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Dr Caitlin D. Kuempel

# Education

*The University of Queensland*, PhD Conservation Science, St. Lucia, QLD, Australia Nov. 2014- Aug. 2018

*Northeastern University*, M.S. Marine Biology, Nahant, MA Dec. 2013

*University of Iowa*, B.S. Environmental Biosience (with honors), B.A. French, Certificate in Sustainability, Honors in coral morphometrics, Iowa City, IA May 2012

# Employment history

Lecturer, Marine Ecosystem Modelling, Griffith University, Nathan, Australia July 2022-present

Post-doctoral Fellow, ARC Centre of Excellence for Coral Reef Studies,UQ, Brisbane, Australia Feb. 2020-June 2022

Post-doctoral Fellow, NCEAS, Santa Barbara, CA Sept. 2018-Dec. 2019

Conservation Planning Consultant, IUCN and The University of Queensland July-Aug.2018

Volunteer Researcher: University of Queensland and WWF Indonesia Sept.-Oct. 2016

Research Assistant: Smithsonian Tropical Research Institute, Bocas del Toro, Panama April-Oct. 2014

Conservation Intern: Central Caribbean Marine Institute, Little Cayman, Cayman Islands Jan.-April 2014

Short-Term Fellow: Smithsonian Tropical Research Institute, Bocas del Toro, Panama June-Dec. 2013

Research Assistant: University of Iowa Department of Geoscience, Iowa City, IA May 2009-2010

# Positions of leadership

## **Academic**

* Australian Rivers Institute Early Career Researcher representative (2023- present)
* Griffith Coding Club co-founder and organiser
* World Wildlife Fund Coral Reef Rescue Initiative Monitoring and Data Management Lead (2020-2022)
* Centre for Biodiversity and Conservation Science Management Committee (2021-2022)
* NCEAS Diversity Team representative (2018-2019)
* Reviewer for international publications
* Society for Conservation Biology University of Queensland/Brisbane Chapter (2015-2017)
* PhD seminar series, The University of Queensland, St. Lucia, QLD, Australia (2014-2015)

## **Community**

* RLadies Brisbane Organising Comittee (2020-present)
* Software Carpentries instructor
* UNEP MPA Toolbox and Learning Platform (2021)
* STEM engagement activities
  + Brisbane Girls Grammar School Year 9 Geography incursion (2023)
  + Linn-Mar High School Ventures program mentor (2022-present)
  + UQ Twilight Talk Series (2020) -Queensland Catch a Rising Star Program, Queensland National Science Week (2016)
* Reef Life Survey Volunteer (2017)

## **Professional Membership**

Reef Life Survey, Australian Marine Sciences Association, Australian Coral Reef Society, Society for Conservation Biology, International Society for Reef Studies

# Academic distinctions, prizes, and awards

* University of Queensland Faculty of Science Awards Rising Star - Academic category Finalist (Dec. 2020)
* APEC Science Prize for Innovation, Research and Education Award - shortlisted for Australian nominee (2020)
* University of Queensland Dean’s Award for Outstanding HDR Theses

# Top 5 publications (h-index 13, Google Scholar) - Griffith Expert, ORCID, Google Scholar

1. *Kuempel, C.D.*, Frazier, M., Verstaen, J., Rayner, P.E., Blanchard, J.L., Bouwman, L., Cottrell, R.S., Froehlich, H.E., Gephart, J.A., Jacobsen, N.S., McIntyre, P.B., Metian, M., Moran, D., Nash, K.L., Tobben, J., Williams, D.R., Halpern, B.S. (2023). Environmental footprints of farmed chicken and salmon bridge the land and sea. *Current Biology*
2. Halpern, B.S., Frazier, M., Verstaen, J., Rayner, P.E., Clawson, S.G., Blanchard, J.L., Cottrell, R.S., Froehlich, H.E., Gephart, J.A., Jacobsen, N.S., *Kuempel, C.D.*, McIntyre, P.B., Metian, M., Moran, D., Nash, K.L., Tobben, J., Williams, D.R. (2022). The environmental footprint of global food production. *Nature Sustainability*
3. *Kuempel, C.D.*, Frazier, M., Nash, K.L., Sand Jacobsen, N., Williams, D.R., Blanchard, J.L., Cottrell, R.S., McIntyre, P.B., Moran, D., Bouwman, L., Froehlich, H.E., Gephart, J.A., Metian, M., Tobben, J., Halpern, B.S. (2020). Integrating life-cycle and impact assessments to map food’s cumulative environmental footprint. *One Earth* (12 citations)
4. *Kuempel, C.D.* Adams, V.M., Possingham H.P., Bode M. (2018) Bigger or better: the relative benefits of protected area network expansion and enforcement for the conservation of an exploited species. *Conservation Letters* (39 citations)
5. Jones, K.J., Klein, C.J., Halpern, B.S., Venter, O., Grantham, H., *Kuempel, C.D.*, Shumway, N., Friedlander, A.M., Possingham, H.P., Watson, J.E.M. (2018). The location and protection status of Earth’s diminishing marine wilderness. *Current Biology* (226 citations)

# Other Publications

*Kuempel, C.D.* (2023) Sedimentation sifted out of global pollution priorities. *Science*

Wakwella, A., Wenger, A., *Kuempel, C.D.*, et al. (2022) Managing Watersheds for Coral Reefs and Public Health. A Vibrant Oceans Initiative Whitepaper.

