Dr. Li An

Professor, Auburn University

Dr. Li An is Solon & Martha Dixon Endowed Professor at College of Forestry, Wildlife and Environment and Director of Center for Human-Earth System Science (Center URL) in Auburn University. He received his B.S. degree from Peking University (Economic Geography), China, M.S. degree from Chinese Academy of Sciences (Systems Ecology) and from Michigan State University (Probability and Statistics), and Ph.D. degree from Michigan State University (Systems modeling; fisheries and wildlife. His research focuses on complex human-environment systems, space-time analysis and modeling, spatial data science, landscape ecology, and complex adaptive systems. He is a Fellow of The American Association for the Advancement of Science (AAAS), Fellow of The American Association of Geographers (AAG), awardee of 2023 Distinguished Scholarship Honors from AAG and multiple other awards or recognitions including the "World's Top 2% Scientists list" by Stanford Elsevier. He has been leading or involved in research projects funded by multiple federal agencies, and these projects are broadly distributed in Nepal, Ghana, USA, and China. He has served on the editorial board of multiple prestigious journals and is currently serving as President of the International Association of Landscape Ecology-North America.

Uncovering hidden spillover effects among concurrent conservation initiatives: a geospatial data science approach

Humanity stands in an unprecedented era of environmental degradation, rapid biodiversity loss, and other crises. Green initiatives, defined to be programs, funds, payments, policies, or any endeavors that aim to counter such crises and restore, sustain, or improve nature's capacity to benefit human beings, are becoming increasingly widespread and popular across the globe. Using data from 15 sites from local to global scales (including China and the USA), the author systematically explores how specific policy, intended behaviors, and gains of a certain green initiative may interact with those of other green initiatives concurrently implemented in the same geographic area or involving the same recipients. Geospatial data science methods, including remote sensing, GIS, and eigenvector spatial filtering, are employed to uncover mechanisms behind the data. The findings suggest that spillover effects were widespread and divergent: one initiative could reduce the gain of another by 22% ~ 100%, indicating a sign of alarming losses. In other instances, one initiative can increase the gain of another by 9% ~ 310%, offering substantial co-benefits. This talk also presents current efforts that infuses artificial intelligence, machine learning, and agent-based models to uncover mechanisms and rules hidden in multiple space-time data patterns.

Date:
April 7, 2025

Time:
2:00 - 3:00 pm

Location:
Blocker 220 and Zoom

Faculty Host:
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