White, C., Wang, Y. -H., Walter, R. K., Ruttenberg, B. I., Han, D., Newman, E., . . . Kaufman, L. (2024). Spatial planning offshore wind energy farms in California for mediating fisheries and wildlife conservation impacts. Environmental Development, 51, 101005. doi:10.1016/j.envdev.2024.101005

Refereed Book chapters and conference papers

1. Gopal, S. and Smith, T. NAVIGATOR: A psychologically based model of human way-finding in an urban environment, in M. Fischer, P. Nijkamp and Y. Papageorgiou (Eds.), *Spatial Choices and Processes*, pp. 169-200, North Holland Press: Amsterdam, 1990.
2. Gopal, S. and Fischer, M. The application of artificial neural networks in remote sensing and pattern recognition in Ernste, Huib (Ed.), *Pathways to Human Ecology*, pp. 17-35, Steiner Verlag, Wiesbaden, 1994.
3. Gopal, S. Neural network models of cognitive map in Portugali, J. (Ed.) *The Construction of Cognitive Map*, pp. 69-85, Amsterdam: Kluwer Academic Publishers, 1996.
4. Gopal, S. and Fischer, M. Fuzzy ARTMAP - A Neural Classifier for Multispectral Image Classification, in Fischer, M.M. and Getis, A. (eds.): *Recent Developments in Spatial Analysis: Spatial Statistics, Behavioural Modelling and Computational Intelligence*, pp. 306-35. Springer, Heidelberg, 1997.
5. Carpenter, G., Gopal, S., Martens, S., and Woodcock, C. *Evaluation of mixture estimation methods for vegetation mapping*, Technical Report CAS/CNS-97-014, Boston University, 1997.
6. Friedl, M.A., McIver, D., Hodges, J.C.F., Zhang, X., Gopal, S., Woodcock, C.E., and A.H. Strahler, Land Cover Mapping from MODIS: First Results and Future Directions, *8th International Symposium on Physical Measurements and Signatures in Remote Sensing*, ISPRS, p.3-8, 2001.

7. Liu, W., Gopal, S. and C.E. Woodcock, ARTMAP Multisensor/resolution Framework for Landcover Characterization, *Proceedings of 4th Annual Conference on Information Fusion*, Montreal, August, 2001, WeC2-11-16, 2001.
8. Liu, W., Gopal, S. and Woodcock, C. ARTMAP neural networks for image processing, interpretation, visualization. Invited Chapter in V. Kumar, R. Grossman, C. Kamath, and R. Namburu (Eds.) *Massive Computing*, pp Kluwer Academic Press, 2001.
9. Gopal, S., W. Liu and Woodcock, C. Visualization Based on the Fuzzy ARTMAP Neural Network for Mining Remotely Sensed Data, Invited Chapter in Harvey J. Miller and Jiawei Han (eds.), *Geographic Data Mining and Knowledge Discovery*, pp. 315-335, Taylor and Francis, 2001.
10. Gopal, S. and Fischer, M. Fuzzy ARTMAP - A Neural Classifier for Multispectral Image Classification, in Manfred M. Fischer and Yee Leung (eds), *Geocomputational Modelling : Techniques and Applications (Advances in Spatial Science),* pp. 165-194*.* Springer Verlag: Heidelberg, 2001, [Reprint from
11. Fischer, M.M. and Getis, A. (eds.): *Recent Developments in Spatial Analysis: Spatial Statistics, Behavioural Modelling and Computational Intelligence*, pp. 306-35. Springer, Heidelberg, 1997.
12. Legates, D.R., Gopal, S. and P. Rogerson. Mathematical Models and Quantitative
13. Methods. *Geography in America at the Dawn of the 21st Century.* Oxford University Press, 442– 457, 2003.
14. Gandhi, J. M. Kang, S. Shekhar, J. Ju, E. D. Kolaczyk, Gopal, S. *Using a Context Approach to Process Statistical Queries in Raster Data: An Extended Abstract*, Accepted
15. Gopal, S. and Smith, T. NAVIGATOR: A psychologically based model of human way-finding in an urban environment, in M. Fischer, P. Nijkamp and Y. Papageorgiou (Eds.), Spatial Choices and Processes, pp. 169-200, North Holland Press: Amsterdam, 1990.
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18. Gopal, S. and Fischer, M. Fuzzy ARTMAP - A Neural Classifier for Multispectral Image Classification, in Fischer, M.M. and Getis, A. (eds.): Recent Developments in Spatial Analysis: Spatial Statistics, Behavioural Modelling and Computational Intelligence, pp. 306-35. Springer, Heidelberg, 1997.
19. Carpenter, G., Gopal, S., Martens, S., and Woodcock, C. Evaluation of mixture estimation methods for vegetation mapping, Technical Report CAS/CNS-97-014, Boston University, 1997.
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21. Liu, W., Gopal, S. and C.E. Woodcock, ARTMAP Multisensor/resolution Framework for Landcover Characterization, Proceedings of 4th Annual Conference on Information Fusion, Montreal, August, 2001, WeC2-11-16, 2001.
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24. Gopal, S. and Fischer, M. Fuzzy ARTMAP - A Neural Classifier for Multispectral Image

