

Isabel Jorgensen

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Calgary, AB

EDUCATION

University of Waterloo, Waterloo, ON, Canada

Sep 2021 – Sep 2025

Social and Ecological Sustainability - Water, PhD Candidate; **Excellent (94%)**¹

Thesis: How Terminal Lakes Die: Understanding Sacrifice Zones in the American West through Ecohydrology, Political Economy, and Organizational Ecology

(advised by Dr. Dustin Garrick, committee: Dr. Nandita Basu, Dr. Graham Epstein, Dr. Brad Fedy, Dr. Andrew Trant)

- Developed Bayesian models linking migratory waterbird populations and desert lake surface water dynamics
 - Created a typology and datasets for evaluating public/private landownership in desert basins
 - Conducted in-depth case study on advocacy strategies of multiple NGOs in Salton Sea region
- Comprehensive/Candidacy Examination: Passed with highest commendation

University of Oxford, Wolfson College, Oxford, UK

Oct 2019 – Sep 2020

Water Science, Policy and Management, MSc.; **Distinction**²

Thesis: A hidden agenda? Piloting a rapid diagnostic approach for rural-urban water conflict in Addis Ababa, Ethiopia (advised by Dr. Dustin Garrick)

- Integrated Bayesian process tracing with SWAT hydrology models and remote sensing techniques

Trinity College Dublin, Dublin, Ireland

Sep 2015 – May 2019

Environmental Science, BA(Hons.); **First Class Honours**³ (ranked first in School of Natural Sciences)

Thesis: Investigating the Impacts of a Rural-to-Urban Water Transfer on Nutrient Loading to the Salton Sea, California (advised by Dr. Catherine Coxon)

- Longitudinal analysis of nutrient flux data to a large saline lake relying on irrigation runoff

Supplementary Qualifications

- *Water Leadership Certificate*; University of Waterloo, 2024
- *Theories of the Public Policy Process with Frank Fischer*; International Public Policy Association, Aussois, France, 2024
- *Climate Change and Water Security in Urbanized Watersheds: An Interdisciplinary Perspective*; University of Waterloo, online, 2021
- *Machine Learning*; MIT, online, 2020
- *Systems-thinking and Facilitation*; Climate-KIC, Finland, Norway & Hungary, 2019
- *Enterprise and the Environment*; Smith School, Oxford, 2017
- *Advanced Statistics*; Somerville College, Oxford, 2017
- *Physics of the Climate System*; Utrecht University, 2017

¹University of Waterloo designates 80-100 as the upper most marking tier (i.e., Excellent standing). Individual courses where upper most marking tiers were achieved are indicated by an asterisk (*) here on.

²Distinction is the upper most marking tier in the UK.

³First class is the upper most marking tier in Ireland.

GRANTS, FELLOWSHIPS, & AWARDS (250,000+ CAD)

- **PLAYA Residency** (2025), arts and sciences collaborative research residency at PLAYA in Summer Lake (Oregon), awarded to eight scientists per year (~2,500 CAD)
- **P.E.O. Scholar** (2024-2025), P.E.O., awarded to women who have demonstrated their ability to make significant contributions and be a leader in their chosen field of study (25,000 CAD)
- **Good Citizen Award** (2024), School of Environment and Resource Sustainability, awarded to students who have contributed disproportionately to the School community through mentorship and volunteering (50 CAD)
- **Data with Purpose Grant** (2024), Regrid, providing affordable access to nationwide parcel-level data for research with high impact potential (10,000 CAD)
- **American Ornithological Society Conference Grant** (2024), awarded to select early career researchers presenting at the Society Annual Meeting (1,000 CAD)
- **Graduate Student Research Dissemination Award** (2024), awarded to graduate students presenting their research at a conference (700 CAD)
- **Lincoln Research Grant** (2023-2024), Lincoln Institute of Land Policy, grant awarded for exploratory land use policy research (~20,000 CAD)
- **Leadership Fellow** (2023-ongoing), Blue Range Labs, University of Waterloo
- **Public Policy Travel Grant** (2023), International Public Policy Association (650 CAD)
- **Research Grant** (2023), Global Resilience Partnership, grant awarded for research on agrifood systems (~40,000 CAD)
- **Early Career Fellow** (2022-ongoing), Programme on Ecosystem Change and Society (PECS), Future Earth (800 CAD)
- **Early Career Fellow** (2022-2024), Ecosystem Approach Group, University of Windsor
- **UN Water Conference Delegate** (2023), selected by the Water Institute at University of Waterloo to represent the university and advance our emerging alumni network (2,500 CAD)
- **Faculty of Environment's Dean Doctoral Initiative** (2021-2025), University of Waterloo, awarded to top 10 doctoral applicants to Faculty of Environment, (100,000 CAD)
- **International Doctoral Student Award** (2021-2025), University of Waterloo, awarded to top international doctoral applicants (~60,000 CAD)
- **Provost Doctoral Entrance Award for Women** (2021), University of Waterloo 5000 CAD)
- **Entrance Scholarship** (2021), University of Waterloo (3000 CAD)
- **Research Grant** (2020-2021), World Bank, grant awarded for research on reallocation in Middle East and North Africa (84,500 CAD)
- **Trinity College Dublin Gold Medal** (2019), awarded by the College Board to students who have demonstrated exceptional merit at degree examination (most prestigious univ. award in Ireland)
- **Ireland's Undergraduate of the Year** (2019), awarded by the Environmental Sciences Association of Ireland in acknowledgement of excellence in environmental research
- **Trinity Women Who Lead Award** (2018, 2019), awarded by Trinity College Dublin's Student Union to women that inspire and lead their peers
- **An Taisce Climate Ambassador Award** (2018), awarded by Ireland's National Trust for outstanding communication and action on climate change
- **Brian McMurphy Prize** (2018), awarded to the Junior Sophister Candidate with the highest overall marks in the School of Natural Sciences (~200 CAD)

