Mitchell Chandler, PhD.

Ocean & Climate Scientist — Quantitative Researcher — Geospatial Data Analyst — Science Communicator

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Scientist with over a decade of experience conducting independent and collaborative research, data analysis, technical writing, and science communication. Skilled at gathering, processing, analysing, and visualising large spatio-temporal observational and model data sets to tackle complex problems. Strong communication and outreach abilities enable research insights to be effectively conveyed to specialist, government, and public audiences.

Technical Skills

MATLAB [>10-years], Julia [>2-years], R [>2-years], ArcGIS Pro [>1-year], Python [>1-year], ArcGIS Online [<1-year], Microsoft Office (Word, Excel, Powerpoint, etc.), Google Suite (Docs, Sheets, Slides, etc.), LaTeX

Education

University of California San Diego **2019 – 2025**
Doctor of Philosophy in Oceanography

University of Auckland **2018**
Bachelor of Science (with First Class Honours) in Geophysics

University of Otago **2015 – 2017**
Bachelor of Science in Marine Science and Geography

Experience

The Wilderness Society **2025 – present**
Energy and Climate Researcher

- Led a multi-year research project building, validating, and analysing a machine learning model using ArcGIS Pro, Julia, and R to identify at-risk oil and gas areas and inform conservation decisions, resulting in 1 first-author journal publication, 1 conference presentation, and 1 interactive mapping tool.
- Provided broad analytical, statistical, mapping, data curation, and literary research support to non-research staff during multiple (>10) conservation and land-use campaigns with time-sensitive deadlines.
- Reviewed external scientific research proposals for funding approval.

Scripps Institution of Oceanography **2019 – 2025**
Graduate Research Scientist & Teaching Assistant

- Analysed and integrated large ocean, atmosphere, climate, and bathymetry observational data sets and model output using MATLAB to produce data-driven insights into ocean variability and its impacts.
- Communicated and shared technical results, research findings, and data with experts, government, and the public using written, oral, and visual formats (3 first-author journal publications, 19 presentations and 6 posters at conferences, 3 public articles, 2 exhibited art pieces, 1 federal agency report, 3 public databases).
- Mentored two Master of Science students in coding, data processing and analysis, and science writing.
- Created, planned and taught ocean, climate, and atmosphere courses to approximately 10 graduate students and over 100 undergraduate students for which I received an 'Outstanding Teaching Assistant Award'.

American Geophysical Union **2024 – 2025**
Science Policy Fellow

- Discussed and advised on policy implications with federal staff and scientists.

University of Otago **2019**
Data Technician

- Organised and processed multiple decades of coastal data using MATLAB and Microsoft Excel for collaborators to use in research and local government projects.

University of Auckland **2018**
Student Researcher

- Led a time-sensitive research project analysing 25 years of satellite data using MATLAB to understand mechanisms driving a coastal ocean current, resulting in 1 first-author journal publication.

Cawthron Institute **2016 – 2017**
Research Intern

- Led the collection of remote sensing data and development of spatial analysis workflows using Microsoft Excel and Esri ArcMap to forecast coastal urbanisation and associated socioecological risks.

Journal Publications *Google Scholar*

Chandler M, Sprintall J, Zilberman NV. (2025). ENSO influences subsurface marine heatwave occurrence in the Kuroshio Extension. *Journal of Geophysical Research: Oceans*. doi: 10.1029/2025JC022899

Chandler M, Zilberman NV, Sprintall J. (2024). The deep western boundary current of the Southwest Pacific Basin: insights from Deep Argo. *Journal of Geophysical Research: Oceans*. doi: 10.1029/2024JC021098

Chandler M, Zilberman NV, Sprintall J. (2022). Seasonal to decadal western boundary current variability from sustained ocean observations. *Geophysical Research Letters*. doi: 10.1029/2022GL097834

Floerl O, Atalah J, Bugnot AB, **Chandler M**, Dafforn KA, Floerl L, Zaiko A, Major R. (2021). A global model to forecast coastal hardening and mitigate associated socioecological risks. *Nature Sustainability*. doi: 10.1038/s41893-021-00780-w

Chandler M, Bowen M, Smith RO. (2019). The Fiordland Current, southwest New Zealand: mean, variability, and trends. *New Zealand Journal of Marine and Freshwater Research*. doi: 10.1080/00288330.2019.1629467

Chandler M, Belote RT, Meek MH. (under review). Modeling oil and gas development potential to identify conservation risks and opportunities in the western United States.

McTague S, Edwards C, Pedersen N, Cacapit A, **Chandler M**, Sandin S. (in prep). Who's next door? Using large-area imagery and GIS to understand neighbour patterns of coral and algae at Palmyra Atoll.

Additional Graduate-Level Coursework

Advanced Statistical Techniques, Applied Mathematics, Numerical Modelling, Data Analysis, Science Communication, Geophysical Fluid Dynamics, Climate Dynamics, Fluid Mechanics, Ocean-Atmosphere Interactions, Field Techniques