Classification, in Manfred M. Fischer and Yee Leung (eds), Geocomputational Modelling : Techniques and Applications (Advances in Spatial Science), pp. 165-194. Springer Verlag: Heidelberg, 2001, [Reprint from
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26. Legates, D.R., Gopal, S. and P. Rogerson. Mathematical Models and Quantitative
27. Methods. Geography in America at the Dawn of the 21st Century. Oxford University Press, 442– 457, 2003.
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29. Gopal, S. (2007). The evolving social geography of blogs, in Harvey J. Miller (ed.) Societies and Cities in the Age of Instant Access, Berlin: Springer, pages 275-294.
30. Gopal, S., Vanelli, M. and Adams, M. Modeling the spatial patterns of addiction in the US. In D. Richardson and Y. Thomas. (Eds.) Geography and Drug Addiction, edited by Berlin: Springer-Verlag, pages 415-437, 2008.
31. Gopal, S. Error in GIS (propagation and modeling), in Rob Kitchen and Nigel Thrift (Eds) International Encyclopedia of Human Geography Elsevier. Pages 586-594, 2009.
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33. Tyler, Zachary C. and Gopal, S. Sub-Saharan Africa at Cross-Roads: A quantitative analysis of regional development. THE PARDEE PAPERS, No. 10 / MAY 2010
34. Gopal, S. and Najam, A. Connecting the Dots: Information Visualization and Text Analysis of the Searchlight Project Newsletters. Pardee Center for the Study of the Longer-Range Future, February 2012 (36 pages). ISBN: 978-1-936727-05-6, 2012
35. Irit Altman, Roel Boumans, Joe Roman, Gopal, S. and Les Kaufman. An Ecosystem Accounting Framework for Marine Ecosystem-Based Management in Michael J. Fogarty (Editor), James J. McCarthy (Editor), The Sea, Volume 16: Marine Ecosystem-Based Management (The Sea: Ideas and Observations on Progress in the Study of the Seas) [Hardcover], Harvard University Press, 2013.
36. Gopal, S., (2017). Artificial Neural Networks in Geospatial Analysis, The International Encyclopedia of Geography: People, the Earth, Environment, and Technology. Online ISBN: 9781118786352. DOI: 10.1002/9781118786352.
37. Gopal, S. (2018). The Internet of Things (IoT) for GIS in Transportation. US department of Transportation, GIS in Transportation Newsletter, Guest Editorial. Washington DC: US Department of Transportation Newsletter. Retrieved from https://www.gis.fhwa.dot.gov/documents/Newsletter_November2018.asp
38. Gopal, S., Kelly-Fair, M., and Ma, Y. (2023). Palm Oil- The increasing materiality of deforestation and biodiversity risks in Indonesia and Malaysia. eCF Paper Id: IG231265. Presented in FR3.R12: Remote Sensing for Sustainable Development, IGARSS, Pasadena, CA, July 21, 2023.
39. Deyle, E., Auster, P., Boumans, R., Driscoll, S., Gopal, S., Kappel, C., . . . Kaufman, L. (2024). Dynamic Tools for Resilient OCS Planning: Challenges and Necessity for Facing Non-Stationary Climate Futures.. In Ocean Sciences Meeting. New Orleans, LA. Retrieved from

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40. Gopal, S. (2024). The Fintech Revolution: Geospatial finance, IMAP Fall Workshop poster, Friday, Oct 18.
41. Gopal, S. (2024). Designing a National Digital Readiness Index for the Energy Sector in Developing Countries, Summer Fellows Seminar, Boston University Institute for Global Sustainability. May 30, 2024.
42. Gopal, S. Assessment of the Digital Capacity of Developing Countries for Transforming Their Energy Infrastructure. United Nations Climate Programme. Climate Technology Center and Network Meeting. September 25, 2024
43. Gopal, S. Planetary Boundaries: The Tipping Points Threatening Our Planet and Our Health. Nexus CAS Knowledge NeXus: One Planet – One Health, January 27, 1-4 pm, Photonics Colloquium Room, 8 St. Mary's Street, 9th Floor
44. Gopal, S. (2025). Geospatial Finance: Foundations for Sustainable Investment and Environmental Insight, IMAP. Thursday, February 13, 12:30-1:30 pm, at the Questrom School of Business, 595 Commonwealth Ave, Room 430 HAR.
45.

Book Reviews

- Placing history: How maps, spatial data and GIS Are Changing Historical Scholarship by Anne Kelly Knowles and Amy Hillier eds. ESRI Press, Redlands, CA, 2008. 313 pp. In the *Journal of Northeastern Geography*

Conference Proceedings and Reports

- Freundschuh, S., Mark, D., Gopal, S., Gould, M., and Couclelis, C. Verbal directions for wayfinding: Implications for navigation and geographic information and analysis systems, *Proc. of the 4th International Symposium on Spatial Data Handling*, Zurich, Switzerland, 1, pp. 478-487, 1990.
- Woodcock, C., and Gopal, S. Accuracy assessment of the Stanislaus forest vegetation map using fuzzysets, Proc*. of the Fourth Biennial Remote Sensing Applications Conference*, pp. 378-394, 1992.
- Gopal, S. and Fischer, M.M. Neural net based interregional telephone traffic models, Proceedings of *International Joint Conference on Neural Networks*, Nagoya, Japan, 1993.
- Gopal, S. Sklarew, D. M., and Lambin, E. Fuzzy-Neural Networks in Multi-temporal classification of Landcover Change in the Sahel, *Proceedings of the DOSES Workshop on New Tools for Spatial Analysis*, Lisbon, Portugal, DOSES, EUROSTAT, ECSC-EC-EAEC: Brussels, Luxembourg, pp. 55-68, 1994.
- Woodcock, C.E., Gopal, S., Macomber, S.A., and V.D. Jakabhazy, 1994. Accuracy Assessment of the Vegetation Map of the Plumas National Forest, Technical Report, Center for Remote Sensing, BostonUniversity, 19p.
- Fischer, M. and Gopal, S. *Neurocomputing and spatial information processing: from general considerations to a low dimensional real world application*, Proceedings of the DOSES Workshop on New Tools for Spatial Analysis, Lisbon, Portugal, DOSES, EUROSTAT, ECSC-EC-EAEC: Brussels, Luxembourg, pp. 69-81, 1994.
- Abuelgasim, Abdelgadir and Gopal, S. Classification of multiangle and multispectral ASAS data using ahybrid neural network model, *International Geoscience and Remote Sensing Symposium 1994*, Pasadena, CA, IEEE: Piscataway NJ, pp. 1670-1675, 1994.
- Moody, A., Gopal, S., Strahler, A., Borak, J., and P. Fisher A combination of temporal thresholding andneural network methods for classifying multiscale remotely-sensed image data, *International Geoscience and Remote Sensing Symposium 1994*, Pasadena, CA, IEEE: Piscataway NJ, pp. 1877-

1880,1994.

