Fernando Sánchez-Trigueros, PhD

Assistant Professor of Practice
Coordinator, Master of Science in GIS Technology
School of Geography, Development & Environment
University of Arizona

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SUMMARY

College professor and data science specialist leveraging 15 years of progressively responsible experience in geospatial information technologies, higher education, research management, and collaborative relations between universities, government agencies, local communities, and Native American Tribes.

- Geographic Information Science
- Environmental Informatics
- Computational Social Science
- Machine Learning
- Digital Humanities
- Applied Statistics

APPOINTMENTS

8/2017 - Present	Assistant Professor of Practice, School of Geography & Development, University of Arizona
8/2016 - 5/2017	Adjunct Instructor, Department of Geography, The University of Montana
3/2016 - 8/2017	Postdoctoral Researcher, College of Humanities and Sciences, The University of Montana
8/2015 - 1/2016	Postdoctoral Research Fellow, School of Geography, University of Leeds, England
4/2015 - 7/2015	Research Fellow, Canon Foundation in Europe, The Netherlands
10/2014 - 12/2014	Postdoctoral Research Assistant, School of Geography, University of Leeds, England
11/2013 - 7/2014	Postdoctoral Research Assistant, School of Geography, University of Leeds, England
7/2007 - 6/2011	Doctoral Researcher, Department of History, Rovira i Virgili University, Spain

INSTITUTIONAL SERVICE

8/2021 - Present	Member, Academic Program Review Committee, School of Geography, Development & the Environment, University of Arizona
6/2021 - Present	Member, Arizona Water Network, Arizona Institutes for Resilience, University of Arizona
3/2021 - Present	Member, Advisory Committee, Graduate Certificate in Computational Social Science, University of Arizona
9/2019 - Present	Reviewer (Chair since 8/2021), Institutional Review Board, School of Geography, Development & the Environment, University of Arizona
8/2017 - Present	Coordinator, M.S. in Geographic Information Systems Technology, School of Geography, Development & the Environment, University of Arizona
8/2017 - Present	Coordinator, Professional Certificate in Geographic Information Systems Technology, School of Geography, Development & the Environment, University of Arizona
5/2020 - 8/2020	Supervisor of GIST Research Assistants, School of Geography, Development & the Environment, University of Arizona
9/2018 - 10/2018	Member, Search Committee for *GIST Instructional Specialist, Senior* (Code S25545), School of Geography & Development, University of Arizona
11/2018 - 5/2019	Member, Search Committee for *GIST Assistant Professor of Practice (2 positions)* (Code F21747), School of Geography & Development, University of Arizona

EDUCATION

Degrees

Ph.D. Quaternary Studies and Prehistory. Department of History – Rovira i Virgili University, Spain, 2013.

M.S. Management Information Systems. Department of Management Information Systems – University of Arizona, USA, **ongoing** (2022 expected).

M.S. Geographic Information Systems. School of Science, Engineering and Environment – University of Salford-Manchester, England, 2013.

M.S. Applied Statistics. Department of Statistics, Operational Research and Numerical Calculus – Universidad Nacional de Educación a Distancia (UNED), Spain, 2012.

M.A. Quaternary Archaeology and Human Evolution. Universitá di Ferrara, Muséum National d'Histoire Naturelle, Universitat Rovira i Virgili, Universidade de Trás-os-Montes e Alto Douro, 2008.

B.A. History. Faculty of Arts – University of Alicante, Spain, 2006

Graduate certificates

Cert. Enterprise Information Security. Department of Management Information Systems – University of Arizona, USA, 2021.

Cert. Business Intelligence and Analytics. Department of Management Information Systems – University of Arizona, USA, 2020.

Cert. Optimization Models and Methods. Department of Statistics, Operational Research and Numerical Calculus – Universidad Nacional de Educación a Distancia (UNED), Spain, 2014.

