AIDAN MATTHEWS

PHD CANDIDATE

amatthews@g.harvard.edu | Cambridge, MA, USA | www.LinkedIn.com/in/aidan-matthews-phd

SUMMARY

First Year PhD student studying Environmental Science and Engineering at Harvard University under Professor Kaighin McColl. I specialize in theorizing, coding, and testing environmental models on a range of topics to investigate pressing environmental questions related to the hydrological cycle and climate change.

EDUCATION

PhD Candidate in Environmental Science and Engineering | Harvard University — Present

Bachelor of Science and Engineering | Princeton University — 2024

- 3.96 GPA, Summa Cum Laude, Phi Beta Kappa

PUBLICATIONS

Aidan Matthews, Gabriel Katul, Amilcare Porporato, 2024. "Multiple time scale optimization explains functional trait responses to leaf water potential," New Phytologist. https://doi.org/10.1111/nph.20035

- Developed a model to explain trait coordination regarding drought resilience in plants.

Aidan Matthews, 2024. "The Stochastic Ferrous Wheel and its Implications for the Carbon Cycle." Princeton University.

- Thesis that models the coupled iron and carbon cycles in soil under stochastically fluctuating soil moisture. Implications for how land management will affect climate change.

CURRENT RESEARCH

Using Reanalysis data and climate modeling to investigate where radiative convective equilibrium holds. Paper forthcoming.

Modeling a plant energy balance to investigate the effects of extreme wet bulb temperatures on plants and ecosystems. Applications for agriculture and ecosystems under climate change.

WORK EXPERIENCE

Technical Team Lead | Engineers Without Borders Kenya, Princeton University — 2022- 2024

- Lead and taught a team of ~20 undergraduate students about hydraulic engineering and lead early design talks for a water supply system for hundreds of people.
- Lead town wide discussions in Kiburanga, Kenya during several meetings on the borehole + solar system.

Analyst | Moonshot Missions — 2022

- Researched and communicated key results for a fast-growing NGO providing advisory services to low-income water utilities across the US.

Researcher | Nitsan Labs, Tel Aviv University — 2021

- Analyzed water usage trends across India using statistics and machine learning, identifying key patterns.

TECHNICAL SKILLS

Model Development (Theory + Code) | Data Analysis (Python, R) | Statistics + Machine Learning | Scientific Writing

AWARDS

T. A. Barron Prize for Environmental Leadership | Princeton University — 2024

- Highest honor awarded for exceptional dedication to environmental concerns in academics and community leadership

W. Taylor Thom, Jr. Prize for best Senior thesis related to geology | Princeton University — 2024