- Woodcock, C. and Gopal, S. Remote sensing of forests: New data layers for GIS, *Proc. ASPRS Conference*, 1995, Charlotte, N. Carolina, pp. 420-428.
- Carpenter, G., Gjaja, M., Gopal, S. and Woodcock, C. ART networks in Remote Sensing, *International Geoscience and Remote Sensing Symposium 1996*, Vol 1, Lincoln, Nebraska, May 27-31, 1996, IEEE: Piscataway NJ, pp. 529-531.
- Gopal, S., Woodcock, C., and Strahler, A.H. Fuzzy ARTMAP classification of global land cover from AVHRR data set, *International Geoscience and Remote Sensing Symposium 1996*, Vol 1, Lincoln, Nebraska, May 27-31, 1996, IEEE: Piscataway NJ, pp. 538-540.
- Gopal, S. and Fischer M. A comparison of three neural network classifiers for remote sensing classification, *International Geoscience and Remote Sensing Symposium 1996*, Vol 1, Lincoln, Nebraska, May 27-31, 1996, IEEE: Piscataway NJ, pp. 787-789.
- Abdelgadir A. Abuelgasim, Gopal, S. and Strahler, A.H. Forward and inverse modeling of canopy directional reflectance using a neural network, *International Geoscience and Remote Sensing Symposium 1996*, Vol 3, Lincoln, Nebraska, May 27-31, 1996, IEEE: Piscataway NJ, pp. 1426-1428.
- Ju, J., Gopal, S. and Kolaczyk, E. *Land cover and land use mapping using a multiscale multigranular framework and remotely sensed data*, Annual Association of American Geographers, Chicago, IL, March 8-12, 2006.
- Gopal, Adams, M., Vanelli, M. and Albanese, M. *Modeling the spatial patterns of addiction in the US.Invited Presentation at* **NIDA/AAG Symposium on Geography and Drug Addiction,** March 8, 2006 Chicago IL.
- Andris, C. Paletta, P., Ganguly, S., and Gopal, S. *Exploring the Relationship between the Social Geography and Environmental Susceptibility of the New Orleans Region,* **Annual Association ofAmerican Geographers**, Chicago, IL, March 8-12, 2006.
- Gopal, S., *GIS and Spatial Analysis in Public Health and Epidemiology*, Caro Research, Concord MA,August 2006.
- Gopal, S. and Kaufman, L. *Marine Integrated Decision Analysis System (MIDAS) for Monitoring and Analysis of Marine Management Areas*. NESTVAL, North East Geographers, October 2006, BurlingtonVermont
- Gopal, S., *Using geospatial modeling for conservation*. Ciudad Universitaria de Cantoblanco, Madrid, Spain, July 2007.
- Patel, H., Gopal, S. and Kaufman, L. *Implementing a decision support system for marine management* , Annual Association of American Geographers, San Francisco, March 2007
- Anderson, B., Gopal, S. and Kaufman, L. *Integrating and Modeling Ecological, Socio Economic, Governance factors in Marine Management - A case study of Belize*, Annual Association of American Geographers, San Francisco, March 2007.
- Gopal, S., *MIDAS - Marine Integrated Decision Analysis System* at Marine Management Areas Meetingin San Francisco, Conservation International. October 2007 Invited lectures.
- Gopal, S., *International Workshop on Women, Science and Environment* (Jornada Internacional de la Mujer, la Ciencia, y el Medio Ambiente). Alicante, Spain.
- Gopal, S. Participated in a documentary film called "*Minority Women in Science*" directed by Karin Koch, Cambridge Community TV. This film was shown in Cambridge Science Festival in April 2007 followed by a discussion on the status of women scientists. Both these documentaries are featured on YouTube.
- Gopal, S. and Kaufman, L. (2007). MIDAS - Marine Integrated Decision Analysis System at Marine Management Areas Meeting in San Francisco, October 2007.
- Patel, Hrishi, Gopal, S. and Kaufman, L. (2007). Implementing a decision support system for marine management, Annual Association of American Geographers, San Francisco, March, 2007.

