Richard Donohue, PhD | curriculum vitae

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ACADEMIC PRIORITIES

My teaching and research emphasizes the implementation of emerging technical solutions within spatial data science and web cartography, informed by critique and digital geographies. I teach students web design to support cartographic interaction, geovisualization, and digital storytelling, as well as GIS and coding solutions for the analysis, wrangling, and transformation of various spatial data sources. I build, instruct, and support online education within graduate-level courses culminating in Certificate and MS degrees in Digital Mapping.

ACADEMIC APPOINTMENTS

2019 – Present	Assistant Professor Digital Mapping Department of Geography, The University of Kentucky
2014 – <i>201</i> 9	Postdoctoral Fellow New Maps Plus/Digital Mapping Department of Geography, The University of Kentucky
2016 – 2017	Visiting Scholar , Department of Geography, The University of Colorado at Boulder
EDUCATION	
2014	Doctor of Philosophy in Geography, Minor in Science and Technology Studies, <i>The University of Wisconsin–Madison</i> , Madison, WI.
	Dissertation: "Web Mapping with Web Standards: Teaching, Learning, and Using Open Source Web Mapping Technologies"
	Dissertation Chair: Robert Roth
2004	Master of Arts in Education, The University of Colorado at Boulder, Boulder, CO.

TEACHING, ADVISING AND INSTRUCTIONAL DESIGN

Original course design, Department of Geography, The University of Kentucky Note: In addition to original course design, I update/maintain each course every term to reflect changes in technologies/interfaces and improve content based on experience and student input.

MAP671: Introduction to New Mapping (3 credits),

- Ten modules for online teaching, ~8000 words each module, including images, animated GIFS, supplementary videos, and code example snippets.
- Learning objectives: Geographical and geospatial thinking; GIS; cartographic design principles: QGIS, PostGreSQL/PostGIS; Git; Markdown.

MAP672: Programming for Web Mapping (4 credits)

- Ten modules for online teaching, ~8000 words each module, including images, animated GIFS, supplementary videos, and code example snippets.
- Learning objectives: Web design and development skills; interactive and thematic web mapping; protocol languages such as HTML/CSS/JavaScript; web-mapping libraries such as Leaflet; continued practice using specific tools such as Git.

MAP673: Design for Interactive Web Mapping (4 credits)

- Ten modules for online teaching, ~8000 words each module, including images, animated GIFS, supplementary videos, and code example snippets.
- Learning objectives: Advanced interactive web design; fluency in JavaScript; UX/UI design; design of online portfolios.

MAP674: Spatial Data Analysis and Visualization (4 credits)

- Six 1 2 week modules for online teaching, ~8000 words each module, 2-week final project.
- Learning objectives: proficiency in the Python programming language; employment of various geospatial coding libraries; the use of Juputer coding notebooks; exploratory spatial data analysis (ESDA); data cleaning and transformation; documentation of open, reproducible workflows.

MAP675: Collaborative Geovisualization (4 credits)

- Five 2-week modules for online teaching, ~8000 words each module, including images, animated GIFS, supplementary videos, and code example snippets.
- Learning objective: proficiency in command line interface and command libraries (ogr/gdal, Mapshaper); the use of Node.js; fluency in JavaScript; understanding of vector tile solutions and Open GL mapping solutions (e.g., Mapbox GL JS).

MAP698: Final Project Preparation (3 credits)

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• Five 1 - 2 week assignments including scaffolding for developing project ideas, topics, and clearly articulated data; benchmark progress updates; formation of faculty committee; project proposal defenses with course peers.

MAP698: Final Project Implementation (3 credits)

• Application of data solutions to front-end web design; peer critique of map design solutions; final defense and revisions.

MAP701: History of Critical Cartography (2 credits)

• Five 2-week assignments designed to encourage thinking about cartography from a critical, qualitative, and historical perspective, a final project integrating scholarly thinking into a interactive web story using IIIF geospatial image standards.

MAP719: Social Impacts of New Mapping (2 credits)

• Ten modules exposing students to a range of critical skills in tracing the relationships between technology, space, and society, engaging in scholarship that appreciates a critical technology studies perspective, writing reading responses, and applying knowledge to a basic storytelling map template.

