

Stewart A. Scales

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Department of Geography/College of Natural Resources & Environment

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EDUCATION

M.S. Geography, Virginia Tech, December 2011

Thesis: *Spatial patterns of soil charcoal deposition after a prescribed fire on Middle Mountain, VA*

B.A. Geography (Honors), Geosciences Minor, Virginia Tech, December 2009

AREAS OF SPECIALIZATION

Mapping & Cartography, Regional Geographies: Appalachia & Virginia, Geography of Tea, Physical Geography, Biogeography

ACADEMIC APPOINTMENTS & TEACHING

Advanced Instructor: August 2020 - Present

Department of Geography, CNRE, Virginia Tech

- Courses currently taught, credits, and normal class sizes:

Maps and Mapping	(GEOG 2314, 3 credits, 80 students)
Geography of Tea	(GEOG 2784, 3 credits, 25 students)
Geography of Appalachia	(GEOG 3224, 3 credits, 40 students)
Geography of Virginia	(GEOG 3214, 3 credits, 27 students)
Cartography*	(GEOG 3314, 3 credits & lab, 55 students)

***Pathways course**

- Courses previously taught:

Introduction to Physical Geography (GEOG 1104, 3 credits, 150 students)
Environmental Problems, Population and Development (GEOG 3104, 3cr, 41 students)

Geographer: May 2021 – June 2021

Department of History, CLAHS, Virginia Tech

- Hired to create a suite of maps for History Department faculty. This project involved making six maps for a manuscript centered around historical events in eastern Virginia.

Instructor: May 2014 – August 2020

Similar duties as listed above with Virginia Tech Geography

Adjunct Instructor: January 2012 – May 2014

Similar duties as listed above with Virginia Tech Geography

Adjunct Instructor: August 2011 – May 2013

Department of Geospatial Science, College of Science and Technology, Radford University, VA

- Courses taught: Introduction to Environmental Studies (3 credits, 102 students)
Appalachian Geography (3 credits, 50 students)

Graduate Teaching Associate: January 2011 – December 2011

Department of Geography, CNRE, Virginia Tech, VA

- Sole instructor for Introduction to Physical Geography (3 credits, 77 students). Prepared and presented all lectures, administered in-class exercises, quizzes, exams, and updated homework assignments.

Graduate Teaching Assistant: August 2010 – January 2011

Department of Geography, CNRE, Virginia Tech, VA

- Assisted primary instructor with class and lecture preparation, testing, updating materials, preparing exercises, grading, and guest lecturing

Undergraduate Teaching Assistant: August 2008 – May 2009

Department of Geography, CNRE, Virginia Tech, VA

- Conducted pedagogical research/literature review on classroom environments and incorporation of media/videos into lectures
- Developed an 11-quiz suite for use in Introduction to Physical Geography based on the BBC's *Planet Earth* series to supplement in-class lectures and materials

PUBLICATIONS, INTERVIEWS, AND WORKS IN THE MEDIA

2022 Map Publication in progress: Consensus Appalachia. Used in [Appalachian Health: Culture, Changes, and Capacity](#). Scutchfield & Wykoff. Book. UK Press.

2021 Map Publication: [Monacan Overland & Water Routes, Towns & Areas of Influence](#). Produced for the VT 150th anniversary, in consultation with the Appalachian Studies & History Departments, as well as the Monacan Nation.

Map Publication: Transatlantic Voyage. Reference map produced for an upcoming manuscript for Dr. Dan Thorp, VT Department of History.

Map Publication: [Wildlife Map Suite](#). A 26-map series used in *Mammals of Virginia*. Produced for Dr. Don Linzey for an updated release of his book.

2020 Map Publications: Property locator, Eastern Shore, VA – Produced for Dr. Jessica Taylor, VT Department of History.

Map Publication: [Virginia Food Banks Project](#). Joint project with undergraduates Abby England & Jarek Campbell to produce maps for the Virginia Food Bank network.