- Gopal, S. and Kaufman, L. (2008). MIDAS - Marine Integrated Decision Analysis System for Marine Management Areas in Belize. - International Coral Reef Symposium Proceedings, Florida, 2008.
- Gopal, S., (2009). MIDAS - A User Guide. Published by Conservation International (along with a CD). Conservation International, Washington DC.
- R. Kaufmann and Gopal, S. (2009) - Cartograms to show Carbon and other Emissions, Pardee Center project
- Gopal (2009). Keynote address at GI-Forum 2009, Salzburg, Austria. Towards Geosocial Networking: Integrating Social Networks and LBS
- Gopal, S. (along with Undergrad student David Kealey, Professor Petra Staufer-Steinnocher) (2009). Geographic Localization of IT Sector and Spillovers in India using Spatial Analytical Hierarchical Process(SAHP)". 56th Annual North American Meetings of the Regional Science Association, San Francisco, Nov 2009
- Gopal, S. (along with Undergrad student David Kealey) (2009). Spatial Localization of Innovation in ITSector in India - Vienna University of Economics and Business Administration, Vienna Austria, July 2009.
- Gopal, S. and Kaufman, L. (2010). EBM (Ecosystem Based Management) Webinar: Demonstration of MIDAS by Gopal, S. and Les Kaufman of Boston University, Tuesday, (March 10, 2 pm US EST/11 am US PST). - Attracted International audience of over 300 people
- Gopal, S. and Kaufman, L. (2010). MIDAS – A Spatial Decision Support System for Monitoring Marine Management, Date: June 29, 2010, Time: 5:00 pm, Institut für Wirtschaftsgeographie und Geoinformatik, WU Wien, Nordberg Str. Austria
- Gopal, S. and Kaufman, L. (2010). Marine Spatial Management in Belize S2A Symposium in Belize City January 2010 and three workshops Belize - Punta Gorda, Bel Mopan, and Belize City in June 2010.
- Lucy Hutyra, Mark Friedl, Gopal, S. and Jared Newell (2011). The carbon metabolism of Boston - 26thAnnual Landscape Ecology Symposium Sustainability in Dynamic Landscapes Portland, Oregon / April3 - 7, 2011
- Nathan Phillips, Mark Friedl, Gopal, S., Robert Kaufmann, The carbon metabolism of Boston, 26th Annual Landscape Ecology Symposium Sustainability in Dynamic Landscapes Portland, Oregon, April 3 - 7, 2011
- Gopal, S., (along with Les Kaufman, Evan Goldman, Ben Carr, Marta Ribera) MIDAS – A Spatial DecisionSupport System for Monitoring Marine Management at the MOP Partners Meetings in Boston MA
- Gopal, S., (along with Adil Najam) (2011). Connecting the Dots: Information Visualization and Text Analysis of the Searchlight Project Newsletters. Rockefeller's Searchlight Grantees India Immersion Event, Mumbai, India, April 4-8, 2011
- Gopal, S., (along with Josh Pitts, Les Kaufman, Evan Goldman, Ben Carr, Marta Ribera) MIMES-MIDAS – Dynamic modeling of tradeoffs to inform Marine Spatial Planning at The Regional Association for Research on the Gulf of Maine (RARGOM) - October 6, 2011.
- Gopal, S., (2011). Talk on Time in Spatio-temporal processes and models - Seminar on Time at BostonUniversity, organized by Professor Steve Grossberg, April 2011.
- Valerie Pasquarella, Caroline Polger, Gopal, S., (2011). NSF GK12 Meetings in Washington DC -March 2011. Presented BU's GK12 outreach efforts to schools.
- Gopal, S. (2012). Fuzzy Classification of the Urban-Rural Gradient of Metro Boston, Annual Meeting,Association of American Geographers, New York, New York. In session Coupled Socio-Ecological Systems in Urban Environments - Session 1 (organizers Gopal, S. and A. Short).
- Gopal, S., Benjamin Burkholder, Petra Staufer-Steinnocher, and Dominik Baier (2012). The Geography of China’s Knowledge Networks and Patenting Activities Using EPO, JPO and

USPTODatabases, Annual Meeting, Association of American Geographers, New York, New York.

- Dominik Baier (WU Vienna), Benjamin Burkholder (Boston University), Gopal, S. (Boston University) and Petra Staufer-Steinnocher (WU Vienna) (2012). Knowledge Networks and Patenting Activities inChina: A Geospatial Analysis Using International Patent Systems Databases ERSA 2012 in Bratislava.
- Davidson H. Hamer, Katherine Semrau, Lindsey L Everett, & Gopal, S. (2012). Emergency obstetricaland neonatal capacity and health center access in Kalomo District, Zambia. Abstract 53. 2nd Global Symposium on Health Systems Research, Beijing, China, November 1-3, 2012.
- Pasquarella, V., Gopal, S., Landre, E., & Kaufman, L. "Modeling ecological processes within andbeyond the boundaries of an urban conservation area." Student Conference on Conservation Science-New York. American Museum of Natural History, New York, NY. 11 Oct 2012. Oral Presentation.
- Pasquarella, V., Gopal, S., Kaufman, L., Woodcock, C., & Zhu, Z. "Conservation in the InformationAge: Harnessing the power of Landsat time series and natural history archives for research and management within and beyond the boundaries of Broadmoor." Mass Audubon Staff Natural History Conference. Drumlin Farms, Lincoln, MA. 20 Mar 2013. Oral Presentation.
- Ribera, M., Gopal,S., Kaufman, L., Haskell, B. 2014 Local productivity hotspots in the Western Gulf ofMaine: strength, persistence and correlation to fishing effort. Regional Association for Research on the Gulf of Maine (RARGOM) annual meeting, Boston, MA 2014.
- Brossman CA, Gopal S, Stewart N, Keser R, Hendrick MF, Sanders-DeMott R. April 2014. An international collaboration: US and Belize partners on science curriculum. Contributed Talk andPoster. National Conference on Science Education. Boston, MA.
- Gopal, S, Invited American Geophysical Union Lecture entitled "Geosciences -- The Nexus of DataDriven Science and Applications" at National Science Teachers Association National Conference (Boston, MA) in April 4, 2014.
- Kaufman, L., Gopal, S. and Altman, I. Freshwater, Floods, Fish, and the Future of a Nation," onOctober 22, 2014, Pardee Center for Longer Range Future, Boston University.
- Gopal, S. (invited talk). "GIS Mapping and Technology for Law Enforcement and Crime Intelligence,"May 14, 2014. Massachusetts Association of Crime Analysts 2014 Training Conference.
- Gopal, S. (invited talk). The Open City: How Can Open Data Serve the Public Interest? Initiative onCities - first Urban Seminar Series on Thursday, September 18th, 2014.
- Gopal, S. Images of Polar Bears and Penguins, Storms, Deforestation and More - Middle School Students Perceptions of Climate Change *AGU Meetings at San Francisco*, December 2014. Gopal, S.(PI, GLACIER, NSF GK12 Grant) Boston University, MA, Eli K Melaas (GK12 Fellow) & Yasameen Sharif(Teacher) - Baker School, Brookline Michael Malmrose (GK12 Fellow) & Yana Davis(Teacher) - Driscoll School, Brookline Asher Mullokandov (GK12 Fellow) & Hilary Schwarzenbach (Teacher) – Prospect Hill Academy, Cambridge
- Gopal, S. Spatial Dynamics and Ecosystem Tradeoff Analysis in Cambodia's Great Lake Tonle Sap. TheGraduate School of Geography Fall 2015 Colloquium Speaker Series, Clark University, Worcester, MA, September 17, 2015.
- Gopal, S. Multidisciplinary Approaches to Understanding Bullying, Bullying Research Network ThinkTank, Boston University November 2015.
- Gopal, S. MIDAS framework for modeling in Cambodia. Pardee House Seminar, Freshwater, Floods,Fish, and the Future of a Nation, October 2014.
- Gopal, S. Invited Lecture, Mapping, Modeling and Measurement - Digital Humanities in