Instructor of Record, Department of Geography, The University of Kentucky

MAP719: Social Impacts of New Mapping
MAP698: Final Project Preparation
MAP675: Collaborative Geovisualization
MAP701: History of Critical Cartography
MAP674: Spatial Data Analysis and Visualization
MAP719: Social Impacts of New Mapping
MAP698: Final Project Preparation
MAP674: Spatial Data Analysis and Visualization
MAP701: History of Critical Cartography
MAP675: Collaborative Geovisualization
MAP698: Final Project Implementation
MAP698: Final Project Preparation
MAP719: Social Impacts of New Mapping
MAP675: Collaborative Geovisualization
MAP674: Spatial Data Analysis and Visualization
MAP698: Final Project Implementation
MAP693: Design for Interactive Web Mapping
MAP698: Final Project Preparation

2019 Spring	MAP719: Social Impacts of New Mapping
2018 Fall	MAP674: Spatial Data Analysis and Visualization
2018 Fall	MAP673: Design for Interactive Web Mapping
2018 Summer	MAP672: Programming for Web Mapping
2018 Spring	MAP675: Collaborative Geovisualization
2018 Spring	MAP673: Design for Interactive Web Mapping
2018 Spring	MAP672: Programming for Web Mapping
2018 Spring	MAP673-: Design for Interactive Web Mapping
2017 Fall	MAP675: Collaborative Geovisualization
2017 Fall	MAP673: Design for Interactive Web Mapping
2017 Summer	MAP673: Design for Interactive Web Mapping
2017 Spring	MAP673: Design for Interactive Web Mapping
2017 Spring	MAP672: Programming for Web Mapping
2017 Spring	MAP673: Design for Interactive Web Mapping
2017 Spring	MAP672: Programming for Web Mapping
2016 Fall	MAP672: Programming for Web Mapping
2016 Fall	MAP673: Design for Interactive Web Mapping
2016 Summer	MAP672: Programming for Web Mapping
2016 Summer	MAP673: Design for Interactive Web Mapping
2016 Spring	MAP672: Programming for Web Mapping
2016 Spring	MAP673: Design for Interactive Web Mapping
2016 Spring	MAP672: Programming for Web Mapping
2015 Spring	Geo409: Advanced GIS

Instructor of Record, Department of Geography, The University of Wisconsin-Madison

2011, Spring Geog378: Introduction to Geocomputing

GRADUATE MS STUDENTS ADVISED

Graduate Masters of Science in Digital Mapping, Advised and Instructed

* As of 2021: 20 MS degrees, links to the final projects of MS students available below.

* 2020 NACIS winner of the Student Dynamic Map Award: Lis Fano, *Our Vanishing Glaciers: Visualizing a Half-Century of Glacier Loss in Glacier National Park, Montana.* https://efano.github.io/GNP-glaciers/

* 2019 NACIS winner of the Student Dynamic Map Award: Maria Renee Horn, *Conservation Areas in South America*. <u>https://mahorn.github.io/conservation/</u>

2022 (anticipated)	Mary Becker (MS). High Quality Stream Evaluation Framework.
2022 (anticipated)	Nathaniel Deaton (MS). Conflict Crisis Mapping.
2022 (anticipated)	Jessica Freeman (MS). University of Kentucky Parcel Acquisition.
2022 (anticipated)	Timothy Higginbotham (MS). Construction of Growth in Girdwood, Alaska.
2022 (anticipated)	Rebecca Ramsey (MS). <i>How Racial Capitalism Persists Today in Lexington, KY. An Exploration of 1930s Redlining Practices.</i>
2022 (anticipated)	Zac Stanley (MS). United States Communities in Harms Way: Where are the Vulnerable in Relation to Wildfire Hazards.
2022 (anticipated)	Michael Thomas (MS). Going the Extra Mile: Exploration of Walkability in Lexington, KY.
2021	Alexander Buck (MS). Patterns of Destruction: Wildfires in the United States. <u>https://alexbuck328.github.io/wildfires/</u>
2021	Steven Fuller (MS). <i>Metropolitan Landcover Classification.</i> <u>https://webgis.aztecconsultants.com/Castle%20Pines/</u>
2021	Gene Hahn (MS) . University of Kentucky's soil test data analysis of phosphorus and potassium against AGR-1 recommendations. <u>https://github.com/genehahn48/soiltest</u>
2021	Daniel Helton (MS). How Land Development Affects Water Pollution. https://github.com/heltond/water-and-land
2021	John Obrycki (MS). Communicating novel contaminant data to a community in eastern Ohio.
2021	Devin Rocco (MS). Solemarks. <u>https://once-aday.github.io/</u>
2021	Shan Wuan Wu (MS). Pandemic Basketball 2020-21. https://swu-uky.github.io/pandemic-basketball/
2020	Eileen Grady (MS). <i>Exploring Industrial Pollution in the US</i> . <u>https://eileengrady.github.io/us-industrial-pollution/</u>
2020	Lis Fano (MS). Our Vanishing Glaciers: Visualizing a Half-Century of Glacier Loss in Glacier National Park, Montana. https://efano.github.io/GNP-glaciers/
2020	Lauren Oldham (MS). <i>March Madness</i> . https://laurenoldham1202.github.io/mens-college-basketball/