RECORD OF RESEARCH (Original figures and equivalent in US dollars)

Management of research programs

Identifier	16-JV-11221639-024 (USFS) / M65060 (UM)
Title	Tribal Geographic Information Systems
Terms	Research Joint Venture Agreement
Sponsors	US Forest Service, USDA (80 %), The University of Montana, USA (20 %)
Total value	$126,700
Length	8/2016 – 12/2018 (29 months)

Grants awarded (Individual: $91,850 | Collaborative: $98,000)

Title	Principal Investigator(s)	Award	Start/End	Sponsor(s)
Fostering new ways of collaboration between the USFS and the Spokane Tribe to assess the effects of fire and fuels management on cultural uses on and off the reservation	Monique Wynecoop (PI) **Fernando Sanchez** Vernon Stearns Alan Watson	$10,000	2/2017 12/2017	Northeast Washington Collaborative Forest Landscape Restoration Program, USDA
Grassland ecosystems, changing fire regimes, flood, and drought: Crow phenological knowledge at the hub of resistance to social and ecological impacts from climate change.	Alan Watson (PI) **Fernando Sanchez** Linda M. Stumpff	$13,000	8/2016 8/2017	Climate Hubs, USDA
Land management trends on tribal lands and comparison with values and benefits in federal wilderness.	Alan Watson (PI) **Fernando Sanchez** Linda M. Stumpff	$10,000	8/2016 2/2017	Forest Service, USDA

Tribal GIS on the Flathead Reservation: the contribution of local and technical knowledge in adaptive forest management	Roian Matt (PI) Alan Watson **Fernando Sanchez**	$45,000	2/2016 8/2017	Bureau of Indian Affairs, DOI	
Tribal engagement for monitoring the effects of fire and fuels management on culturally important plants of the Colville National Forest	**Fernando Sanchez** (PI) Alan Watson Steve Carver	$20,000	6/2015 8/2016	Northeast Washington Collaborative Forest Landscape Restoration Program, USDA	
Development of an intelligent system for multimodal support of social scientific methodologies	**Fernando Sanchez** (PI)	€8,310 ($10,335)	4/2015 7/2015	Canon Foundation in Europe	
Geospatial patterns in the late Pleistocene human settlement of the Sierra de Atapuerca	**Fernando Sanchez** (PI)	€59,500 ($81,515)	7/2007 6/2011	Ministry of Science of Spain	

Projects assisted

Project name	Role	Supervisor(s)	Sponsor(s)
Boundary Waters Canoe Area Wilderness Visitor Simulation Model	Research collaborator	William T. Borrie	University of Montana
Arctic National Wildlife Refuge: Public Participation GIS	Research assistant	Steve Carver (U. Leeds) Alan Watson (USFS)	Forest Service, USDA University of Leeds
Mapping support for case study descriptions of cultural resilience in fire adapted ecosystems	Research assistant	Steve Carver (U. Leeds) Alan Watson (USFS)	Forest Service, USDA University of Leeds

SCIENTIFIC WRITING

Monographs

1. Stumpff, L.M.; **Sánchez-Trigueros, F.**; Watson, A.; Mdodi, F.; Teasdale, A. (2020). *Grassland, forest and riparian ecosystems on mixed-ownership federal lands adjacent to the Crow Reservation: developing a protective shield for sustainability of the environment and culture from impacts of climate-related disturbance*. Gen. Tech. Rep. RMRS-GTR-410. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 84 p. [URL]

Peer-reviewed articles

4. Wynecoop, M.D.; Morgan, P.; Strand, E.; **Sanchez-Trigueros, F**. (2019) "Getting back to fire suméŝ: exploring a multi-disciplinary approach to incorporating traditional knowledge into fuels treatments". *Fire Ecology*, 15: 17. [DOI]

3. **Sánchez-Trigueros, F.**; Benito-Calvo, A.; Navazo, M.; Canals, A. (2017). "Assessing the effects of temporal ambivalence on defining palaeosystem interrelations, and applicability to the analysis of archaeological survey data". *Quaternary International*, 435 (B): 13-34 [DOI]

