SANCHAYEETA ADHIKARI

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SUMMARY

Research Interests: Application of remote sensing, GIS and spatial statistics for environmental geography; Human-environment interactions in protected areas; Land change science - understanding human and environmental drivers; Social-ecological modeling; Urbanization and environmental change; Protected area management and people-park conflicts; South Asian studies

Teaching Experience: 8 different courses - Cartography; Introduction to GIS; Advanced environmental GIS; Introduction to environmental remote sensing; Physical geography; Environmental geography of South Asia; Geography for a changing world; World regional geography

Publications: 5 articles (3 published, 2 in review), 1 book chapter (published)

EDUCATION

- 2011 PhD, Geography, University of Florida (Minor in Resource Conservation), Advisor: Jane Southworth
- 2004 Masters of Philosophy, Planning and Development, Indian Institute of Technology (IIT Bombay), India
- 2001 MA, Banaras Hindu University India, Geography (Minor in Regional Planning)
- 1999 BA Honors, Geography, Banaras Hindu University, India

RESEARCH AND TEACHING EXPERIENCE

- 2013 Present Visiting Assistant Professor, Macalester College, Saint Paul, Minnesota
 - Independent course instructor for 5 courses: Introduction to GIS (taught twice), Advanced Environmental GIS, World Regional Geography, Environmental Geography of South Asia
- 2011-13 Berg Post-Doctoral Fellow, Macalester College, Saint Paul, Minnesota
 - Independent course instructor for two courses: Introduction to Remote Sensing (taught twice), Advanced Environmental GIS (designed course and taught twice)
 - Faculty supervisor, Mellon student-faculty summer research collaboration (four senior undergraduates supervised, paper in preparation)
- 2005-11 Graduate Teaching Assistant University of Florida, Gainesville, Florida
 - Independent course instructor for Geography for a Changing World (designed course and taught fourteen times); Physical Geography; Lab instructor for Physical Geography lab
 - Independent graduate dissertation research on forest change and park-people conflict in an urban tiger reserve in India (published as Adhikari et al., Remote Sensing 2012; Nagendra et al. book chapter 2013; 2 manuscripts in review; 1 in preparation)
 - Collaborative research on advanced applications of very high spatial resolution remote sensing in a savanna landscape (published as Gibbes et al., Remote Sensing 2012; 1 in preparation)
 - Collaborative research on GIS applications for environmental site selection (published as Bai et al. PE&RS 2010, <u>ASPRS National GeoLeague Challenge Winner</u>)
- 2004 Lecturer Sri Shikshayatan College, Calcutta University Kolkata, India
 - Independent course instructor for Cartography

PUBLICATIONS

Peer Reviewed

- Nagendra, H., Mondal, P., **Adhikari, S**. and Southworth, J. Forest change in peopled landscapes: patterns and processes of forest stability and conversion in India. (Eds.). Brondizio, E and Moran, E.F. (Eds.). *Human Environment Interactions: current and future directions*. Springer.
- Adhikari, S. and Southworth, J. Simulating forest cover changes of Bannerghatta National Park based on a CA-Markov Model. *Remote Sensing*, 4(10), 3215-3243.
- Bai, L., Patarasuk, R., Chen, Y., **Adhikari. S**., Anthony, C. N., and Arana, S. Multi-Criteria Approach for Wind Farm Site Selection in New Hampshire. *PE & RS*, 77 (7), 654-661. (**ASPRS National GeoLeague Challenge Winner**)
- Gibbes, C, **Adhikari, S.**, Rostant, L., and Southworth, J. Application of Object Based Classification and High Resolution Satellite Imagery for Savanna Ecosystem Analysis. *Remote Sensing*, 2 (12), 2748-2772.
- In review **Adhikari, S.**, Southworth, J. and Nagendra, H. Understanding forest loss and recovery: a spatiotemporal analysis of land change in and around Bannerghatta National Park, India. *Journal of Land Use Science*.
- In review **Adhikari, S.**, Fik, T. and Dwivedi, P. Proximate causes of land-use and land-cover change in Bannerghatta National Park: a spatial statistical model. *Landscape and Urban Planning*.

In Preparation

- **Adhikari, S.**, Gibbs, C., Southworth, J., Keys, E. and Child, B. The role of parks and community land management strategies in landscape change within a savanna system. For *LAND*.
- **Adhikari, S.,** Johnson, E., Mathison, P., Glenn, M and Sweet, J. Wetland change analysis of St. Croix River Watershed. For *Applied Geography*. (Undergraduate Student Collaboration)

Non Peer-Reviewed

Breuer, N. E., **Adhikari, S.**, Salazar, R. B., Clavijo, J. A., HansPetersen, N. N., Kawa, N. C., Patarasuk, R. and Hildebrand, P. E. *Extension Agent Perspectives of Climate Forecasts, and the AgClimate Decision Support System*. Southeast Climate Consortium Technical Report Series: SECC-08-01, Gainesville, FL.