theClassroom. Digital Humanities Symposium, Boston University, October 2015

- Gopal, S. Invited Lecture, GIS and Spatial Analysis for Delivery and Optimization of Telemedicine. MIT, for course HST.S58 Telehealth for Enhancing Global Healthcare: Opportunities and Challenges,March 1, 2016.
- Gopal, S. Invited Lecture, Women in Fisheries and Clothing Supply Chain in Cambodia -A Spatial Scenario Analysis, scheduled for Tuesday, May 17, 2016, WU (Vienna University of Economics andBusiness), Vienna, Austria.
- Gopal, S. Invited Lecture, Geospatial Technologies for Public Health Research, SRM University,Chennai, India, July 22, 2016
- Gopal, S. Invited Lecture, GIS Modeling and Analysis in Public Health, Sargent College, October 12,2016.
- Kundargi, R., Gopal, S. and Tsay-Vogel, M. Understanding the Perception of Global Climate Change:Research into the Role of Media, AGU, and November 2016.
- Gopal, S. Understanding the Perception of Global Climate Change: Research into the Role of Media,AGU, and November 2016.
- Gopal, S. and Pitts, J. Characterizing Cambodia's Food, Energy and Water Securities for People at Risk on Biodiverse Landscapes – Tonle Sap, Cambodia, MIDAS-MIMEs Modeling, November 2016.Center for Khmer Studies & Apsara Authority, 2 Invited workshops in Seam Reap, Cambodia.
- Gopal, S., Anderson, B. and Foster, S. Public Health Impacts of Climate Change in India andCambodia, Pardee Center for Longer Range Futures, Boston University, April 6, 2016.
- Gopal, S. and Pitts, J. The Greater Mekong Forum on Water, Food and Energy Workshop, Bangkok,Thailand, November 9-11, 2016.
- Gopal, S. Mapping in the 21st century - Maps, Apps, Tools & Beyond. BU Women's Guild Lunch &Learn, January 26, 2017.
- Yaxiong Ma (PhD Student), Gopal, S. and Nathan Phillips Design and Development of Open Source Mapping of Coupled Green Gray Infrastructures, Boston Area Research, Data-Driven Research, Policy& Practice: Lesson from Boston, for Boston, March 9-10, 2017.
- Gopal, S. and Pitts, J. Characterizing Cambodia's Food, Energy and Water Securities Using Unsupervised Feature Learning & Deep Learning Neural Network, Annual Association of AmericanGeographers, Boston, April 2017. (PIN) is: 90094133.
- Yaxiong Ma, Gopal, S. & Curtis Woodcock What Determines the Median Price of Houses in Residential Areas in Massachusetts in Periods of Boom and Bust? A Geographically WeightedRegression Approach, Annual Association of American Geographers, Boston, April 2017.
- Ma, Y., Wright, J., Gopal, S. and Phillips, N. Virtual Reality & Urban Ecology: Teleport to ExperienceUrban Infrastructure on Dorchester Avenue, Boston University, October 11, 2017.
- Gopal, S., Josh Pitts, Cambodia MIDAS Workshop Training March 14-17, 2018 at Phnom Penh,Cambodia; March 19-20, 2018, Seam Reap, Cambodia.
- Gopal, S., Josh Pitts, Jamie Baldwin, Kevin Gallagher & Zhongshu Li*. Mapping China's foreign directinvestment and M&As in the Energy Sector. 12th World Congress of the Regional Science Association International, meeting "Spatial Systems: Social Integration, Regional Development and Sustainability". Goa, India. May 31, 2018.
- Gopal, S., Josh Pitts, Jamie Baldwin, Kevin Gallagher & Zhongshu Li*. Mapping Global Patterns of Energy Investments, Research on Tap, Monday, February 12, 2018 (4-6 pm)in the Trustee Ballroom,Boston University, Boston, MA 02215.
- Invited Panelist for "The Journey to Confidence" session. Society for Women in Marine Science

(SWMS) Fall 2017: The 4th Annual SWMS Symposium, Friday, November 3, 2017, 8:30 am to 5:30pm. Woods Hole, MA.