- 2019 Map Publication: [Appalachian Trail Poison Ivy Research](#). Lynn M. Resler, J. T. Fry, Scotland Leman & John G. Jelesko (2021) Assessing poison ivy (*Toxicodendron radicans*) presence and functional traits in relation to land cover and biophysical factors, Physical Geography, DOI: [10.1080/02723646.2021.1883802](https://doi.org/10.1080/02723646.2021.1883802)

Map Publication: [Deep Creek Lake](#) – Bathymetry and Topography of the lake & surrounding area

Map Publication: [Glacier National Park Locator map](#) – Lambert, C.B., Resler, L.M., Shao, Y. *et al.* Vegetation change as related to terrain factors at two glacier forefronts, Glacier National Park, Montana, U.S.A.. *J. Mt. Sci.* 17, 1–15 (2020).
<https://doi.org/10.1007/s11629-019-5603-8>

Map Publication: [Crewe, Virginia Cemeteries](#). Digitized the town cemetery for a larger GIS project to map all town infrastructure.

Map Publication: *Cumberland Gap: First Gateway West*. Scales, A. 2019. Overmountain Press, Johnson City, TN. Produced three maps to show [regional geology](#), [a general reference guide](#), and [driving distances](#).

- 2018 **Scales S**; Satterwhite E; August A. (2018). [Mapping Appalachia's Boundaries: Historiographic Overview and Digital Collection](#). *Journal of Appalachian Studies*, 24(1).

Map Publication in: [Alexander the Great from Britain to Southeast Asia: Peripheral Empires in the Global Renaissance](#). Ng, S.F. 2019. Oxford University Press.

Map Publication: [Mapping Appalachia's Boundaries](#). A 28-map suite hosted by ArcGIS Online, showcasing previous publications of Appalachia's physical and political boundaries. Supplement to the *Journal of Appalachian Studies* Publication above

- 2017 Map Publication: [Study Area Map](#). Produced for the Ecological and Human Health in Rural Communities Project, Virginia Tech.

CNRE News Magazine - [Geography Teacher Training Academy Visits Mining Towns](#)

WUVT Blacksburg– Appalachian Studies Conference interview with Dr. Anita Puckett, Appalachian Studies Program.

WVTF Roanoke – a piece about the Appalachian Studies Conference and Southwest Virginia. [Who are the Appalachians?](#)

Virginia Tech News – VT Hosts the [Appalachian Studies Conference](#)

Map Publication: [Hiking and Outdoor Recreation in Western Virginia](#). Produced in Google Maps. 9,000+ views (as of September 2020)

2016 [Trajectory Magazine: Andrew Ryan](#) A former student wins \$10,000 scholarship through the US Geospatial Intelligence Foundation

Map Publication: *Southwest Virginia*. Reference maps produced for use by the VA Geographic Alliance. Featured topography and significant points in the region.

Map Publication: *Geology and Topography of Riner, VA*. Geologic and hydrologic map of Riner VA, produced for a private landowner.

Map Publication: *Floyd, VA is the Center of the World*. Azimuthal equidistant map produced for the Floyd Country Store to be used in determining linear travel distances of visitors.

2015 NPR - [The Crooked Road Links Rural Music Communities](#)

Richmond Times Dispatch: [A Crooked Road Leads to Music](#)

Virginia Tech: [Save Our Towns](#) website for connecting community leaders in Southwest Virginia

2014 Map Publication: Virginia's Counties and Independent Cities. Labeled political map produced for APS 3464 – Appalachian Communities Course, Virginia Tech.

CONFERENCE PRESENTATIONS

- Shayer, R.; Scales, S. 2021. [Tracking Northern Appalachian Political Participation and its Consequences, 2000 – 2020](#). Undergraduate research poster & lightning talk presented at the Virginia Tech OGIS Symposium.
- Gregory, E., Scales, S., and Crawford, T. 2019. [Tracking Food Deserts along the Transamerica Cycling Route: Northern Tier. Poster](#). SEDAAG Conference, November 2019.
- Woelk, T., Scales, S., and Balister, P. 2019. *Understanding the Public Usage of New River Cave*. Presentation. National Speleological Society Meeting, Cookeville, TN.

