



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*, e. 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

NOAA Fisheries Quantifying the impacts of heatwaves on marine invertebrate populations using an exposure magnitude-duration framework Silver Spring, MD

KNAUSS MARINE POLICY FELLOW

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
<ul style="list-style-type: none"> I conducted research on the growth and survival of locally adapted populations of the Oyster Drill (<i>Urosalpinx cinerea</i>) 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
<ul style="list-style-type: none"> 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. 	Rosalie, Dominica
Operation Wallacea	
AQUATIC ECOLOGIST	2017
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Performed animal husbandry of threatened and endangered herpetofauna, and collected behavioral data of amphibians within exhibits. 	Washington, DC
Smithsonian National Museum of Natural History	
REEF BIODIVERSITY TECHNICIAN	2016
<ul style="list-style-type: none"> Analyzed images and data on reef organism growth under ocean acidification conditions. Field processed photographic and genetic samples from settlement plates on an expedition in Curaçao. I participated in two submersible dives to collect settlement plates. 	San Francisco, CA
The Wilderness Society	
WILDERNESS TECHNICIAN	2016
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> I designed and collected data on the effects of current strength on intertidal invertebrate biodiversity. 	Walpole, ME
Darling Marine Station, University of Maine	
MARINE SCIENCE INTERN	2013

Cape Eleuthera Institute	Deep Creek, The Bahamas
LIONFISH AND AQUACULTURE INTERN	2012
<ul style="list-style-type: none"> 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

Emerging topics in coastal marine ecosystems	2023
UNIVERSITY OF CÁDIZ, SPAIN	European Marine Research Network
Workshop in Support of Developing Indigenous Collaboration in Arctic Observing Networks	2021
VIRTUAL	Kawerak, Inc.
Bowdoin Marine Science Semester	2015
BRUNSWICK, ME	Bowdoin College
Madagascar Biodiversity and Natural Resource Management	2015
TAOLAGNARO, MADAGASCAR	School for International Training
<ul style="list-style-type: none"> Study abroad semester, taught in French 	

Grants and Fellowships

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	<i>Sendai, Japan</i>
CO-INSTRUCTOR	2025
<i>By the Sea Japan</i> University of New Hampshire	<i>Durham, NH</i>
TEACHING ASSISTANT	2022-2023
<i>Introductory Biology</i> University of Massachusetts Amherst	<i>Amherst, MA</i>
TEACHING ASSISTANT	2018, 2020
<i>Marine Ecology</i> University of Massachusetts Amherst	<i>Amherst, MA</i>
TEACHING ASSISTANT	2019, 2020
<ul style="list-style-type: none"> 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.
- Competent **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. Trailering 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