2020	Etienne Sambo (MS). Interactive Road Accidents Map of Utrecht. https://efsa223.github.io/utrecht-netherlands-road-accidents/
2020	Derek Waggenspack (MS). United States Power Generation & Location. https://dwaggenspack.github.io//SUSPECT-Power/
2019	Matthew Bacinskas (MS). West Nile Virus (WNV) and St. Louis Encephalitis (SLEV) in California (2003 – 2018). <u>https://bazini627.github.io/wnvSlevMap</u>
2019	Mark Cruse (MS). Spatial Patterns in Commute to Workplace Census Data. <u>https://markcruse.github.io/commute-patterns/</u>
2019	Maria Horn (MS). Conservation Areas in South America. https://mahorn.github.io/conservation/index.html
2019	Michael McNeil (MS). The Spoken Word. https://mikus31.github.io/the-spoken-world/
2019	Lee Moser (MS). Lexington, KY Foodscape Mapping Project. <u>https://ljmoser83.github.io/lex-foodscape/</u>
2019	Andrea Parr (MS). Water Reclamation Projects & Biodiversity. <u>https://andreaparr.github.io/watersheds-biodiversity/</u>
2019	Courtney Simonse (MS). Sicilian Immigrants in the US: 1880 – 1900. <u>https://courtneysimonse.ninja/sicily-immigrants/</u>
2019	Sharon Wohlgemuth (MS). The Geography of Public Domain Objects at the Metropolitan Museum of Art. <u>https://digitalfootprints.github.io/artmap/</u>

Graduate Certificates in Digital Mapping, Advised and Instructed

* 53 Graduate Certificates awarded under my supervision the first three years (primary responsibility for Graduate Certificates shifted to a co-instructor in 2019

* 2018 NACIS winner of the Student Dynamic Map Award: Kerry Gathers, Oil & Bone: American Ports in the Golden Age of Yankee Whaling. <u>https://www.kgmaps.com/oil-and-bone/</u>

2018	2017	2016
Frederick Smarr	Ryan Kelly	Anna Lee Bard
Christina Pappas	Jacqueline Smith	Elizabeth Adams
Jay Bowen	James Mason	Maria Renee Horn
Kevin Hough	Patrick Smith	Lauren Oldham
Jairus Rossi	Paul Puckett	Jonathon Barefoot
Madomoiselle LeBlanc	Christopher VanDyke	Maxwell Lee Hammond
Ronald Michael McNeil	Xi Wang	Logan Steele
Sharon Wohlgemuth	Heather Hyden	Lauren Winkler
Josh Wadlington	Amber Bosse	Devin Bartley

Andrea Parr Meagan Duever William Carter Jeff Tiemann Alisande Tombarge Jillian Hannigan Jake Coolidge Joshua Knight James Coil Kerry Gathers	Ryan Rogers Tyler Hegwood Matthew Bacinskas Elisabeth Fano Lee Moser Kevin Hogue Nicolas Williamson Mark Cruse Cassie Porter Jeremy Fisher Owen Mickelson Sebastian Hancock Francisco Lovko John Davis Derek Waggenspack	Raymond Hasenyager Laura Brown Devin Rocco Ethan, Gicker
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PUBLICATIONS