*Kuempel C.D.*, McGowan J., Estradivari, Handaynai C., Daniel D., Possingham H., Ahmadia, G. (2017) Conservation priority gaps in the Sunda Banda Seascape, Indonesia

# Grant income

* CBCS Small Grants Scheme ($4,500 across three successful proposals) (2021)
  + ARC Laureate Postgraduate Scholarship ($119,376 over 4 years) Nov 2014-2018
* Seafood Footprint Displacement Top-up Scholarship (Dr. Carissa Klein, $5,000) March-June 2018
* 50 Reefs Top-up Scholarship ($5,000) Sept. 2017
* University of Queensland Career Development Award ($5,000) May 2017
* Taylor and Francis University of Queensland Library Excellence Award in Research ($1,000) May 2017
* Smithsonian Tropical Research Institute Short-Term Fellowship ($2,000) June-Nov. 2013

# Supervision

* Maria Christofidis, Griffith PhD student (2023-present), Co-primary supervisor: Assessing and planning for climate change impacts to aquaculture to inform resilient and sustainable expansion
* Alana McPherson, Griffith Honours student (2023-present), Co-primary supervisor: Evaluating marine protected areas
* Sophie Petrie, Griffith Environmental Science Capstone Project (2023-present), primary supervisor. The potential impacts of land-based aquaculture on threatened species in Queensland.
* Emma Arnett, Master’s Student (2020-2021), Co-primary supervisor: Quantifying redundant global fisheries trade
* Ella Sinclair, Volunteer (2020): Primary supervisor for conducting literature review of monitoring and evluation indicators for focal WWF Coral Reef Rescue Initiative countries

# Select general audience publications (links provided)

1. *Kuempel, C.D.* (2023) Farmed salmon or chicken? Environmental footprint research can guide eco-conscious consumers. [The Conversation](https://theconversation.com/farmed-salmon-or-chicken-environmental-footprint-research-can-guide-eco-conscious-consumers-199773)
2. Almaraz, M. and *Kuempel, C.D.* (2022) The impact of excessive protein consumption on human wastewater nitrogen loading of US waters. [Global Water Forum](https://globalwaterforum.org/2022/08/04/the-impact-of-excessive-protein-consumption-on-human-wastewater-nitrogen-loading-of-us-waters/)
3. *Kuempel, C.D.* and Alyssa Giffin (2021) Resilient reefs, resilient communities: how can we get there? [Catchment to Coast](https://catchmenttocoast.org/2021/12/14/resilient-reefs-and-resilient-communities-how-can-we-get-there/)
4. Jones, K., Friedlander, A. Halpern, B., *Kuempel, C.D.*, Klein, C. Grantham, H., Possingham, H., Watson, J., Shumway, N., Venter, O. (2018) New map shows that only 13% of the oceans are still truly wild. [The Conversation](https://theconversation.com/new-map-shows-that-only-13-of-the-oceans-are-still-truly-wild-100820#:~:text=Our%20research%2C%20published%20in%20the,human%20activities%20are%20most%20intense.)
5. *Kuempel, C.D.* Southern Coral Sea (2017) [Reef Life Survey blog](https://reeflifesurvey.com/southern-coral-sea/)

# Select media interviews and engagement (links provided)

1. Which food is better for the planet? [The Washington Post](https://www.washingtonpost.com/climate-environment/interactive/2023/food-impact-climate-water-wildlife/)
2. Food for thought: the carbon footprint of salmon and chicken farming mostly stems from feed. [The Guardian](https://www.theguardian.com/environment/2023/feb/13/food-for-thought-carbon-footprint-of-salmon-and-chicken-farming-mostly-stems-from-feed-study-suggests)
3. To lower food emissions consider what your dinner ate. [Popular Science](https://content.isentia.io/?url=https://www.popsci.com/environment/carbon-emissions-meat-livestock/&key=f50e0409ae20644ddfc8e4da71ba50ad&ver=1&mid=920217296&uid=154795)
4. Farmed chicken and salmon have a global footprint. [Nature](https://www.nature.com/articles/d41586-023-00414-5)
5. Coming out or not, earthquake aid, and what’s the most eco-friendly meat? [Triple J Hack](https://www.abc.net.au/triplej/programs/hack/hack/101960520)
6. Female scientists encouraging children to embrace science [Courier Mail](https://www.couriermail.com.au/news/queensland/bundaberg/female-scientists-encouraging-children-to-embrace-science/news-story/a76c60645f3438df037d12d2f64da262)

# Teaching Experience

I currently convene 3804ENV Marine Ecosystem Modelling and 3606ENV Conservation Biology at Griffith University and teach into 3033ESC Environmental Data Analytics.