Conference Presentations

- Adhikari, S. Deforestation and Reforestation: A Spatial Statistical Model of Bannerghatta National Park, India. Annual Meeting, Association of American Geographers, Los Angeles.
- Adhikari, S. Simulating Forest Cover Changes of Bannerghatta National Park Based on a CA-Markov Model: A Remote Sensing Approach. Annual Meeting, Association of American Geographers, New York City.
- Adhikari, S. Land-Use And Land-Cover Change (LULCC) In Bannerghatta National Park and the Suvarnamukhi Watershed Area, Bangalore, India, IHDP, Bonn, Germany.
- Adhikari, S. 2009. Land-Use and Land-Cover change in the Bannerghatta National Park and Suburban Bangalore, India. Annual Meeting, Association of American Geographers, Las Vegas.

- Adhikari, S. Land Use Land Cover change is the Bannerghatta National Park and Suvarnamukhi Watershed Area. Annual Meeting, Association of American Geographers, Boston, Massachusetts.
- Adhikari, S. Planning and Politics of Slum Demolition in Metropolitan Mumbai. 9th Asian Real Estate Society (AsRES) International Conference. Delhi.
- Adhikari, S. Civil Society and the Urban Poor: A case study of a NGO Intervention in the Struggle for Shelter among the Urban Poors of Mumbai. International Workshop on Researching the Non-governmental Sector: Indian and International Perspectives conference. Hosted by Indian Institute of Health Management Research, INDIA in Collaboration with London School of Economics, UK.

Conference Posters

- Adhikari, S., Southworth, J. and Nagendra, H. Spatial and temporal change analysis of land-use and land-cover in and around the Bannerghatta National Park, India. SEEDAG, Tennessee.
- Adhikari, S. Effects of People Park Conflict on Land Use Land Cover change is the Bannerghatta National Park and the Ragihalli Reserve Forest. SEEDAG. South Carolina.

Invited Lectures

Invited Lectures	
2012	Coffee Hour, University of Minnesota, Department of Geography
2012	EnviroThursday, Macalester College, Department of Environmental Studies
2012	Dynamic Earth and Global Change, Macalester College, Department of Geology
2011	EnviroThursday, Macalester College, Department of Environmental Studies
2011	Conversation about our Scholarly Lives (CASL), Macalester College

DETAILS OF RESEARCH

Current Projects:

"Wetland change analysis of St. Croix Watershed Region in Minnesota and Wisconsin" - A cross discipline (Geography and Environmental Studies) collaborative research work with undergraduate students on evaluating and mapping wetland/agricultural landscape using remote sensing and GIS techniques.

"Understanding and predicting the impact of climate variability and climate change on land use and land cover change in Southern Africa"- A cross campus collaborative research on evaluating human land use decisions (parks and community land management strategies) on land cover using satellite imagery, historical and social data (interviews).

PhD Dissertation: "People, Park and Suburbanization: A Spatio-Temporal Analysis of Change in and around Bannerghatta National Park, India". Advisor: Dr. Jane Southworth

M.Phil Thesis: "State, Civil Society and the Struggle for Housing of the Urban Poor of Metropolitan Mumbai".

MA Thesis: "Geographical Study of Jaganathpur of Kaliachwok Block, Malda District, West Bengal: A Rural Development Plan".

DETAILS OF TEACHING

Visiting Assistant Professor – Macalester College

- Mountains, Tigers and People: Environmental Geography of South Asia Designed and Independent Instructor (GEOG 294)
- 2013-14 Introduction to Geographic Information Systems Independent Instructor (Fall & Spring GEOG 225)
- 2013 Advanced Environmental GIS Designed and Independent Instructor (GEOG367)
- 2013 World Regional Geography Independent Instructor (GEOG 194)

Post-Doctoral Fellow – Macalester College

- 2011-13 Advanced Environmental GIS Designed and Independent Instructor (GEOG394)
- 2011-12 Introduction to Environmental Remote Sensing Independent Instructor (GEOG394)

Graduate Teaching Assistant – University of Florida

- 2005-11 Geography for a Changing World Designed and Independent Instructor (GEA 1000)
- 2011 Physical Geography Independent Instructor (GEO 2200)
- 2010 Physical Geography Lab Lab Instructor (GEO 2200L)

