



Todd M. Ellis

DATA ANALYST & STATISTICAL PROGRAMMER

Greater Hobart Region, Tasmania, Australia

September 2023

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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 2023-09-04, I have 3 peer-reviewed publications including 2 first-author publications. I have received a total of 48 or 63 citations with an h-index of 3 or 2 based on Scopus and Google Scholar, respectively.

EDUCATION

Doctor of Philosophy, Biological Sciences

Sandy Bay, TAS, Australia

UNIVERSITY OF TASMANIA

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

Bellingham, WA, USA

WESTERN WASHINGTON UNIVERSITY

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

San Marcos, TX, USA

TEXAS STATE UNIVERSITY

2007 - 2012

PROFESSIONAL EXPERIENCE

Data Insights Analyst

Sandy Bay, TAS, Australia

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

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

Sandy Bay, TAS, Australia

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

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

Sandy Bay, TAS, Australia

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

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

- 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) 3 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) 40 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

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 (since 2023-06)
Earth's Future (since 2022-09)
Fire Ecology (since 2019-01)
Global Change Biology (since 2022-10)
New Phytologist (since 2022-11)

HONOURS

GRANTS, SCHOLARSHIPS AND AWARDS

- 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

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](#))