2021	Roth RE, CM Sack, G Baldrica-Franklin, Y Chen, RG Donohue , T Prestby, R Tolochko, and N Underwood. 2021. <i>Web Mapping: A Workbook for</i> <i>Interactive Cartography and Visualization on the Open Web. Version 0.1.</i> <i>University of Wisconsin Cartography Laboratory: Madison, WI. DOI:</i> 10.5281/zenodo.4032935
	A collaboratively written and open-access online publication through the University of Wisconsin-Madison providing practical web mapping and cartographic lessons informed by pedagogical research completed for my Ph.D. research. Eleven chapters (approximately 20 - 30 pages each).
2019	Bellanam S, RM Eggo, P Gsell, AJ Kucharski, NE Dean, RG Donohue , M Zook, J Edmunds, F Odhiambo, IM Longini Jr, M Brissonh, BE Mahon, Ana Maria Henao-Restrepo. "An online decision tree for vaccine efficacy trial design during infectious disease epidemics: The InterVax-Tool." <i>Elsevier</i> 37(21): 4376 – 4381.
2016	Zook M, A Poortuis, and RG Donohue . "Mapping Spaces: Cartographic Representations of Online Data," in <i>Handbook of Online Research Methods</i> , second edition.
2015	Sack CM, RG Donohue, and RE Roth. "Multivariate Choropleth Maps with D3," <i>Cartographic Perspectives</i> , 76.

2014	Roth, RE, RG Donohue , CM Sack, TR Wallace, and TMA Buckingham. "Evaluating Evolving Web Mapping Technologies." <i>Cartographic</i> <i>Perspectives</i> .
2014	Donohue RG , CM Sack, and RE Roth. "Time Series Proportional Symbol Maps with Leaflet and JQuery." <i>Cartographic Perspectives</i> , 75.
2014	Janicki J, G Guo, M Conway, RG Donohue , and RE Roth. "Weevil Viewer: An interactive mapping application for geographic and phenological exploration of Wisconsin's primitive weevils." <i>The Journal of Maps</i> , 10(2): 289–296.
2013	Donohue RG , CM Sack, TR Wallace, RE Roth, and TMA Buckingham. "A competitive analysis of open web mapping technologies." In: <i>Proceedings of the 26th International Cartographic Conference</i> . Dresden, Germany: August 27.
2013	Roth RE, RG Donohue , CM Sack, TR Wallace, and TMA Buckingham. "A process for assessing emergent web mapping technologies." In: <i>Proceedings of the 26th International Cartographic Conference</i> . Dresden, Germany: August 26.
2010	Donohue RG . "Denis Wood." In: Barney Warf (ed) <i>The Encyclopedia of Geography</i> . Thousand Oaks, CA: SAGE Publications, pp. 3122-3123.
2007	Harrower M, RG Donohue . "An Interactive Cultural Map of Wisconsin." <i>Proceedings of the 32nd Annual SSHA Conference</i> , Chicago, IL. November 15–18.
2006	Wolgemuth J, RG Donohue . "Toward an inquiry of discomfort guiding transformation in "emancipatory" narrative research." Qualitative <i>Inquiry</i> , 12(5): 1012-1021.
2006	Crane R, L Pedersen–Gallegos, S Laursen, E Seymour, and Donohue, RG . "Schema disjunction among undergraduate women in computer science." <i>Encyclopedia of Gender and Information Technology</i> , ed. E. M. Trauth. Hershey, PA, London: Idea Group Reference, pp. 1087–1091.

BOOK REVIEWS

2020 **Dorman, Michael**. Introduction to Web Mapping. United States, CRC Press.

CONFERENCE PRESENTATIONS

2020 **Donohue RG** (co-organizer and panel discussant), A Goldsberry, J Bookout, Y Shi, S Long, N Santos. "Online Education Expands the Community of Geography." *2020 Annual Meeting of the Association of American Geographers*. Denver, CO (virtual): April 10.