Lecturer - Sri Shikshayatan College - Calcutta University

2005 Cartography – Independent Instructor

GRANTS, FELLOWSHIPS AND AWARDS

- 2012 Principal Investigator. "Wetland change analysis of St. Croix Watershed Region in Minnesota and Wisconsin". Mellon Curricular Pathways Grant Student-Faculty Summer Research Collaboration Macalester College (\$4400)
- GeoLeague Challenge Winner ASPRS, Milwaukee Publication in Photogrammetric Engineering & Remote Sensing (PE & RS) (\$250)
- 2011 Edward Fik Award University of Florida (\$500)
- 2010 Principal Investigator. "People, Park and Suburbanization: A Spatio-Temporal Analysis of Change in and around Bannerghatta National Park, India". Threadgill Dissertation Fellowship College of Liberal Arts and Sciences, University of Florida (\$5000)
- 2009 IHDP Open Meeting Stipend International Human Dimensions Programme on Global Environmental Change, United Nation University, Bonn, Germany (\$900)
- 2009 CLAS Travel Grant (Competitive) University of Florida (\$250)
- 2008 Graduate Students Council Travel Grant– University of Florida (\$500)
- 2007 Graduate Students Council Travel Grant– University of Florida (\$500)
- 2005-08 Grinter Awards University of Florida (\$6000)
- 2007-09 Travel Awards Department of Geography, University of Florida (\$1000)
- Junior Research Fellowship State Eligibility Test (SET) for Lectureship in Universities and Colleges of West Bengal, India

WORKSHOPS AND PROFESSIONAL TRAINING

- 2011-12 **Post-Doctoral Development,** ACM-Mellon Post-Doctoral Fellowship Fall and Spring Workshop, Associated Colleges of the Midwest, Chicago, USA.
- Advanced LiDAR Data Processing and Application 6th ISPRS Student Consortium and WG VI/5 Summer School, Fayetteville State University, North Carolina, USA, 30 July 6 August 2011
- 2008 Land Change Modeling Methods: Calibration, Validation and Extrapolation, Annual Meeting, Association of American Geographers Boston, Massachusetts, 15 April 19 April
- 2007 **Preparing for ASPRS certification**, American Society for Photogrammetry and Remote Sensing (ASPRS), Tampa, 7 May 11 May

SERVICES AND OUTREACH

Reviewer: Biological Conservation

Remote Sensing

Search Committee:

Hubert H. Humphrey Endowed Visiting Professorship, Macalester College, Department of Geography

Other Services:

- 2013 Session Chair, Association of American Geographers (AAG)
- 2011-12 Undergraduate Student Research Supervisor Macalester College, Saint Paul, MN
- Science Fair Judge, Earth and Planetary Science, Alachua County Public School, Gainesville, Florida
- 2010 Student Assistant, American Society for Photogrammetry and Remote Sensing, ASPRS, San Diego
- 2008-09 Student Volunteer, Association of American Geographer (AAG) meeting, Boston and Las Vegas
- 2007-08 Graduate Student Council Representative (GSC) Department of Geography, University of Florida Official liaison between graduate students in Department of Geography and the UF governing bodies including the Graduate School, University Administration, Student Government, and Faculty Senate
- 2007 Student Assistant, American Society for Photogrammetry and Remote Sensing, ASPRS, Tampa
- 2007 Student Volunteer, Incoming Student Orientation, University of Florida
- 2007 International Graduate Student Volunteer Senior Seminar for Undergraduates in Department of Geography, University of Florida.
- 2006-09 New Graduate Student Mentor Department of Geography, University of Florida
- 2005 Coordinator Co-Curricular Activities Sri Shikshayatan College, Calcutta University

FIELD EXPERIENCE

- 2012 Remote sensing ground truthing for undergraduate collaborative research in St. Croix Watershed Region in Wisconsin and Minnesota
- 2007 08 Household level social surveys, life history narratives and remote sensing ground truthing for PhD dissertation work in Bannerghatta National Park, Bangalore, India
- Social surveys and interviews for M.Phil thesis in slums of Sanjay Gandhi National Park, Mumbai, India
- 2001 Institutional level surveys and interviews for M.A thesis in West Bengal, India

PROFESSIONAL MEMBERSHIP

Association of American Geographers (AAG)
Association for Environmental Studies and Sciences (AESS)
American Society for Photogrammetry and Remote Sensing (ASPRS)

TECHNICAL AND SOFTWARE SKILLS

Erdas Imagine 10.x IDRISI Taiga ENVI 5 Fragstat 3.x ArcGIS 10.2 SPSS NCSS R Software Microsoft Office Suit