2. Baldauf-McBride., B.; **Sanchez-Trigueros, F.**; Carver, S.; Watson. A.; Stumpff, L.M.; Matt, R.; Borrie, W.T. (2017) "Participatory Geographic Information Systems as an organizational platform for the integration of traditional and scientific knowledge in contemporary fire and fuels management". *Journal of Forestry* 115 (1): 43-50. [DOI]

1. **Sánchez-Trigueros, F.** (2013). "Reflexiones sobre la gestión de la calidad y la incertidumbre en datos arqueológicos" [Reflections on the management of quality and uncertainty in archaeological data]. *Ligustinus* 1: 9-19. [URL]

Book chapters

1. **Sánchez-Trigueros, F.**; Canals, A. (2014). "Assessing positional uncertainty due to polygon-to-point collapse in the cartographic modelling of archaeological scatters". In (G. Earl, T. Sly, A. Chrysanthi, P. Murrieta-Flores, C. Papadopoulos, I. Romanowska & D. Wheatley, eds) *Archaeology in the Digital Era. Vol. II,* pp. 854-862. Amsterdam: *Amsterdam University Press*. e-ISBN 978 90 4852 728 1. [URL]

Data products

1. Douglas, M.L.; **Sanchez-Trigueros, F.**; Borrie, W.T.; Watson, A.E.; Christensen, N.A. (2020). *Social conditions, visitor flow & travel simulation model for the Boundary Waters Canoe Area Wilderness*. 2nd Edition. Fort Collins, CO: Forest Service Research Data Archive. [DOI]

Technical reports

4. **Sánchez-Trigueros, F.**; Matt, R.; Watson, A. (2016-2017). *Environmental change and fire: building adaptive capacity on the Flathead Indian Reservation, Montana*. Report to the U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. On file at the Aldo Leopold Wilderness Research Institute's archive, Missoula, Montana. 53 p.

3. **Sánchez-Trigueros, F.**; Wynecoop, M.; Carver, S. (2016). *The value of tribal engagement for monitoring the effects of fire and fuels management on cultural uses of the Colville National Forest, Northeast Washington*. Report to the U.S. Department of Agriculture, Northeastern Washington Collaborative Forest Landscape Restoration Program. On file at the Colville National Forest, Colville, Washington. 104 p.

2. Watson, A.E.; Carver, S.; Armatas, C.; Borrie, W.T.; Huck, J.; McBride, B.B.; **Sánchez-Trigueros, F.**; Stumpff, L.M.; Venn, T. (2014). *Traditional Phenological Knowledge: literature review and case study descriptions of cultural resilience in fire adapted ecosystems*. Project No. 12-2-01-18, Joint Fire Science Program, 27 p. [URL]

1. **Sánchez-Trigueros, F.** (2013). *Geospatial patterns in the late Pleistocene human settlement of the Sierra de Atapuerca (Burgos, Spain): spatial association, geometric probability and fuzzy statistics in the study of past land-use strategies.* PhD thesis, Universitat Rovira i Virgili. Copyright T.1419-2013, 512 p. [URL]

Dissertations and theses

3. "Geospatial patterns in the late Pleistocene human settlement of the Sierra de Atapuerca (Burgos, Spain): spatial association, geometric probability, and fuzzy statistics in the study of past land-use strategies". Ph.D. in Quaternary Studies and Prehistory, 2013.

2. "Measuring accessibility to libraries in urban networks and estimation of optimal resource distribution". M.S. in Geographic Information Systems, 2013.

1. "Neighborhood analysis in a raster data model and geometrical properties of kernel functions". M.A. in Quaternary Archaeology and Human Evolution, 2008.

In preparation

2. **Sánchez-Trigueros, F.**; Borrie, W.; Watson, A. **"**Five decades of visitor flow simulation modeling on the Boundary Waters Canoe Area Wilderness: an overview of methods, technologies, and data requirements".

1. **Sánchez-Trigueros, F.**; Borrie, W. **"**Itinerary prototypes and trip profiling on the Boundary Waters Canoe Area Wilderness: unsupervised machine learning approaches for knowledge discovery in wilderness travel modeling".