- Invited Panelist, Net Impact Boston, Impact Summit 2018 on Friday, February 9, 2018, BostonUniversity Questrom School of Business, 1 Silber Way, Boston, MA 02215. 2017
- Gopal, S. Interview for Chronicle Program - What is the centroid of New England? February 2019https://www.wcvb.com/article/discover-the-town-of-dunbarton/26523581
- Gopal, S., "Spatialytics in Public Health from Local to Global Scales". Panel 1, "Geographic Perspectives on Infectious Diseases in Humans, Animals, and the Environment" World-Wide HumanGeography Data (WWHGD) Working Group & the Center for Geographic Analysis at Harvard University meeting, June 18, 2019.
- Gopal, S., Chen Xin, Yaxiong Ma, & Dr. Lawrence Were. Characterizing The Spatial Determinants ofMalaria Incidences in Kenya - Geographically Weighted Regression Decision Tool, June 2019.
- Invited Lecture, Coupled Human and Natural Systems Framework to examine environmental issuesin Semarang, Universitas Diponegoro, Indonesia, July 2019
- Koch, M., Gaber, A., Darwish, N., Bateman, J., Gopal, S., & Helmi, M. (2019, July). Estimating LandSubsidence in Relation to Urban Expansion in Semarang City, Indonesia, Using InSAR and Optical Change Detection Methods. In IGARSS 2019-2019 IEEE International Geoscience and Remote Sensing Symposium (pp. 9686-9689). IEEE.
- Ma, Y., Gopal, S., Kaufman, L., & Koch, M. (2019, December). Characterizing the spatial distribution of macrophytes in Lake Kyoga based on Landsat, 1986-2018. In AGU Fall Meeting2019. AGU.H53Q-2064.
- Wright, J., Ma, Y., Gopal, S., Phillips, N., and Ackley, R. The Impacts of Leaked Natural Gas on theIntegrity of Urban Street Trees. In AGU Fall Meeting 2019. H13I-1810, San Francisco, 2019.
- DiGiorgio, A.L., Gopal, S., Susanto, T.W. and C.D. Knott. Wild Bornean Orangutan (Pongo pygmaeus wurmbii) Movement Ecology Suggests Foraging Goals to All Food Types Except Insects, Joint Meeting of IPS and SLAPrim in Quito, Ecuador, August 16-22, 2020. (#14449)
- Invited Lecture. Human and Physical Geography of East Asia, A View of the Past and Contemporary Issues. Lexington High School, Saturday, January 4, 2020. Sponsored by the Five College Center for East Asian Studies, Rhode Island.
- Invited Lecture. Boston University Online Earth Day 2020. Panel Discussion. Learning from Coronavirus: What does it mean for Sustainability, Climate Change, and Resilience? April 21, 4- 6:30pm
- Invited Lecture. Spatializing the incidence and mortality of Coronavirus (COVID-19) Pandemic using AI and Big Data Geoinformatics. Maulana Maulana Abul Kalam Azad University of Technology, West Bengal. Webinar On Application of Artificial Intelligence on Geo-Spatial-Data, May 30, 2020.
- Invited Lecture. COVID-19 Pandemic Impacts on Pharmaceutical, and Agricultural Global Supply Chains. WU Vienna University of Economics and Business. Wednesday 24h June 2020.
- Yaxiong Ma, Suchi Gopal, Les Kaufman, Magaly Koch. 2021. Mapping the dynamics of aquatic vegetation in Lake Kyoga and its linkages to satellite lakes. In AGU Fall Meeting Abstracts (Vol. 2021, pp. H54F-03).
- Mira Kelly-Fair, Magaly Koch, Sucharita Gopal, Hermin Pancasakti, Muhammad Helmi, and Dinda Khairunnisa. Sustainable Urban Planning: Change Detection of Land Use and Land Cover in Semarang City, Indonesia. In AGU Fall Meeting 2021, New Orleans, December 13-17.

- Ferrucci, J., Anderson, G., O'Rourke, M., Koch, M., Gopal, S., Pancasakti, H., Helmi, M. and Khairunnisa, D. (2021) Analysis of Flood Risk Changes in Semarang, Indonesia, AGU Fall Meeting, 13-17 December 2021, New Orleans, LA, USA.
- Fishman, M., Wirasatriya, A., Koch, M., Maslukah, L., Sugianto, D.N., Haban, M.H. and Gopal, S. (2021) Analysis of Various Remote Sensing Algorithms for the Estimation of Chlorophyll-a Concentration in the Coastal Waters of Semarang, Indonesia, AGU Fall Meeting, 13-17 December 2021, New Orleans, LA, USA.
- Mazar N, Gopal S, Pankratz N, Murphy S. IMAP Scholarly presentation June17, 2021, Boston University.
- Gopal, S., Kelly-Fair, M., and Ma, Y. (2023). Palm Oil- The increasing materiality of deforestation and biodiversity risks in Indonesia and Malaysia. eCF Paper Id: IG231265. Presented in FR3.R12: Remote Sensing for Sustainable Development, IGARSS, Pasadena, CA, July 21, 2023.
- Fischer, M., Gopal S., (2023). Opioid Mortality in the US: Quantifying the Impact of Key Determinants Using a Spatial Panel Data Approach. Session. Alicante-S27-S1 Applications of Advanced and Innovative Methods in Regional Science, September 1, 2023, European Regional Science Association (ERSA) 2023 Congress, Alicante Spain.
- Gopal, S. (2023). Research on Tap - Measuring Corporate Impacts on the Environment & Society, Boston University, November 13, 2023.
- Gopal, S. (2023). Deep Learning Architectures for Characterization of Mangrove Forests in the Tropics using Sentinel-2 and Landsat 8 Imagery (invited). American Geophysical Union, San Francisco, December 2023.
- Pitts., J., Gopal, S. (2023). A Remote Sensing Based Analytics Framework for Estimating Building-Scale Assessments of Energy Usage and Indirect CO2 Emissions. #1434067. IN022. Emerging Technologies for Geospatial Computing : Quantum, Neuromorphic, on the Edge and More! AGU, San Francisco, December 2023.
- Gopal, S., Kaufman, L., Pitts, J., Deyle, E., Boumans, R., Toshniwal, D. (2023). The Elephant in the Room - Can Generative AI Impact K12 and Undergraduate Education in Geosciences? AGU IN24A-04. AGU, San Francisco, December 2023.

