

# Travis M. Williams

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Geographer with a focus on climate risk management and geospatial data analysis. Detailed-oriented and focused problem solver with an enthusiasm for graphics, presentation, and the development of interactive user interfaces. Experienced in a variety of GIS- and programming-oriented tasks, most adept in spatial/tabular data manipulation in R and raster manipulation in Python.

## Education

Jun 2018

### Master of the Arts in Geography - University of Colorado Boulder

*Thesis:* "Drought index-based insurance for the US cattle ranching industry."

*Focus:* Climate risk management, drought, weather-based index insurance, geospatial information

*Cumulative GPA:* 3.88

*Graduation Date:* August 2018

### Bachelor of Science in Geography - Florida State University

Dec 2009

*Focus:* GIS, Ecology, Habitat Conservation, French

*Cumulative GPA:* 3.39

*Minor:* French, Biology

## Technical Skills

*GIS Interfaces:* 5 years of experience with ArcGIS, familiar with QGIS, Grass, & DIVA GIS

*Coding Languages:* Python, R, GDAL, HTML, and STATA (in order of competence)

*Applications:* Array-based raster and data frame manipulation, interactive application development, econometrics, data transfer and storage, and some remotely sensed imagery analysis capability.

## Research and Technical Experience

Jan 2017 -  
Present

### Graduate Research Assistant - CIRES, University of Colorado Boulder

- Co-author literature review publication on adaptive ranching practices and drought information.
- Apply econometric methods to discover climate signals in a large market data set.
- Redesign an existing rainfall index-based insurance system to accommodate drought indices and researched the efficacy of such a design for drought hazard mitigation.
- Develop and deploy interactive online risk management and decision-making tools.
- Generate descriptive charts, maps, and other graphical representations of research results.

Apr 2014 –  
May 2016

### Research Assistant - Agriculture Dept., Southern Illinois University Carbondale

- Collected plant tissue and soil samples with truck mounted soil probe, SPAD, and other devices.
- Performed KCL extractions and other laboratory tests for agricultural chemical content.
- Collected and interpreted climate data and site information for large meta-analysis of high-yield fertilizer studies across the Midwest using various GIS programs.
- Used ArcGIS and SAS to perform spatial analysis into the performance of no-till and cover crop studies concurrent with extensive research into the practices.

## Teaching Experience

Fall 2016,  
2017

### Graduate Teaching Assistant - University of Colorado Boulder

Geography of the Environment and Society – 3 recitations per term / 25-30 students per recitation

- Human-Earth system interactions, theories of resource management, and natural hazard mitigation.
- Combination of content review, group activity, and grading.
- Focused on connecting course content with current events and engaging students in discussion.

World Regional Geography – 1 recitation / 21 students

- Features of 5 major world regions with a particular focus on culture and social injustice.

Summer  
2017

## Publication

Shrum, T., W.R. Travis, T. Williams, E. Lih. "Managing climate risks on the ranch with limited drought information". *Climate Risk Management*, vol. 20, pp. 11-26, 2018.