CONFERENCES

Oral presentations

7. **Sanchez-Trigueros, F.**; Borrie, W.T.; Watson, A.E. "Modeling travel behavior in the Boundary Waters Canoe Area: an update on data requirements, simulation approaches, and possibilities for management support systems in wilderness recreation". *Park and protected area management in North America*, *2020 American Association of Geographers Annual Meeting*, AAG Virtual. 4/9/2020. [URL]

6. **Sánchez-Trigueros, F.**; "Evolving a genetic algorithm to solve a multiple knapsack optimization problem with allocation frictions, and its application to maximizing spatial accessibility to services with minimal reallocation costs". *GeoAI and Deep Learning Symposium: Spatial-Temporal Modeling and Data Mining*, *2019 American Association of Geographers Annual Meeting*, Washington D.C., USA. 4/4/2019. [URL]

5. **Sanchez-Trigueros, F**. "Tribal perceptions of traditional fire management on the Flathead Reservation: dealing with fuzzy geodata in indigenous geographies". *5th Annual National Tribal GIS Conference 2014*. Southwestern Indian Polytechnic Institute, Albuquerque, New Mexico. 11/6/2014

4. **Sánchez-Trigueros, F.** "Fuzzy tagging and processing of semantic vagueness for crowd-sourcing public perceptions of environmental change". *Digital Conservation 2014*. University of Aberdeen, Aberdeen, UK. 5/22/2014.

3. **Sanchez-Trigueros, F.;** Carver, S.; Huck, J. "Use of the Map-Me PPGIS tool for the collection of community-based ecological information". *Digital Conservation 2014*. University of Aberdeen, Aberdeen, UK. 5/23/2014.

2. **Sanchez-Trigueros, F**. "The treatment of public participation data in environmental impact assessment: setting up smart systems for the synthesis and mapping of vague definitions". *GIS Research UK 2014*. University of Glasgow, Glasgow, UK. 3/17/2014.

1. **Sanchez-Trigueros, F**. "Two exploratory techniques for the assessment of the positional uncertainty derived from the polygon-to-point collapse operation". *Computer Applications and Quantitative Methods in Archaeology 2012*. University of Southampton, Southampton, UK. 3/28/2012.

TEACHING AND CURRICULAR DEVELOPMENT

Graduate courses (8 credit units in person, 61.5 credit units online, *: under development)

Code	Units	Title	Terms taught	Method	Organization	Most recent
GIST 601A	3	Introduction to GIS	1.5	Online	University of Arizona	FA2021
GIST 602A	3	Raster Spatial Analysis	4	Online	University of Arizona	SP2021
GIST 601B	3	Remote Sensing Science	4	Online	University of Arizona	SP2021
GIST 602B	3	Vector Spatial Analysis	3	Online	University of Arizona	SU2020
GIST 603B	3	Web GIS	3	Online	University of Arizona	FA2019
GIST 603A	3	GIS Automation and Programming	4	Online	University of Arizona	FA2019
GIST 604A	3	Applied GIS	1	Online	University of Arizona	FA2018
GIST 604B	3	Open Source GIS	1	Online	University of Arizona	FA2018
GPHY 589 01	1	Laboratory in Spatial Analysis	1	In person	University of Montana	FA2016
GPHY 588 01	3	Spatial Analysis and Modeling	1	In person	University of Montana	FA2016
12785207	4	Spatial Archaeology	1	In person	Universitat Rovira i Virgili	SP2011

Undergraduate courses (12 credit units in person, 6 credit units online/blended)

Code	Units	Title	Terms taught	Method	Organization	Most recent
GIST 470	3	Geo-Databases	1	Online	University of Arizona	FA2021*
GIST 457	3	Statistical Techniques in Geography	2	Blended	University of Arizona	FA2021
GIST 415	3	Open Source GIS	1	Online	University of Arizona	SP2018
GPHY 491 01	3	Python Programming for GIS	1	In person	University of Montana	SU2017
GPHY 489 01	1	Laboratory in Python Programming	1	In person	University of Montana	SP2017
GPHY 347	3	Regional Geography: Europe	1	In person	University of Montana	SP2017
GPHY 141 01	3	Geography of the World Regions	1	In person	University of Montana	FA2016
GPHY 491 80	1	Participatory and Tribal GIS	1	In person	University of Montana	SU2016
12304117	4	Digital Humanities	0.25	In person	Universitat Rovira i Virgili	SP2011