Public Webinars

Two Public Webinars on *The Security and Sustainability Forum (SSF)***,** focused on sustainability. (over 300 people listened live and these webinars had >1000 downloads)

- Gopal, S. *Making a Big Impact in Sustainability Science with Big Data*, September 21, 2017 1:15 to2:30 PM EDT
- Gopal, S. and Pitts, J. *How Big Data Can Quantify Community Social and Climate Risks – fromneighborhoods to country levels*. Wed, Oct 16, 2019 1:15 PM - 2:45 PM EDT
- Gopal, S. COVID-19 *Pandemic Impacts on Pharmaceutical, and Agricultural Global Supply Chains.* Invited Lecture: Speaker Series. Research Institute for Supply Chain Management. Summer semester 2020. Vienna University of Economics and Business (WU Vienna). June 24, 2020.
- Moderator SSF Webinar - Future Forces That Will Disrupt Sustainable Business. Wed, Aug 5, 2020, 1:15 PM – 2:15 PM
- Gopal, S. "Did You Know You Could...?" Series at Hariri Center. Feb 18, 2021 11:00 AM.
- Gopal, S . *Rethinking Global Ocean Sustainability as Coupled Human and Natural Systems*. BU Knowledge Transfer Series. The Institute for Sustainable Energy, Boston University. March 31st 2:30pm – 4:00pm.
- Gopal, S . *Ditch the guesswork in verifying GHG emissions. The Security and Sustainability*

*Forum (SSF)***,** Science-based measurement and reporting using big data. Thursday, December 8, 2022, — 11:15 to 12:15 pm EST.

- Gopal, S . *"Shaping Tomorrow: Geospatial Technologies, AI, and Climate Fintech in Addressing Societal Sustainability and Resilience"*. Friday, September 15 2023, — 11:15 to 12:15 pm EST. Civil and Architectural Engineering, University of Miami
- Gopal, S. Keynote speaker. (2023). Geospatial Intel: Leveraging AI/Deep Learning and Spatial Analytics to Solve Societal Challenges from Conservation to Corporate Risk. New England Chapter of the Urban and Regional Information Systems Association (NEURISA), Worcester, MA, November 6, 2023. https://neurisa-day-2023-urisa.hub.arcgis.com/.
- Gopal, S. Invited speaker. (2023). Opioid Mortality in the US: Quantifying the Direct and Indirect Impact of Sociodemographic and Socioeconomic Factors. GnosisGIS 2023. International Society for Geospatial Health. 16th International Symposium on Geospatial Health, Enschede, The Netherlands, November 15, 2023.
- Gopal, S. (2024). Breathing In Inequality: Geospatial Analysis Links Cancerous Air Toxins, Traffic Hotspots, and Environmental Racism in US Cities. ISPRS Commission: III Remote Sensing -Working Group: III/9 Geospatial Environment and Health Analytics. WEBINAR on JANUARY 12, 2024.

Sponsored Research Activity (Current funding 2018-2025)

- Gopal, S. (PI). NSF GK-12 Graduate STEM Fellows in K-12 Education GLACIER-Global Change Initiative-Education & Research (7 years) Agency: NSF - GK12 Award, (2011-2018). Amount: $2.87MNSF GK12 DGE-0947950.
- Gopal, S., (with Les Kaufman, Bruce Anderson, and Susan Foster). Climate Change and Health Issuesin Cambodia and India. Pardee Center for the Study of the Longer-Range Future. (2015-16). Amount
  $10,000
- Gopal, S., (with Michael Walsh, and Cutler Cleveland). AI for Earth: Cloud-Based Urban Climate ActionPlanning, January 2018. Azure resources and partnership.
- Kaufman, L (PI) and Gopal, S. (PI). Science Support to Biscayne National Park. (2018-2019). Hoover Foundation. Amount $30,000.
- Nathan Phillips and Gopal, S. (co-PI), CNH-S: Coupling of Physical Infrastructure, Green Infrastructureand Communities, NSF, (August 2016-2019). Amount $484,136.00
- Kaufman, L (PI) and Gopal, S. (PI). A Landscape Analysis Partnership for Ecosystem Services in Lac Tonle Sap and the Lower Mekong Basin (PI). MacArthur Foundation. (2012-2018), Amount: $500,000
- Kaufman, L (PI) and Gopal, S. CNH-L: The Potential for Aquaculture in Lake Victoria and Implications for Wild Fisheries and Fish Commodity Markets (BU sub-contract). (September 2015 – August 2020). Amount $1,798,150.00.
- Koch, M., Gopal, S. (Co-PI). IRES Track I: Collaborative Research: U.S.-Indonesian Research Experiencefor Students on Sustainable Adaptation of Coastal Areas to Environmental Change. (October 2018- September 2021). Amount $200K
- Were, L., Gopal, S. (Co-PI) Providence/Boston CFAR Developmental Award: Insurance Status andHealth Outcomes among HIV and HIV TB Co-Infected Persons in Kenya. (June 2018- June 2019), Amount $40,000.
- Hanchate, A. (PI). Racial and Ethnic Health Disparities Due to Ambulance Diversion [5R01HL127212-04/BMC ID 7094], NIH, 5R01HL127212-04/BMC ID 7094, 1/1/2019-12/31/2019. Amount