- August, A., **Scales, S.**, Satterwhite, E. 2018. *Mapping Appalachia's Boundaries: Historiographic Overview and Digital Collection*. Exhibit and Presentation. OGIS Symposium, Virginia Tech. 1st place exhibit, \$200 award.
- **Scales, S.**, Ellington, M., Howk, J., Mills, M., Sloan, J. 2017. *Geography of Appalachia: Strategies for Teaching, Featuring Student Projects*. Presentation. Appalachian Studies Association Conference. Blacksburg, VA.
- **Scales, S.** 2017. *Mapping Appalachia: A Beginner's Hands-On Introduction to Creating County Maps Using Appalachian Regional Commission Data and ArcGIS Software*. Workshop. Appalachian Studies Association Conference, Blacksburg, VA.
- **Scales, S.** 2017. Bald Knob and Mountain Lake. Field Experience. Hike showcasing the region's physical geography, geology and biogeography. Appalachian Studies Association Conference, Blacksburg, VA.
- **Scales, S.**, and Kennedy, L. 2012. *Spatial Patterns of Soil Charcoal Deposition after a Prescribed Fire on Middle Mountain, VA*. Poster and Presentation. Fire Learning Network Annual Meeting, Warm Springs, VA.
- **Scales, S.**, and Kennedy, L. 2011. *Spatial Patterns of Soil Charcoal Deposition after a Prescribed Fire on Middle Mountain, VA*. Poster. AAG Conference, Seattle, WA
- Sams, B., Kennedy, L., **Scales, S.**, LeBlanc, A., Bhuta, A.R., Franklin, L., Agriesti, K., Selnick, D., Goff, D. 2011. *Potential for Long-Term Fire History from Charcoal Preserved in Small Wetlands on Warm Springs Mountain, Virginia*. Poster. AAG Conference, Seattle, WA
- Kennedy, L., Bhuta, A.R., Gibson, G., Powers, J., LeBlanc, A., **Scales, S.** 2010. *Soil Charcoal as Evidence of Past Fires in Longleaf Pine Forest on Virginia's Coastal Plain*. Poster. AAG Conference.
- Gibson, G., Kennedy, L., Powers, J., LeBlanc, A., Durden, A., Carey, J., **Scales, S.** 2010. *Soil Charcoal Patterns in a Rare Montane Pine Barren of the Southern Appalachians*. Poster. AAG Conference.

RESEARCH

Carolina Hemlock Research Group: January 2012 – January 2014

Department of Geography, Virginia Tech, VA

- Co-leader of graduate and undergraduate research team studying stand dynamics and habitat of *Tsuga caroliniana*
- Selected and supervised undergraduate researchers in field and lab techniques
- Assisted in coordination of research trips, planning, and field research

Graduate Teaching/Research Assistant: August 2010 – December 2011

Department of Geography, Virginia Tech, VA

- Assistant manager of Paleoenvironments and Biogeography Labs
- Selected and interviewed new undergraduate students to assist with research projects and instructed them on lab techniques, safety protocols, and sampling procedures
- Trained new laboratory participants in correct lab procedures and use of microscopes, loss-on-ignition furnace, and computer software

Undergraduate Research Assistant: August 2008 – May 2009

Department of Geography, Virginia Tech, VA

- Conducted charcoal collection analysis with Dr. Lisa Kennedy and graduate students
- Completed loss-on-ignition (LOI) analysis of sediment cores from the Dominican Republic
- Both assignments were completed for undergraduate research credit in Geography

PROFESSIONAL SERVICE & OUTREACH

- 2021** Chair, Undergraduate Committee, Department of Geography
Degree committee member – B.S. degree in Geography
University Commencement Committee, CNRE Representative
- 2020** Chair, Undergraduate Committee, Department of Geography
Degree committee member – B.S. degree in Geography
University Commencement Committee, CNRE Representative
- 2019** Advising – VT Freshman Orientation for incoming CNRE students
Chair, Undergraduate Committee, Department of Geography.
Faculty Advisor: SocieTea (student organization)
- 2018** Conference Paper Submission Reviewer. Appalachian Studies Association
Conference, Blacksburg, VA.
Undergraduate Committee Member, Geography Department, Virginia Tech.
- 2017** Virginia Geographic Alliance: AP Human Geography Field Trip. *Rural
Landscapes and Folk Cultures in Southwest Virginia*. Guide for a weekend trip to
coal communities in Wise County, VA.
Undergraduate Committee Member, Geography Department, Virginia Tech.
- 2016** Undergraduate Committee Member, Geography Department, Virginia Tech.
- 2016 - Present** Instructor: “Geology and Biogeography of Virginia”, Virginia Master Naturalist
Program, New River Valley Chapter

