

David Fox

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PROFESSIONAL PROFILE

Geographer with extensive background in conservation and human geography. Advanced expertise in GIS across both the ESRI ecosystem and open source software stack, including data handling, analysis, and modeling in both vector and raster data formats. Experience with literate program techniques, reproducible research, data visualization, and open data design. Extensive experience with community engagement and outreach, conflict resolution and negotiation, public presentations and speaking.

TECHNICAL SKILLS

R Rstudio, SF(spatial), Tmap, Mapview, Mapdeck, Markdown, Tidyverse, Ggplot, H2O, Flexdashboards Python Pandas, Geopandas, Jupyter	notebooks, Bokeh, Holovis Open source GeoDa, PostgreSQL, PostGIS, QGIS, Geoserver ESRI ArcMap, ArcGIS Pro, Model Builder, Spatial Analyst, Network	Analyst, ArcGIS Online, WebApp Builder, Experience Builder Other GIT, Affinity Designer, FME, Google Earth Engine, Mapbox, Power BI, Visual Studio Code, Azure Data Studio
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PROFESSIONAL EXPERIENCE

[Makepath](#) — *Geographer* 2022 - Present

- Project management and development across to open source GIS data stack including Python libraries like Xarray, Geopandas, Datashader.
- Help migrated municipal GIS data systems to open source tooling including developing training materials and guidance around technologies like POSTGIS and Geoserver.
- Develop open source tools to facilitate access to complex data sets like US Census decennial data.

[New Light Technology, Inc.](#) — *Senior Analyst Modeler* 2021 - 2022

- Provide data development, analytics and data modeling support to the FEMA Response Geospatial Office.
- Developed a method to dasymmetrically allocate vulnerable population metrics for disaster response that is in production for all US declared disasters.
- Built online dashboards tracking nation resources and personnel for the FEMA Preparedness Office OneResponder program using Experience Builder and ESRI dashboards.
- Lead project to build webmap assets for the Center for Domestic Preparedness, converting legacy paper maps and data to reactive online maps to support training for disaster preparedness.

[Vermont Center for Geographic Information- Montpelier, VT](#) — *Senior Geographer* 2018 - 2021

- Managed statewide parcel program. Coordinated data submissions from 255 Vermont towns. Resolved technical issues with data and supported use of the parcel data by State Agencies. Initial 3 year, \$3 million project brought in on time and 13% under budget. Supervised parcel data technician.
- Part of the Agile team that developed ETL tools to feed the Department of Health COVID Dashboard
- Create publicly accessible web maps for open data like the Vermont Parcel Viewer (<https://maps.vcgi.vermont.gov/ParcelViewer>) and 3D Parcel Values (<http://maps.vcgi.vermont.gov/ParcelValuation3D>)
- Coordinated with the US Census on state level data updates, such as new construction programs and voting districts.

[County of Albemarle, Charlottesville, VA](#) — *Neighborhood Planner* 2017 - 2018

- Created maps and spatial data in support of planning projects, including Board presentations, master planning, and community engagement materials.
- Staffed community advisory committees, facilitated community discussions of development projects, and developed online public engagement materials.
- Tracked current development, analyze patterns of development and demographics.

- Created population and employment forecasts, developed data and mapping products to support long range transportation modeling.

Dept of Geography-Virginia Tech, Blacksburg, VA – Teaching Assistant 2015 - 2017

- Supported Faculty in delivering undergraduate education, including grading, discussion facilitation, and in class lecturing - awarded Graduate Teaching Assistant of the Year.
- Analyzed accelerometer data for a project assessing the movement patterns of students engaged in collaborative behavior.
- Evaluated open source road network routing solutions to support agent based modeling of forestry resource dynamics - worked with PostgreSQL and PostGIS on networks with millions of links.

The Nature Conservancy, Charlottesville, VA – Stewardship Scientist/Easement Program Manager 2007 - 2015

- Managed annual monitoring of over 140 TNC held conservation easements within Virginia. Responsible for all easement compliance resolutions and dispute resolution. Collected and managed property monitor data with field GPS units and built spatial monitoring databases.
- Collected, analyzed, and interpreted ecological monitoring data. Developed presentation materials and reports to share data internally and with partners, including preparation of grant reports.
- Created a GIS based ecological burn prioritization model adopted by the George Washington & Jefferson National Forests to guide prescribed fire planning.
- Conceived and executed the first analysis of TNC's national easement compliance statistics for risk factors for easement term violations and trends in overall compliance. Findings presented to TNC senior leadership and at a national Land Trust Alliance conference..

PUBLICATIONS

Fox, D.N., Baird, T.D., Stern, M.J. and Prisley, S., 2019. Where mobile groups settle: Spatial patterns and correlates of Maasai pastoralist sedentarization in Northern Tanzania. *Applied Geography*, 112, p.102086 <https://doi.org/10.1016/j.apgeog.2019.102086>

PRESENTATIONS

- [Where are we at with "Where are we?"](#) - Vermont Association of Listers and Assessors, 2019
- [Development Patterns and Future Growth in Albemarle County](#) - Joint meeting of the Albemarle Board of Supervisors, School Board and Planning Commission, 2018
- [Settlement Patterns and Livelihood Outcomes among Maasai Pastoralists](#) - American Association of Geographers - Boston, MA, 2017
- [Science Managers Can Use](#) - Panelist- TNC All Science Conference - San Jose, CA -2013
- [Easement Compliance, What do the numbers tell us?](#) – Panel Lead-Land Trust Alliance Rally- New Orleans, LA 2013

EDUCATION

Virginia Polytechnic Institute, Blacksburg, VA – MS Geography

- Thesis examined the impacts of resource access on settlement patterns and livelihoods in Maasai communities in Northern Tanzania.
- Geospatial Information Technology Certificate; 12 credit certificate including courses on geostatistics, remote sensing (including machine learning techniques), and GIS modeling.

University of Michigan, Ann Arbor, MI – BS Anthropology, Environmental Studies