- Kaufman L., and Gopal, S. (co-PI). Productivity and Ecology of Sand Shoals System Modeling,Contract No. 140M0119C0013, BOEM, 2019-2021. (2019-2021). Amount $484,136.00
- Gopal, S., (PI) with, Magaly Koch (Center for Remote Sensing), Les Kaufman (Biology) & Josh Pitts (Global Development Policy Center). AI Assisted Decision-Making for Flood Risk Mapping". Rockefeller Foundation & Data.org Inclusive Growth and Recovery Challenge. Round 1. September2020. Awarded cloud computing support from Microsoft Azure for a year worth $10-12K.
- Were, L., Gopal, S., and Kaufman, L. Fish for sex. Boston University Global Development Policy Center.2021
- Gopal, S., (PI) with, Magaly Koch (Center for Remote Sensing), Les Kaufman (Biology) & Josh Pitts (Global Development Policy Center). AI Assisted Decision-Making for Flood Risk Mapping". Rockefeller Foundation & Data.org Inclusive Growth and Recovery Challenge. Round 1. September2020. Awarded cloud computing support from Microsoft Azure for a year worth $10-12K
- Magaly Koch & Suchi Gopal (Co_PI). IRES Track I: Collaborative Research: U.S.-Indonesian Research Experience for Students on Sustainable Adaptation of Coastal Areas to Environmental Change. National Science Foundation 10/01/2018 - 09/30/2023 $199,304 $199,304
- Gopal, S., (PI). Business Risks Due to Biodiversity Loss in Indonesia. Impact Measurement & Allocation Program (IMAP), Boston University Proposal – Suchi Gopal (March 2022). Amount
- Les Kaufman (Biology) & Suchi Gopal (Co_PI)). Large-Scale CoPe: Reducing Climate Risks with Equitable Nature-Based Solutions: Engaging Communities on Reef-Lined Coasts (BU Proposal) University of South Florida. 09/2022 – 08/2027. NSF 20-567 Coastlines and People (CoPe), Amount: $2,428,316 (awarded)
- Les Kaufman (Biology) & Suchi Gopal (Co_PI). Boston University Standardizing Integrated Ecosystem-Based Assessments. Blue World Research Institute, Inc. Contracted by BOEM (Bureau of Ocean Management, DOI). 05/09/2022 - 05/08/2025 $317,586 $483,048
- Magaly Koch & Suchi Gopal (Senior Investigator). IRES Track II: Multidisciplinary Coastal Zone Hazards Institutes – France, Japan, Indonesia (NSF). 08/01/2018 - 07/31/2024. Award Abstract # 1828948. NSF Amount $299,199 (awarded).
- Deyle (PI), Kaufman, L., and Gopal, S., (senior personnel). Assessing Feasibility of Floating Offshore Wind and Aquaculture Co-location: Technical, Environmental, and Social Challenges and Opportunities Department of Energy 10/01/2024 - 09/30/2025. Awarded $375,000

BU Faculty Business Development Funding IGNITE (2019-2020)

ESGAnalytics,AI platform offers the only Environmental, Social, Governance (ESG)-enriched & AI-powered analysis solution for fixed-income investment, insurance and risk and compliance at differentregional scales such as Zip Code or State. Visit ESGanalytics.Ai.
ESGAnalytics.Ai was recognized by The Forrester New Wave™: Climate Risk Analytics, Q3 2020 as the *leading provider of AI and advanced data analytics* in this space.

Rejected Funding Proposals of 2020-22

- Les Kaufman (Biology) & Suchi Gopal (Co_PI)). Large-Scale CoPe: Connecting Communities & Co- Innovating Nature-Based Solutions to Reduce Storm Exposure and Social Vulnerabilities. PI. MayaTrotz, (University of Miami lead). 05/2021 – 04/2026. NSF 20-567 Coastlines and People (CoPe), Amount: $2,389,899
- Nathan Phillips and Suchi Gopal (Co-PI). Collaborative Research: Geospatial Science for All -

Broadening Environmental Research Participation with Accessible Sensors & Mobility. 09/2022 – 08/2024. NSF $500,401

- Gopal, S. (PI). Comparing COVID Response Strategies, and Mitigation Across Three Countries – Lessons Learned, Moving Forward. (Proposal). Rockefeller Foundation & Data.org Inclusive Growth and Recovery Challenge.$200000
- Gopal, S., Kaufman, L., (2021). Transitioning to a Sustainable Blue Economy: Designing a Multi-stakeholder Interactive Participatory Digital Platform (MARIPEDIA) (BU Proposal). NSF, $723,377
- Julio Castrillon, Mark Kon (Mathematics & Statistics), with Gopal, S., (co-PI) "ATD: A functionalanalysis approach to threat detection with applications to remote sensing." NSF – SES – Methodology, Measurement and Statistics, $ 283,785. PENDING. Feb 2021.
- Les Kaufman (Biology) & Suchi Gopal (Co_PI)). Large-Scale CoPe: Connecting Communities & Co- Innovating Nature-Based Solutions to Reduce Storm Exposure and Social Vulnerabilities. PI. MayaTrotz, (University of Miami lead). 05/2021 – 04/2026. NSF 20-567 Coastlines and People (CoPe), Amount: $2,389,899
- Gopal, S., (PI) with Mark Kon (Mathematics & Statistics), Nathan Phillips, Julio Castrillon (Mathematics & Statistics), "Towards resilient cities: uncertainty quantification of stochastic non-linear urban infrastructure networks" NSF – SES – Methodology, Measurement and Statistics, $ 299,037.
- Gopal, S., (PI) with Mark Kon (Mathematics & Statistics), Julio Castrillon (Mathematics & Statistics), Comparing COVID Response Strategies, and Mitigation Across Three Countries –Lessons Learned, Moving Forward. Rockefeller Foundation & Data.org Inclusive Growth andRecovery Challenge. Round 1. September 2020.
- Gopal, S., (PI) with Les Kaufman (Biology), Josh Pitts (Global Development Policy Center), Magaly Koch (Center for Remote sensing), AI Assisted Decision-Making For Flood Risk Mapping. Rockefeller Foundation & Data.org Inclusive Growth and Recovery Challenge. Round 1. September 2020. Selected by Microsoft for Azure Credit.
- Gopal, S., (PI) with Nathan Phillips (Earth & Environment), Josh Pitts (Global Development Policy Center), Gas Leaks. Rockefeller Foundation & Data.org Inclusive Growth and Recovery Challenge. Round 1. September 2020.
- Julio Castrillon, Mark Kon (Mathematics & Statistics), with Gopal, S., (co-PI) "ATD: A functional analysis approach to threat detection with applications to remote sensing." NSF – SES – Methodology, Measurement and Statistics, $ 283,785.
- Gopal, S., (PI) with Nathan Phillips (Earth & Environment), Boston University. "Innovative Multi-Scale Approach for Monitoring and Mitigating Urban Methane Emissions Climate Change AI" 02/01/2025 - 01/31/2026 N/A $148,353