Gamma Theta Upsilon, Eta Zeta Chapter – Geographic Honors Society Faculty Advisor

2012 – Present Instructor: “Geology and Biogeography of Virginia”, Virginia Master Naturalist Program, Roanoke Chapter

2010 Officer, Virginia Tech Society for Conservation GIS (SCGIS)

2007 - 2009 Student Ambassador, College of Natural Resources and Environment

- Student representative for department of geography, responsible for public contact with prospective undergraduate students at open houses, college graduates at alumni events, and recruiting new students.

INVITED PRESENTATIONS

2019 *The Geography of Tea: Course Overview*. Invited to present to the Honors Residential Commons and host of a sensory evaluation, Virginia Tech.

Undergraduate Mentoring Roundtable. Discussion session co-leader, Virginia Tech CNRE.

2018 *Geography: department overview and careers*. Lecture for First Year Experience course, Virginia Tech.

2016 *Mapping Appalachia – a tutorial for displaying data in Google Maps*. Appalachian Studies Department, Virginia Tech

Bluegrass and the Crooked Road. Talk given at the Solitude Building, Virginia Tech. Mountains of Music Homecoming event.

2015 *How to Lie with Maps – Map Projections*. Guest lecture for the Language and Culture Institute, Virginia Tech

2014 *“The Banjo: bluegrass and old time playing techniques”* – Guest lecture, Appalachian Community Research Course, Virginia Tech

“Bluegrass: my personal influences” – Guest Lecture, Introduction to Appalachian Studies Course

2013 *“The Roanoke Valley and Appalachian Region.”* Opening speaker. SEDAAG Conference, Roanoke Virginia

2012 *Cultural Development in Appalachia* – Mountain Geography course, Virginia Tech

2011 *The AAG Faculty Development Alliance* – a colloquium presentation for faculty and graduate students, Virginia Tech Geography Department

Geography and Geology of the Appalachian Region – Geography of Virginia course, Radford University

AWARDS AND GRANTS

2018 Outstanding Instructor. Department of Geography. CNRE Annual Awards Ceremony.

2011 Outstanding Teaching Assistant Award, Virginia Tech Department of Geography
Virginia Tech Geography Dept. Travel Grant – AAG Faculty Development Workshop
Award: \$500.00

Virginia Tech Geography Dept. Travel Grant – AAG Conference, Seattle, WA
Award: \$500.00

2010 Virginia Tech Office of GIS and Remote Sensing Research (OGIS) Poster Competition,
2nd place

Award: \$175.00

Virginia Tech Graduate Research Development Program (GRDP) Travel Fund

Award: \$455.00

2009 Outstanding Undergraduate Award, Virginia Tech Department of Geography

Stuermann Memorial Scholarship: Virginia Tech College of Natural Resources and
Environment

Award: \$5000.00

2008 Stuermann Memorial Scholarship: Virginia Tech College of Natural Resources and
Environment

Award: \$5000.00

Ambassador Scholarship: Virginia Tech College of Natural Resources and Environment

Award: \$1,000.00

2007 Stuermann Memorial Scholarship

Award: \$5000.00

2005 Presidential Student Service Award, Awarded by President G.W. Bush for volunteer
service in the Virginia State Parks

TECHNICAL SKILLS

Experience with: ArcGIS Pro; ArcGIS 10.x, Cartographic Design; ERDAS Imagine; JMP; Trimble GPS products; Pathfinder Office Software; Microsoft Office Suite; field equipment (advanced map and compass navigation, increment borers, forest measuring devices & tapes); laboratory equipment (microscopes, furnaces, fume hoods and hazardous chemical handling, sampling equipment); forest plots and tree surveys, CWD and soil surveys; establishing transects.