2019	Donohue RG. "Interactive Coding Environments for Web Map Development." <i>North American Cartographic and Information Society</i> <i>(NACIS) Annual Meeting.</i> Tacoma, WA: October 17.
2018	Blankenship J (presenter) and RG Donohue. "Direct Interaction: Narrative Web Maps and Explicit Bias." <i>North American Cartographic and</i> <i>Information Society (NACIS) Annual Meeting</i> . Norfolk, VA.
2018	Donohue RG (presenter) and M.W. Wilson. "New Maps in the New Medium: Teaching Web Cartography for a Distributed Workforce." Free and Open Source Software for Geospatial (FOSS4G) conference, St. Louis, Missouri.
2015	Donohue RG (presenter) and M Zook. "The Open Source Web Mapping Workflow: QGIS, Leaflet and UI/UX." <i>Kentucky Association of Mapping</i> <i>Professionals 2015 GIS Conference</i> . Owensboro, KY: October 13.
2015	Aileen B, A Robinson, J Kerski, P Drews, RG Donohue (panel discussant), "Geography and Online Education B: What is the status of online geography and geospatial education and its impact on traditional educational offerings?" <i>2015 Annual Meeting of the Association of</i> <i>American Geographers</i> . Chicago, IL: April 22.
2014	Crampton J, RG Donohue (panel discussant), L Mogel, A Robinson, RE Roth, MW Wilson, and M Zook. "Adventures in Online Mapping Education in the 21st Century." <i>North American Cartographic and Information Society</i> <i>(NACIS) Annual Meeting</i> . Pittsburg, PA: October 9.
2014	Czaplewski J (presenter), RG Donohue , and R Mead. "Responsive Interactivity: Toward User-centered Adaptive Map Experiences." <i>Free and</i> <i>Open Source Software for Geospatial (FOSS4G) North America</i> . Portland OR: September 11.
2013	Donohue RG (presenter), A Poorthuis, and Z Johnson. "Bill Bunge, D3.js, and the Future of Critical Cartography." <i>North American Cartographic and Information Society (NACIS) Annual Meeting</i> . Greenville, SC: October 11.
2013	Sack CS (presenter), RG Donohue , RE Roth, TR Wallace, and TMA Buckingham. "Adapting web mapping curriculum to open source technologies." <i>Free and Open Source Software for Geospatial (FOSS4G)</i> <i>North America</i> . Minneapolis, MN: May 22.
2013	Roth RE, CS Sack (co-presenter), RG Donohue (co-presenter), TR Wallace, and TMA Buckingham. "Web mapping technology study update, or what you just learned now is obsolete." UW–Madison Geospatial Alliance Summit. Madison, WI: April 25.
2013	Roth RE (presenter), RG Donohue , TR Wallace, CS Sack, and TMA Buckingham. "Getting a handle on open source web mapping technologies." <i>Wisconsin Land Information Association (WLIA) 2013 Annual</i> <i>Conference</i> . Lake Geneva, WI: February 14.

2012	Donohue RG , T Wallace, CS Sack, RE Roth, and TMA Buckingham "Keeping Pace with Emerging Web Mapping Technologies." <i>North</i> <i>American Cartographic and Information Society (NACIS) Annual Meeting.</i> Portland, OR: October 19.
2012	Donohue RG . "Renewable Energy Landscapes and the Circulation of Technoscience through Wind Farm Development and Debates." <i>2012</i> <i>Annual Meeting of the Association of American Geographers</i> . New York, NY: February 24.
2010	Donohue RG (panel discussant). "Geography, Technology and Science." <i>17th Annual Critical Geography Mini–Conference</i> . Milwaukee, WI: November 6.
2008	Donohue RG. "Emerging Technologies in Mapping: Public Participation and Distributed Mapping." <i>Holtz Center for Science and Technology</i> <i>Studies Brown Bag Series</i> , UW–Madison, WI.
2008	Donohue RG. "Digital Mapping Technologies: Implications for Knowledge Spaces." <i>2008 Meeting of the Association of American Geographers.</i> Boston, MA.

INVITED TALKS AND LECTURES

2020	Donohue RG. "Navigating Technical Workflows Through Geospatial Education: Reflections on Building a New Online Mapping Program." The University of Cincinnati, Geography/GIS Colloquium.
2016	Donohue RG . "Finding the Plus in New Maps Plus." Department of Geography, University of Kentucky, Lexington, KY. Department Colloquium.
2015	Donohue RG. <i>Geo309: Introduction to GIS</i> . "The QGIS to Leaflet Web Mapping Workflow." The University of Kentucky, Lexington, KY: November 6.
2015	Donohue RG. <i>Geo222: Cities of the World</i> . "The Ephemeral and Utopian Experiment: Black Rock City." The University of Kentucky, Lexington, KY: November 3.
2015	Donohue RG. "The Power of Abstraction: Principles of Cartography" (guest lecture). <i>Geo109: Digital Mapping.</i> The University of Kentucky, Lexington, KY: October 6.

