



# Todd M. Ellis

DATA ANALYST & STATISTICAL PROGRAMMER

Greater Hobart Region, Tasmania, Australia  
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## PROFESSIONAL SUMMARY

I'm a data analyst and early career researcher with a varied background in forest ecology, pyrogeography, climate change, geospatial science, and higher education. I've worked as an analyst and researcher in a variety of laboratory, field, and office settings throughout the United States and Australia. Over the course of my career, I've developed novel mathematical tools and statistical models; maintained relational databases and statistical packages used for conducting data analysis and producing standardized reports; trained countless staff, students, and volunteers in institutional policies and procedures, as well as methodological approaches to statistical analysis; and managed both complex and transformative projects for higher education, government agencies, and private industry. My research has been published in high-impact, peer-reviewed journals, and I'm also skilled at conveying complex data and information to both casual and experienced stakeholders.

As at 2024-03-17, I have 3 peer-reviewed publications including 2 first-author publications. I have received a total of 83 or 115 citations based on Scopus and Google Scholar, respectively, with an h-index of 3 in both sources.

## EDUCATION

### Doctor of Philosophy, Biological Sciences

UNIVERSITY OF TASMANIA

*Sandy Bay, TAS, Australia*

2019 - present

- Dissertation: Dynamic mapping and analysis of New South Wales fire regimes: Past, present, and future
- Supervisors: Drs. Grant J. Williamson and David M.J.S. Bowman

### Master of Science, Geography

WESTERN WASHINGTON UNIVERSITY

*Bellingham, WA, USA*

2013 - 2016

- Thesis: Climatic drivers of western spruce budworm outbreaks in the Okanogan Highlands
- Supervisor: Dr. Aquila Flower

### Bachelor of Science, Physical Geography and Geology

TEXAS STATE UNIVERSITY

*San Marcos, TX, USA*

2007 - 2012

## PROFESSIONAL EXPERIENCE

### Data Insights Analyst

UNIVERSITY OF TASMANIA: STUDENT SERVICES AND OPERATIONS (FULL-TIME)

*Sandy Bay, TAS, Australia*

2023-01 - present

- Managing the development and implementation of a transformative statewide program to improve equity of access to higher education
- Leading the development of statistical models and reporting tools for managing offers and course quotas
- Streamlining and automating the higher education admissions system for school leavers
- Providing insights and consultations to institutional and external stakeholders

### Adjunct Researcher

UNIVERSITY OF TASMANIA: COLLEGE OF SCIENCES AND ENGINEERING (FULL-TIME)

*Sandy Bay, TAS, Australia*

2019-09 - 2023-03

- Developed complex data-processing and analysis pipelines using high-performance computing and big data
- Oversaw multi-year project design and implementation addressing wildfire and global climate change challenges
- Managed custom platform for interactive web-mapping, on-the-fly statistical analyses, and novel data visualisation
- Collaborated with national and international research teams tackling climate change risk and mitigation

### Data Analyst

UNIVERSITY OF TASMANIA: DIVISION OF FUTURE STUDENTS (PART-TIME / FULL-TIME)

*Sandy Bay, TAS, Australia*

2021-02 - 2023-01

- Developed statistical models and tools for meeting target university milestones
- Managed design and implementation of broad-scale university ML models for directing future university marketing, funding, and course creation
- Designed and implemented programming and data analytics training seminars for institution staff
- Oversaw development of internal reporting and statistical packages

## PUBLICATIONS

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- 1 Williamson, G.J., **Ellis, T.M.**, and Bowman, D.M.J.S. (2022). Double-Differenced dNBR: Combining MODIS and Landsat Imagery to Map Fine-Grained Fire Mosaics in Lowland Eucalyptus Savanna in Kakadu National Park, Northern Australia. *Fire*, 5(5), 160. [doi:10.3390/fire5050160](https://doi.org/10.3390/fire5050160) 7 citations
- 2 **Ellis, T.M.**, Bowman, D.M.J.S., Jain, P., Flannigan, M.D., and Williamson, G.J. (2022). Global increase in wildfire risk due to climate-driven declines in fuel moisture. *Global Change Biology*, 28(4), 1544-1559. [doi:10.1111/gcb.16006](https://doi.org/10.1111/gcb.16006) 71 citations
- 3 **Ellis, T.M.**, and Flower, A. (2017). A multicentury dendrochronological reconstruction of western spruce budworm outbreaks in the Okanogan Highlands, northeastern Washington. *Canadian Journal of Forest Research*, 47(9), 1266-1277. [doi:10.1139/cjfr-2016-0399](https://doi.org/10.1139/cjfr-2016-0399) 5 citations

## CONSULTING

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### RESEARCH

- 2020-08 **Predicting fire behaviour using historical satellite imagery** AUD\$1,000  
Frontier Development Lab
- 2019-06 **Post-fire logging effects on reburn severity** USD\$2,500  
USDA Forest Service
- 2018-08 **Restoration treatment effects on ponderosa pine growth sensitivity to climate** USD\$2,500  
USDA Forest Service

### MANUSCRIPT REVIEWER

*Climatic Change, Earth's Future, Fire Ecology, Global Change Biology, New Phytologist*

## HONOURS

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### GRANTS, SCHOLARSHIPS AND AWARDS

- 2023-09 **Student Services and Operations (SSO) Division Student Focus Award** AUD\$50  
University of Tasmania
- 2022-11 **Future Students Staff Excellence 2022 Sustainability Award** AUD\$50  
University of Tasmania
- 2021-10 **NSW Environment, Energy and Science (DPIE) Eureka Prize for Applied Environmental Research** AUD\$10,000  
Australian Museum
- 2020-08 **Bushfire Data Quest 2020** AUD\$1,000  
Frontier Development Lab
- 2019-09 **Tasmania Graduate Research Scholarship (3.5x)** AUD\$28,000 p.a.  
NSW Bushfire Risk Management Research Hub
- 2019-09 **NSW Bushfire Risk Management Research Hub Top-Up (3.5x)** AUD\$5,000 p.a.  
NSW Bushfire Risk Management Research Hub

## OUTREACH

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### CONFERENCES AND PRESENTATIONS

- 2022-12 **Removing Barriers and transforming access to tertiary education: The Schools Recommendation Program in Tasmania** Macquarie Park, NSW  
Australasian Association for Institutional Research Forum 2022
- 2022-06 **Dynamic mapping and analysis of fire regimes, past, present, and future** Wollongong, NSW  
Bushfire Risk Management Research Hub Showcase 2022 ([poster](#))
- 2021-05 **Fuel moisture trend tool** Wollongong, NSW  
Bushfire Risk Management Research Hub Researchers' Meeting 2021 ([poster](#))
- 2020-03 **Changes in moisture availability drive fire risk** Wollongong, NSW  
Bushfire Risk Management Research Hub Researchers' Meeting 2020 ([presentation](#))