Workshops (20 h)

Course name	Host organization	Hours	Date
GIS and Remote Sensing	Winter Institute in Computational Social Science	3	1/2021
Participatory GIS for fire and fuels management	Association for Fire Ecology	8	11/2019
Participatory GIS	National Tribal Geographic Information Support Center	4	11/2014
Public Participation GIS [FOR 380]	Salish Kootenai College	5	3/2014

MENTORING EXPERIENCE (UM: University of Montana; UA: University of Arizona)

Capstones or theses advised

Bachelor's	10	Primary advisor
Master's	73	Primary advisor
	4	Member of graduate committee
Doctoral	2	Member of graduate committee

Capstone courses coordinated (45 credit units)

Course code	Units	Course name	Terms taught	Method	Organization	Most recent
GIST 909	6	Master's Project in GIST	10	Online	University of Arizona	SU2021
GIST 498	3	BS-GIST, Senior Capstone	3	Online	University of Arizona	SU2021

OUTREACH

Guest lectures at academic institutions (9)

Participatory GIS, Fuzzy Geography and Tribal Consultation for Adaptive Planning in Ecosystems Management. *Native Nations Climate Adaptation Program Webinar Series*, Institute of the Environment, University of Arizona. 12/6/2017.

Using Boolean algebra, information theory and soft computing for the exploration of geospatial trends in fuzzy descriptions of place. *GPHY 500 01: Geography Graduate Colloquium*, Department of Geography, The University of Montana. 11/28/2016.

Heuristic applications for geographic information analysis under constraints of data uncertainty. *M610-01: Graduate Seminar in Applied Mathematics*, Department of Mathematical Sciences, The University of Montana. 10/25/2016.

Python applications for geospatial analysis and modeling. Department of Geography, The University of Montana. 4/28/2016.

Spatial humanities and Tribal GIS: applications in climate change, wildland fire and cultural landscape protection. Elouise Cobell Land and Culture Institute, The University of Montana. 12/5/2014.

Features and applications of the MapMe Public Participation GIS. School of Geography, University of Leeds, Leeds, United Kingdom. 3/12/2014.

Public Participation GIS in environmental research and planning. Payne Native American Center, The University of Montana. 2/24/2014.

Geospatial models for the analysis of land-use patterns among Pleistocene hominid communities: The case of the Sierra de Atapuerca (Burgos, Spain). Institute of Archaeology, University of Oxford, Oxford, United Kingdom. 12/1/2011.

Spatial information systems and the human sciences in the digital age. Department of History and in History of Art, Rovira i Virgili University, Tarragona, Spain. 4/29/2010.

Guest lectures at government institutions (2)

Tribal GIS in the Mountain Region: geospatial technologies and tribal consultation for adaptive planning in integrated resource management. GIS Cooperative: City of Tucson – Pima County. 10/13/2017.

Assembling a platform to channel collaboration between the Forest Service and the Colville Confederated Tribes in assessing the effects of fuels treatment management on cultural uses of the Colville National Forest. Natural Resources Committee, Colville Indian Agency, Nespelem, Washington. 10/20/2015.

SCIENTIFIC SERVICE

Reviewer

6/2020	Reviewer of the article "gamut: A Geospatial Analysis of Multisector Urban Teleconnections" for *Journal of Open Source Software*.
11/2019	Reviewer for the *Landscape Decisions: Towards a new framework for using land assets* program, UK Research and Innovation, Natural Environment Research Council.
2/2019	Reviewer of the book proposal *Geographic Information Systems and Crime Mapping* for CRC Press/Taylor and Francis Group.