RESEARCH EXPERIENCE

Data Consultant, Gordon Foundation

Jun 2025 – Aug 2025

- Analyzing public data and designing data visualizations supporting policy primers on the value of Canadian groundwater

Co-Principal Investigator, Lincoln Institute of Land Policy

Sep 2023 – Jun 2024

- Led research on land and water use trends in the Colorado River Basin

Principal Investigator, Global Resilience Partnership

Mar 2023 – Aug 2023

- Directed project evaluating strategies for smallholders facing agrifood transformations, emphasizing inclusive wellbeing and integration through transnational stewardship

Research Assistant, Univ. of Waterloo & The Nature Conservancy

Jan 2022 – Jan 2023

- Coordinated a systematic review of water markets literature to understand their potential to improve welfare
- Led a report and scoping review for The Nature Conservancy on Nature-based Solutions for groundwater management in transitioning agricultural landscapes

Postgraduate Researcher, Univ. of Oxford & World Bank

Nov 2020 – Aug 2021

- Led research for the World Bank on rural-urban water re-allocation in the MENA region with Dr. Dustin Garrick (PI)
 - Secured competitive contract by leveraging past database work
- Collaborated with World Bank and Oxford teams for meetings and project deliverables
- Compiled and analyzed data on water allocation institutions in eight countries
- Lead author on background paper for a World Bank flagship report

Research Assistant, Univ. of Oxford

May 2018 – Mar 2020

- Co-founded the Global Reallocation Database (GRaD), publishing journal article and World Bank policy report
 - Designed systematic review on rural-to-urban water transfers, using machine learning and manual inspection techniques according to PRISMA standards
 - Coordinated data collection, analysis, and expert validation of country-level data across a network of long-term research collaborators working in Brazil, China, Mexico, India and South Africa
- Advanced GRaD framework to include water budgeting and remote sensing approaches to support Global Challenges Research Fund Water Governance Hub
- Proofed manuscripts for special issue in the *Review of Environmental Economics and Policy*

TEACHING EXPERIENCE

Instructor, Applied Data Science, Univ. of Waterloo

Apr 2024 – Aug 2024

Developed a **gateway course** to apply rigorous data science methods for radio-tracking of informal water vendors in peri-urban Kenyan communities. Training environments included PyGIS, Git, and RMarkdown.

Co-Instructor, Integrated Water Management, Univ. of Waterloo

Jan 2024 – Apr 2024

Redesigned course using inclusive pedagogical approaches, incorporating hands-on systems thinking workshops. Facilitated interactive sessions and coordinated 13 guest lecturers from 7 different faculties to bring diverse perspectives.

Teaching Assistant, Integrated Water Management, Univ. of Waterloo

Jan 2023 – Apr 2023

Contributed to syllabus and course material for a graduate-level course on interdisciplinary water topics. Delivered lectures and offered peer-to-peer mentorship on policy for systems change.

Teaching Assistant, Applied Statistics, Univ of Waterloo

Sep 2021-Dec 2021

Developed rubrics and assessed students in a large-format online Applied Statistics (ENVS 278) course.

Educator, The Rediscovery Centre

Sep 2017-May 2018

Developed and delivered science and sustainability courses for underprivileged youth and adults with learning disabilities at Europe's first fully reclaimed eco-facility.

PEER-REVIEWED PUBLICATIONS⁴

Jorgensen, I., Garrick, D., Wight, C. (2025). A Narrative Review of Social Infrastructure for Agricultural Groundwater Nature-based Solutions. Global Sustainability. S2059479825100203. *In press*.

