



Andrew Villeneuve

PHD CANDIDATE

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Andrew is a marine ecologist with interests in global change across levels of ecological organization. He is dedicated to working on applied questions in the face of climate and biodiversity crises.

Education

University of New Hampshire

PHD STUDENT

Durham

2022 - 2026

University of Massachusetts Amherst

MASTER OF SCIENCE

Amherst Center

2018 - 2021

Bowdoin College

BACHELOR OF ARTS

Brunswick

2012 - 2016

Publications

Villeneuve, A., & White, ER. (2024). Predicting organismal response to marine heatwaves using dynamic thermal tolerance landscape models. *Journal of Animal Ecology*.

Bentley, BP., Cheng, BS., Brennan, RS., Swenson, JD., Adkins, JL., & ... (2024). Successful Invasion Into New Environments Without Evidence of Rapid Adaptation by a Predatory Marine Gastropod. *Molecular Ecology*. 33 (23), e17575

Sasaki, M., Barley, JM., Gignoux-Wolfsohn, S., Hays, CG., Kelly, MW., & ... (2022). Greater evolutionary divergence of thermal limits within marine than terrestrial species. *Nature Climate Change*. 12 (12), 1175-1180

Barley, JM., Cheng, BS., Sasaki, M., Gignoux-Wolfsohn, S., Hays, CG., & ... (2021). Limited plasticity in thermally tolerant ectotherm populations: evidence for a trade-off. *Proceedings of the Royal Society B*. 288 (1958), 20210765

Villeneuve, A., Komoroske, LM., & Cheng, BS. (2021). Environment and phenology shape local adaptation in thermal performance. *Proceedings of the Royal Society B*. 288 (1955), 20210741

Villeneuve, A., Komoroske, LM., & Cheng, BS. (2021). Diminished warming tolerance and plasticity in low-latitude populations of a marine gastropod. *Conservation Physiology*. 9 (1), coab039

Villeneuve, A., Thornhill, I., & Eales, J. (2019). Upstream migration and altitudinal distribution patterns of *Nereina punctulata* (Gastropoda: Neritidae) in Dominica, West Indies. *Aquatic Ecology*. 53 (2), 205-215

Villeneuve, A. (2017). Habitat selection and population density of the world's smallest chameleon, *Brookesia micra*, on Nosy Hara, Madagascar. *Herpetological Conservation and Biology*. 12 (2), 334-341

Wheelwright, NT., Taylor, LU., West, BM., Voss, ER., Berzins, SY., & ... (2017). Pupation site selection and enemy avoidance in the introduced pine sawfly (*Diprion similis*). *Northeastern Naturalist*. 24 (sp7)

Selected Work and Research Experience

Department of Biological Sciences, University of New Hampshire

PHD STUDENT

Durham, NH

2022 - Present

- Quantifying the impacts of heatwaves on marine invertebrate populations using an exposure magnitude-duration framework

NOAA Fisheries

KNAUSS MARINE POLICY FELLOW

Silver Spring, MD

2021-2022

- I worked with the Office of the Assistant Administrator for Fisheries on high-level science management and policy. I worked on improving the NOAA institutional repository, wrote fisheries survey communications materials, and create a bibliometric analysis of NOAA Fisheries publications. I supported NOAA Arctic policy by working on incorporating indigenous traditional ecological knowledge into the US position in a multilateral agreement.

Department of Environmental Conservation, University of Massachusetts Amherst

Amherst, MA

MASTER'S STUDENT

2018-2020

- I conducted research on the growth and survival of locally adapted populations of the Oyster Drill (*Urosalpinx cinerea*) collected from sites along the latitudinal gradient on the Pacific and Atlantic coasts of the US. I mentored an undergraduate research intern and their independent project as part of the Five College Coastal and Marine Science program. I was a teaching assistant for Marine Ecology and Introduction to Ecology.

Hurricane Island Foundation

Rockland, ME

RESEARCH ASSISTANT

2018

- I assisted growth rate research on bottom culture and ear-hung scallop aquaculture in the Gulf of Maine. Operated outboard motorboats in variable coastal conditions. I mentored two students from the Women of the Sea Program on their independent research projects.

Operation Wallacea

Rosalie, Dominica

AQUATIC ECOLOGIST

2017

- Directed field season research for long-term stream monitoring project using macroinvertebrate biotic indices and tracked migration patterns of a freshwater snail. One published paper as product. I instructed high school students in field ecology methodology and directed data collection for both projects.

Smithsonian National Zoo

Washington, DC

CONSERVATION INTERN

2017

- I performed animal husbandry of threatened and endangered herpetofauna, and collected behavioral data of amphibians within exhibits

Smithsonian National Museum of Natural History

Washington, DC

REEF BIODIVERSITY TECHNICIAN

2016

- Analyzed images and data on reef organism growth under ocean acidification conditions. Field processed photographic and genetic samples from settlement places on an expedition in Curaçao. I participated in two submersible dives to collect settlement plates.

The Wilderness Society

San Francisco, CA

WILDERNESS TECHNICIAN

2016

- I completed a wilderness area assessment of Stanislaus and Eldorado National Forests using GPS tablets and ArcGIS. Performed tasks independently in remote mountain areas. I recommended the outlines of a new wilderness area based on observed human impacts and natural features.