Scientific translator

6/2007–6/2011	Translation and proofreading of press publications for the Institute of Human Palaeoecology and Social Evolution (IPHES). Languages: English, French, Portuguese, Catalan.
6/2008	Transcription of the *2006 ICREA Conference. Plio-Pleistocene climatic changes, faunal turnovers and human dispersals*, for the Institute of Human Palaeoecology and Social Evolution (IPHES). Languages: English, French, Spanish.

ACADEMIC VOLUNTEERING

3/2017	Moderator in the National Geographic Bee, Montana State Series, Missoula.
3/2017	Field support in courses: *GPHY 291 02 ST (Mountain Field Studies: Glacier National Park)*, *GPHY 295 01 (Mountain Field Studies: Yellowstone)*, and *GPHY 391 01 (Mountain Field Studies: Rocky Mountain Front)*. Department of Geography, The University of Montana.

MEDIA COVERAGE

Traditional Ecological Knowledge: A model for modern fire management? *Fire Science Digest*, 20, pp. 8-9. November 2014. [URL]

Tribal Engagement Roadmap Highlights Report. Forest Service Research and Development, FS-1075, p. 11. August 2016 [URL]

TECHNICAL SKILLS

Computer technologies

Programming languages	R, Python, C, SQL, PL/SQL, Java, LaTeX, .NET, JavaScript, NetLogo, HTML, KML
Geographic Information Systems	ArcGIS for Desktop, ArcGIS Pro, QGIS, GRASS GIS
Database Management Systems	Oracle, MySQL, PostgreSQL/PostGIS
GIS development	Python (ArcPy, PyQGIS, PyGRASS), .NET (MapWinGIS.ocx), JavaScript (Cesium.js, WebGL)
Machine Learning	Python (NumPy, SciPy, Scikit-learn, Google Earth Engine, Pandas, TensorFlow/Keras), R (randomForest, quantregForest, arules, earth, C50.0, e1071, neuralNet, RWeka)
Spatial analysis and modeling	ArcGIS (Analysis, Geostatistical Analyst, Spatial Statistics, Spatial Analyst), GeoDa, R (gstat, sp, spdep, spatstat)
Remote Sensing & LiDAR	ArcGIS (Image Analyst), R (RStoolbox, landsat8, getLandsat), FUSION
Data visualization	Python (Matplotlib), R (ggplot)
Business Intelligence	Tableau, Google Analytics
Network analysis	ArcGIS (Network Analyst), Gephy
Natural Language Processing	Python (NLTK)
Simulation	ExtendSim, Repast
Web servers	ArcGIS Server, MapServer

ArcGIS suite

ArcGIS Server, ArcGIS API for Python, ArcGIS API for JavaScript, Model Builder, Web AppBuilder, AppStudio, StoryMaps, Collector, Survey123, Business Analyst Online, Insights, Maps for Office, Drone2Map.

Field techniques

Global Navigation Systems	Acquisition and processing of GPS data points (device: Garmin)
Topographic modeling	Use of total stations to acquire surface 3D data points (device: Leica)
Map digitization	Capture of cartography data using tablets and heads-up digitizing systems (software: ArcGIS, GRASS, QGIS)
Survey development	Qualtrics, SurveyMonkey

SOFTWARE DEVELOPMENT

Published

Name	*VisSim 3.0*
Abstract	Model to simulate travel patterns and campsite occupancy based on a historical visitor flow census. This implementation is adapted to the Boundary Waters Canoe Area Wilderness (Superior National Forest, Minnesota, US) and uses a catalog of nearly 12,000 real trips collected in this Wilderness to simulate visitor flow. This version of the model uses a dynamic, discrete event simulation approach to model either a steady-state or terminating system, while allowing for random variation of input parameters.
Version	Released: 3/2020 [Download]
Features	The app (22 MB) is an ExtendSim® model object (MOX) compatible with ExtendSim 9 and 10.

Name	*Partitions*
Abstract	Model to simulate the effects of the Modifiable Areal Unit Problem in spatial analysis. The current implementation uses agents to randomly partition a raster space. To show MAUP effects using a case study, a layer of corn and olive tree fields is included in the model to estimate different maintenance costs as a function of alternative partitions of the farmland. The spatial resolution of the model has been simplified in the web app version to speed up the online processing of the model. The model has been added to the NetLogo repository for educational purposes.
Version	Released: 2/2019 [Download] (Web site under construction)
Features	~ 130 simple NetLogo statements.