WORKSHOPS AND SHORT COURSES

2022 "Hasn't everything been mapped? Measuring space, place, and landscape in the planet we call home." Hands-on presentation for the *Everything (EiS) is Science* Lexington festival, demonstrating geospatial conceptions of geodesy, map projections, and mental mapping to further general public

	knowledge of Geography and Cartography. http://eis.createuky.net/eis-2022/
2020	Geography Awareness Month (December), <i>Wildly Geo</i> , a series of events hosted through the Department highlighting diverse interests within the field and department. Included map & data visualization contests, geocaching and rephotography scavenger hunt events in support of the internationally recognized GIS Day, and the coordination and moderation of 5 invited speakers (including UK Geography alumni).
2020	"Where is your nearest love?: A mapping project for Maptime Lex Valentine's Day Special." <u>https://github.com/maptimelex/nearest-love</u>
2019	"Mapbox Does That?" A presentation of telling big data stories with Mapbox Studio and Story maps for the MaptimeLex December Meetup. https://github.com/maptimelex/mapbox-does-that
2018	"Open Data 2018 and Web Mapping." Geospatial Centroid, Colorado State University, Fort Collins, CO (workshop in support of GIS Day).
2017	<i>Open Source Cartography: A Web Mapping Short Course</i> . University of Colorado-Boulder, a series of four web mapping lessons comprising a short course as a visiting scholar appointment. <u>https://github.com/rgdonohue/web-mapping-short-course</u>
2015	"Introduction to D3 Web Mapping Through 7 Simple Maps." Presentation for the MaptimeLex June 2015 Meetup.

ACADEMIC SERVICE

2021 – 2022	Geospatial Technologies Committee (Chair), External Relations Committee (Chair), Department of Geography, University of Kentucky
2020 – 2021	Geospatial Technologies Committee (Chair), External Relations Committee, Department of Geography, University of Kentucky
2019 – 2020	Geospatial Technologies Committee (Chair), External Relations Committee, Department of Geography, University of Kentucky
2012–2013	Speakers Committee, Graduate Student Representative, Department of Geography, UW–Madison
2008 – 2010	Madison Area Cartographic Design and Debate (MACDAD) Committee Coordinator, Department of Geography, UW-Madison

PREVIOUS APPOINTMENTS

2014 – 2019	Postdoctoral Fellow, New Maps Plus
	Department of Geography, The University of Kentucky

2013 – 2014	Website Developer , College of Agriculture and Life Sciences (CALS), Research Division
2013	Consultant , Department of Geography, University of Kentucky, Cartographic Curriculum Camp. May 27 – June 4
2010	Project Assistant for GIS Certificate Program, Department of Geography, UW-Madison
2007 – 2010	Webmaster, Department of Geography, UW–Madison
2006 – 2009	Program Evaluator for the Wisconsin Alliance for Minority Participation (WiscAMP), The University of Wisconsin-Madison
2004 – 2006	Research Assistant , Ethnography & Evaluation Research (E&ER), The University of Colorado at Boulder

AWARDS and HONORS

2015	Undergraduate Exceptional Pedagogy Award, Department of Geography, University of Kentucky
2014	Trewartha Travel Award, Department of Geography, UW–Madison
2013	College of Letters and Science TA Exceptional Service award (nominated, Department of Geography, UW-Madison)
2013	Trewartha Travel Award, Department of Geography, UW–Madison
2012	College of Letters and Science TA Exceptional Service award (nominated, Department of Geography, UW-Madison)
2012	Trewartha Travel Award, Department of Geography, UW–Madison
2010	Holtz Center for Science and Technology Studies 2010 Graduate Scholars Summer Fellowship, UW-Madison
2008	Trewartha Travel Award, Department of Geography, UW–Madison
2007	Holtz Center for Science and Technology Studies 2007 Graduate Scholars Summer Fellowship, UW-Madison

CURRENT AFFILIATIONS

North American Cartographic Information Society (NACIS) International Society of Participatory Mapping (ISPM) Association of American Geographers The Data Visualization Society