Bowdoin Science Station

Kent Island, NB, Canada

KENT ISLAND FELLOW

2014

- I designed and collected data on the effects of current strength on intertidal invertebrate biodiversity.

Darling Marine Station, University of Maine

Walpole, ME

MARINE SCIENCE INTERN

2013

- I analyzed benthic images from the Drake Passage of species diversity focusing on corals with a master's student.

Cape Eleuthera Institute

Deep Creek, The Bahamas

LIONFISH AND AQUACULTURE INTERN

2012

- I maintained open ocean aquaculture cage with juvenile Cobia, involved daily SCUBA diving. I conducted patch reef surveys of fish diversity and lionfish morphological data. REEF fish surveyor certified.

Trainings and Field Schools

French-American Doctoral Exchange on Ocean Science

2025

NICE, FRANCE

Ambassade de France aux États-Unis

- Doctoral student exchange program

Emerging topics in coastal marine ecosystems

2023

UNIVERSITY OF CÁDIZ, SPAIN

European Marine Research Network

- Summer training course on emerging topics, Euromarine network

Workshop in Support of Developing Indigenous Collaboration in Arctic Observing Networks

2021

VIRTUAL

Kawerak, Inc.

- Training for incorporating Indigenous Knowledge for application within the Central Arctic Ocean Fishing Agreement

Bowdoin Marine Science Semester

2015

BRUNSWICK, ME

Bowdoin College

- Immersive marine science semester. Final thesis on population genetics of an invasive tunicate

- Study abroad semester, taught in French

Grants and Fellowships

University of New Hampshire

DISSERTATION YEAR FELLOWSHIP, \$25,310 2025

New Hampshire Sea Grant

NEW HAMPSHIRE SEA GRANT GRADUATE FELLOWSHIP, \$19,510 2023

University of New Hampshire

SCHOOL OF MARINE SCIENCES AND OCEANOGRAPHY GRADUATE RESEARCH FUND, \$2,010 2023

University of New Hampshire

STUDENT TEACHING ASSISTANT SUMMER FELLOWSHIP, \$5,000 2023

National Sea Grant

2021 JOHN A. KNAUSS MARINE POLICY FELLOWSHIP 2020

PADI Foundation

PADI FOUNDATION GRANT, \$3,141 2019

American Malacological Society

MELBOURNE R. CARRIKER STUDENT RESEARCH AWARDS IN MALACOLOGY, \$950 2019

Environmental Conservation Graduate Council, University of Massachusetts Amherst

TREASURER 2019

National Science Foundation Graduate Research Fellowship Program

HONORABLE MENTION 2019

Bowdoin Science Station

KENT ISLAND STUDENT RESEARCH FELLOWSHIP 2014

Bowdoin College

BOWDOIN FACULTY SCHOLAR 2012

Teaching

Tohoku University

CO-INSTRUCTOR Sendai, Japan 2025

- R by the Sea Japan

University of New Hampshire

TEACHING ASSISTANT Durham, NH 2022-2023

- Introductory Biology

University of Massachusetts Amherst

TEACHING ASSISTANT Amherst, MA 2018, 2020

- Marine Ecology

University of Massachusetts Amherst

TEACHING ASSISTANT Amherst, MA 2019, 2020

- Fundamentals of Ecology

Service

- Ecological Forecasting Initiative Student Association (EFISA) Co-chair, 2024-2026.
- Journal Referee
 - Aquatic Ecology
 - Journal of Animal Ecology
 - Ecography

- Journal of Molluscan Studies
- Ecology
- Conservation Physiology

Skills

FIELD AND RESEARCH

- Have used and trained others on ecological **research methods**, including transects, quadrats, water quality, species identification (highly proficient in rocky coast Atlantic and Caribbean), habitat classification, microscope and microphotography use, and general photography.
- Advanced **SCUBA diver** and snorkeler. 100+ Dives in the Caribbean, Gulf of Maine, and tropical Pacific. PADI Rescue Diver. ~50 dives for scientific purposes (transect, REEF surveys, aquaculture farms). ~15 coldwater dives (Gulf of Maine, freshwater)
- Comfortable **boating skills** in the Caribbean, Chesapeake Bay, and Gulf of Maine. Small craft operation (up to 28') and basic maintenance experience. Trailing experience. State of Maine boating license.
- Experience with **animal husbandry** and aquatic plumbing. System experience ranges from large open-water aquaculture systems to recirculating seawater systems to tropical reef systems.
- Trained **Wilderness First Responder**. Certified August 2013, recertified June 2018. Wilderness Medical Associates. Experience working in **isolated field conditions** (e.g. Madagascar, Bay of Fundy, Dominica).
- Advanced **French** reading, writing, and comprehension. CEFR level B2.

ORGANIZATIONAL, ANALYTICAL AND COMPUTER SKILLS

- Advanced data science, visualization, frequentist and Bayesian hierarchical statistical Modeling, **R and Rstudio**
- Oceanographic data, **Python**
- Version control, **Git and Github**
- Reproducible workflows and websites, **Markdown, Quarto, and Jupyter Notebooks**
- Parallel computing and big data, **BASH and Slurm**

References

- **Easton White**, PhD Advisor, easton.white@unh.edu
- **Brian Cheng**, Master's Advisor, bscheng@umass.edu