Experimental / Under development

Name	*SEMA (Semantic Mapping Information System)*
Abstract	Light-weight Multimedia Geographic Information System. Modules: (i) geovisualization of map data, (ii) retrieval of information from text documents, and (iii) data handling (e.g., import data in standard formats like CSV, Excel, Shapefile, GeoTIFF). Development for postdoctoral research on Participatory GIS and Multimedia GIS.
Version	Alpha (7/2015), unpublished.
Features	> 2,500 simple Python statements.

Name	*Pyzzy*
Abstract	Toolset for the analysis of fuzzy geodata. Development for postdoctoral research on Participatory GIS.
Version	Alpha (9/2014), unpublished
Features	~ 700 simple Python statements

Name	*Accessibility*
Abstract	Script for the assessment of accessibility to resources in transport networks and estimation of optimal resource distributions. Development for graduate research on spatial analysis and optimization.
Version	Alpha (9/2013), unpublished
Features	~ 600 simple Python statements

Name	*SpatialInteraction*
Abstract	Toolset for the statistical analysis of spatial data. Development for graduate research on spatial analysis.
Version	Alpha (2/2013), unpublished
Features	~ 2,000 simple R statements

Name	*Ambivalence*
Abstract	Toolset for Exploratory Data Analysis with ambivalent data. Development for graduate research on data quality.
Version	Alpha (4/2015), unpublished
Features	~ 600 simple R statements

PROFESSIONAL AFFILIATIONS

- American Association of Geographers
- National Wilderness Stewardship Alliance
- Council on Undergraduate Research

AFFILIATE APPOINTMENTS

1/2018 - Present	Affiliate, Montana Institute on Ecosystems, Montana State University & The University of Montana, Missoula, Montana
9/2018 - Present	Affiliate Faculty, Institute of the Environment, University of Arizona, Tucson, Arizona
9/2017 - Present	Reviewer, Review College, National Research Agency (*Agencia Estatal de Investigación*), Government of Spain
9/2017 - Present	Faculty Affiliate, Department of Geography, The University of Montana, Missoula, Montana
8/2015 - Present	Alumnus, Canon Foundation in Europe
6/2011 - Present	Alumnus, University College London
9/2015 - 12/2015	International Visitor, Rocky Mountain Research Station, US Forest Service, Missoula, Montana
4/2015 - 7/2015	Visiting Research Fellow, Department of Geography, Nara University, Nara, Japan
10/2014 - 12/2014	International Visitor, Rocky Mountain Research Station, US Forest Service, Missoula, Montana
4/2014 - 12/2016	Member, Review College, Computer Applications & Quantitative Methods in Archaeology
2/2014 - 3/2014	International Visitor, Rocky Mountain Research Station, US Forest Service, Missoula, Montana
11/2013 - 1/2015	Research Collaborator, Wildland Research Institute, Leeds, UK
8/2013 - 7/2014	Scientific Consultant, Scientific Committee, *Revista Ligustinus*, Seville, Spain
3/2011 - 5/2011	Visiting Researcher, Institute of Archaeology, University College London, London, UK
1/2010 - 6/2010	Visiting Researcher, Institute of Archaeology, University College London, London, UK
1/2009 - 6/2009	Visiting Researcher, Institute of Archaeology, University College London, London, UK

LANGUAGES

	Level (CEFRL[*])	*Awarding institution*	*Grade (Certificate)*	*Date*
Spanish	Native			
English	Advanced (C1)	Educational Testing Service	100 (TOEFL iBT)	9/2009
Catalan	Intermediate (B1)	Government of Valencia	Pass	12/2005
Portuguese	Intermediate (A2)	University of Lisbon	Very Good (CIPLE)	5/2008
French	Elementary (A1)	University of Alicante	Pass	7/2006

* Common European Framework of Reference for Languages