NON-ACADEMIC EMPLOYMENT

Park Interpreter, Virginia State Parks

Claytor Lake State Park, Dublin, VA - June 2012 to September 2013 (seasonal)

Natural Tunnel State Park, Duffield, VA - June 2004 to December 2007 (seasonal)

- Responsible for leading guided environmental education programs (cave and canoe trips, night hikes, geology hikes, astronomy programs) for groups exceeding 100 visitors
- Also responsible for daily operation and maintenance of chairlift system at Natural Tunnel

Law Enforcement and Emergency Services Ranger: May 2008-August 2009 (seasonal)

U.S. National Park Service, Mammoth Cave National Park, Mammoth Cave, KY

- Served as a non-commissioned seasonal ranger tasked with public contact, patrol, and emergency response
- Certified in basic first aid, CPR, ATV operator, and Federal wildland firefighter (FFT2)
- Received outstanding service award for emergency response assistance

Aircraft Line Technician: March 2005-August 2005

Lonesome Pine Airport, Wise, VA

- Primarily responsible for refueling commercial and private aircraft
- Knowledge of FAA air traffic communication procedures

UNDERGRADUATE STUDENT MENTORSHIP

The Virginia Tech Geography Department requires all undergraduate students to complete 3 credits, (120 hours) in undergraduate research, study abroad, or independent studies projects. The following students directly mentored by me in completing their 120 hours of work in the laboratory, field, or classroom:

Undergraduate Research, Field Study, or Honors Projects:

Ryan Shayer

Undergraduate Research Project: [*Tracking Northern Appalachian Political Participation and its Consequences, 2000 – 2020*](#). 2021.

Katie Hahn Undergraduate Field Study: Enhancing Undergraduate Education in Cartography & GIS. 2021.

Michael Mellett Undergraduate Honors Project: [*Geologic Mapping of Petrified Forest National Park*](#). 2019.

Allison Mitchell Undergraduate Honors Project: Cartographic Class and Lab techniques. 2019.

Emily Gregory Undergraduate Research Project: Mapping Food Deserts along the Transamerica Cycling Route: Northern Tier. IRB # 18-1107. 2019

Taren Woelk Undergraduate Research Project: Understanding the Usage of New River Cave, Giles, VA. IRB# 18-753. 2019.

Abigail August Undergraduate Research Project: *Mapping Appalachia's Boundaries: An Historiographic Overview*. 2018.

Emmitt Smith Undergraduate Honors Project: *The Geology of eastern West Virginia: Dolly Sods and Seneca Rocks*. 2016.

Janet Mineva Undergraduate Honors Project. *An Autobiographical Map in the Style of Erwin Raisz*. 2015.

Garrett Smedley Undergraduate Research Project. *Laboratory Techniques for Soil Charcoal Analysis*. 2012.

Independent Study Projects:

Gemma Wessels	Fall 2021	Erika Cropp	Spring 2016
Sara Elwood	Spring 2021	Nick Gilmore	Spring 2016
Tanner Bradley	Spring 2020	Caitlin Pennington	Spring 2016
Abby England	Spring 2020	Mayss Saadoon	Fall 2016
Micah Cowley	Spring 2020	Allison Wingfield	Spring 2015
Peter Forister	Spring 2019	Clancy Jordan	Fall 2014
Fallon Fulgenzi	Spring 2019	Kevin Dare	Spring 2014
Janet Mineva	Spring 2019	Kate Jones	Spring 2014
Peter Erlenbach	Spring 2018	Adam Waldron	Fall 2013
Lauren Berryman	Fall 2017	Joshua Rhamy	Spring 2012
Kelsey Green	Spring 2017	Charly Staton	Fall 2011
Nancy Barnhardt	Spring 2017		

PROFESSIONAL MEMBERSHIPS

American Association of Geographers (AAG)
 Appalachian Studies Association (ASA)