Cullen et al. (including Jorgensen, I.) (2025). Sustainable Development Goal 6 in the era of the Paris Agreement: changes and trade-offs in tailoring water challenges to global climate goals. Ecology and Society. <https://doi.org/10.5751/ES-16218-300316>

Garrick, D., Balasubramanya, S., Beresford, M., Wutich, A., Gilson, G., **Jorgensen, I.** et al. (2023). A systems perspective on water markets: barriers, bright spots, and building blocks for the next generation. Environmental Research Letters, 18. 031001. <https://doi.org/10.1088/1748-9326/acb227>

Garrick, D., Alvarado-Revilla, F., de Loë R., **Jorgensen, I.** (2022). Markets and misfits in adaptive water governance: how agricultural markets shape water conflict and cooperation. Ecology and Society, 27(4). Available at: <https://doi.org/10.5751/ES-13337-270402>

Garrick, D., De Stefano, L., Yu, W., **Jorgensen, I.**, O'Donnell, E., Turley, L., Aguilar-Barajas, I., Dai, X., Leão, R.S., Punjabi, B., Schreiner, B., Svensson, J., Wight, C. (2019). Rural water for thirsty cities: a systematic review of water reallocation from rural to urban regions. Environmental Research Letters, 14(4). 043003. Available at: <https://doi.org/10.1088/1748-9326/ab0db7>

Jorgensen, I. (ed.) (2018). Natural Sciences. Trinity Student Scientific Review, 4. Pp. 95-132. Available at: <https://trinityssr.com/2018-edition-2/>

POLICY REPORTS

Garrick, D., **Jorgensen, I.**, Kernkamp, R. (2024). Tracking Agricultural Transitions in the Colorado River Basin: Towards an Observatory Approach. Working Paper, Lincoln Institute of Land Policy.

Jorgensen, I., Norström, A., Garrick, D., Matthews, N. (2023). Inclusive wellbeing and resilience in transforming agrifood systems: from smallholders to transnational stewards. Report prepared for the Global Resilience Partnership.

Jorgensen, I., Garrick, D., Iseman, T. (2022). Nature-based Solutions for Sustainable Groundwater Management. Report prepared for The Nature Conservancy.

⁴ Including in-press and submitted. Theses are listed in Education section

Jorgensen, I., Garrick, D., Hussein, H., Erfurth, S. (2021). Pathways of Water Reallocation. Background paper for The Economics of Water Scarcity in the Middle East and North Africa: Institutional Solutions. World Bank, Washington, DC

Garrick, D., De Stefano, L., Turley, L., **Jorgensen, I.**, Aguilar-Barajas, I., Schreiner, B.G., Leão, R.S., O'Donnell, E., Horne, A. (2019). Dividing the Water, Sharing the Benefits: Lessons from Rural-to-Urban Water Reallocation. Global Discussion Paper. Washington, D.C.: World Bank Group.

CONFERENCE POSTERS & PRESENTATIONS

A bird's eye view on terminal lake decline in the western United States: Bayesian modelling of 42 species reveals new evidence for regional conservation strategies. **American Ornithological Society**, St. Louis, Missouri, 16 August 2025. [Refereed]

Problem brokers and policy entrepreneurs: NGOs and CBOs in the Salton Sea, California. **International Conference on Public Policy**, Chiang Mai (virtual), 3 July 2025. [Refereed]

The role of land ownership inequities in the decline of desert lakes of the American West. **AGU (H43R: Water and Society: Advancing Water Equity in an Uncertain Future)**, Washington DC, 12 December 2024. [Refereed]

A bird's eye view on terminal lake decline: migratory species as a sentinel of change for terminal lakes in water-limited landscapes of the Pacific Flyway? **AGU (H33B: Advances in Ecohydrology of Water-Limited Environments)**, Washington DC, 11 December 2024. [Refereed]

Who owns the desert basins of the American West? **Salton Sea Summit**, Palm Desert, California, 18-19 October 2024.

A Bird's Eye View on Terminal Lake Collapse. **American Ornithological Society**, Estes Park, Colorado, 5 October 2024. [Refereed]

Give an inch, take a lake: evaluating the political ecology of destruction and restoration of the Salton Sea, California. **CIEEM Conference - Nature Based Solutions**, online, 4 March 2021. [Refereed]

INVITED TALKS

The collapse of desert lakes: why it matters for the Oakville chapter. **PEO International**, Burlington, ON, 26 January 2024.

Keynote address: The importance of interdisciplinarity and alumni. **Collaborative Water Program 10th Anniversary**, University of Waterloo Black and Gold Room, 3 November 2023.

Nature-based Solutions for Sustainable Groundwater Management. **Stockholm World Water Week**, Norra Latin, Stockholm, 31 August 2022.

More than just a lake. **TD Walter Bean Lecture – Water Future: A New Generation of Sustainability Leaders**, University of Waterloo Federation Hall, 9 June 2022.

Identifying a culprit for rural-urban water conflict: distributional inequities or genuine scarcity? Geosciences Department, **University of Edinburgh**, online, 14 November 2020.

Kenyan Roses in Tesco: why businesses need to step up instead of step out. **University of Oxford Student Union and Skoll Centre for Social Entrepreneurship**, Saïd Business School, 11 November 2019.

How British imperialism made climate refugees in Nauru Island. The Philosophical Society, **Trinity College Dublin**, Graduates Memorial Building, 1 October 2018.

PROFESSIONAL SERVICE

Manager, Water Governance Research Cluster, Univ. of Waterloo	2022-Present
Member, PECS Working Group on Institutional Design	2022-Present
Board member, Water Institute Task Force	2024-Present
Peer Reviewer, Environmental Research Letters	2024-Present
Peer Reviewer, Environmental Research Communications	2023-Present

PROFESSIONAL MEMBERSHIPS

American Ornithological Society	2024-Present
American Political Science Association	2024-Present
International Political Science Association	2024-Present
National Audubon Society	2023-Present
Water Environment Federation	2023-Present
Community of Women in Water	2022-Present
Oxford Water Network	2019-Present
International Water Resources Association	2019-Present
Environmental Sciences Association Ireland	2017-Present

LEADERSHIP AND COMMUNITY SERVICE

Executive Board Member, Water Institute Strategic Planning Committee Aug 2023 - Present
Steering the Water Institute's interdisciplinary research and educational objectives, including setting the research and curriculum *agenda for 2025-2030 to foster equitable education*.

Graduate Mentor, School of Environment, Resources and Sustainability Aug 2023 – Aug 2025
Mentored graduate students in their thesis studies, mainly research design and navigating student-advisor relationships.

Chair, Society of Water Institute Graduate Students (SWIGS) Aug 2023 – Aug 2024
Directed a student government representing the largest cohort of graduate students across campus. Founded alumni network.

Vice-Chair: World Water Day Organizer, Water Institute Aug 2022 – Aug 2023
Organized World Water Day 2023, coordinated attendance of *Giulio Boccaletti*, and structured a 2-year partnership with Kitchener's THEMUSEUM and Toronto's Aga Khan Museum

Environment Representative, Graduate Endowment Fund Exec. Board Aug 2021 – Aug 2023
Evaluated funding proposals for research grants, conferences, and student initiatives, optimizing fund allocations to maximize academic and professional impact for students.

Expedition Guide, Water Cycles Expeditions Feb 2023
Led a 300 km educational cycling trip from Joshua Tree through the Salton Basin and Palo Verde Irrigation District, featured in an *LA Times Article*.

Events Director, Environment Graduate Student Association Jan 2022 – Dec 2022
Planned and executed major events, including the Annual Charity Ball, Orientation Week, and academic sessions to build community and professional growth.

Covid-19 Class Representative, University of Oxford Mar 2020 – Sep 2020

Surveyed 100+ graduate students to synthesize a representative letter supporting Faculty efforts to modify examinations in light of Covid-19 emergency lockdown.

Co-Founder, Wolfson Climate Research Group, Oxford

Oct 2019 – Aug 2020

Co-founded a research cluster addressing climate crisis topics; secured a 4000 GBP grant to expand research activities and established collaboration with the Artificial Intelligence Research Cluster.

Convenor, School of Natural Sciences, Trinity College Student Union

Apr 2018 – Apr 2019

Represented student welfare and academic concerns to faculty, facilitated responses to systemic issues, and engaged in broader university policy discussions at Student Union meetings.

Chair, Trinity Environmental Society, Trinity College Dublin

Mar 2018 – Mar 2019

Directed the largest environmental society in Ireland, organized weekly events, managed a 4800 EUR charity contribution, and was awarded the Society's Choice Award and Top 4 Leader in Sustainability by the Union of Students in Ireland.

Provost's Student Sustainability Advisor, Trinity College Dublin

Mar 2018 – Mar 2019

Proposed sustainability projects on campus, established 20,000 EUR Student Sustainability Fund to support environmental initiatives, including highly successful cup deposit scheme adopted by government buildings and 30% of all cafés in Ireland.

Conference Chair, Women Who Lead, Trinity College Dublin

May 2018

Assembled panel of leading women scientists to discuss systemic gender-based barriers to research

Climate Ambassador, An Taisce (Irish National Trust)

Sep 2017-May 2018

Communicated climate change science and solutions to a national audience, reaching an estimated 1.6 million people. Selected as Irish Representative for Ministerial Delegation in Glasgow, Scotland.