

**Joseph E. Townsend**  
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## EDUCATION

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### **University of the Virgin Islands** (August 2017-December 2019)

Masters of Marine and Environmental Science  
GPA: 4.0

### **University of North Carolina at Chapel Hill** (2012 – 2016)

Biology (B.A.), Communications (B.A.), minor studies in Marine Science  
GPA: 3.3

### **Sea Education Association** (March 2015-June 2015), Class C-259

Semester of coursework as a part of the Marine Biodiversity and Conservation Program  
GPA: 3.84

**Current GRE Scores:** Quantitative Reasoning: 160 (76<sup>th</sup> percentile), Verbal Reasoning: 162 (90<sup>th</sup> percentile), Analytical Writing: 4.5 (86<sup>th</sup> percentile)

## MANUSCRIPTS AND PUBLICATIONS

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Aichelman, H. E.; **Townsend, J.**; Courtney, T.; Baumann, J.; Castillo, K. D. "Heterotrophy mitigates temperate coral *Occulina arbuscula* response to temperature stress". *Ecology and Evolution* 4 August 2016.

Baumann, J.; **Townsend, J.**; Courtney, T.; Aichelman, H. E.; Davies, S. W.; Castillo, K. D. "Temperate regimes impact coral assemblages along environmental gradients on lagoonal reefs in Belize". *PLoS ONE* 11(9): e016298.

**Townsend, J.**; Jerris K. G. "Differences in fish communities associated with three-dimensional reef reconstructions". In Prep.

Smith, T. B.; Mukherjee, S.; **Townsend, J.**; Hollister K. J. "Temperature in mesophotic reefs of the Virgin Islands: Thermal stress and hurricane impacts". In Prep.

Afshar, M. D.; Clower, P. O.; Cobleigh, K.A.; Farchette, A.; Funk, K. A.; Hollister K. J.; Jerris, K. G.; Nagel, J. A.; Packard, A. J.; Raymore, M. N.; Roper, Z. N.; **Townsend, J.** "Impacts of Hurricanes Irma and Maria on coral restoration and associated fish diversity in St. Thomas, USVI". In Prep. Note: Authors are equal contributors presented in alphabetical order.

## AWARDS/HONORS

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### May 2017      **SEAS Your Tomorrow: Bridge to the PhD**

\$7,000 awarded jointly by University of the Virgin Islands and Pennsylvania State University conduct research at PSU

### Sept 2015      **Increasing Diversity and Enhancing Academia (IDEA) Academic Internship**

\$2,700 awarded to conduct tank experiment on coral stress response using live corals from Belize

### June 2015      **Increasing Diversity and Enhancing Academia (IDEA) Summer 2015 Internship**

\$6,000 awarded in order to conduct research in the Castillo laboratory as a full-time researcher

### June 2014      **Increasing Diversity and Enhancing Academia (IDEA) Summer 2014 Internship**

\$6,000 awarded in order to conduct research in the Castillo laboratory as a full-time researcher

### Nov 2011      **Eagle Scout**

Highest rank in the Boy Scouts of America

## CERTIFICATIONS

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- 150-ft. Scientific Diver- American Academy of Underwater Sciences (AAUS)
- Technical Diving International (TDI) Certified decompression and enriched air diver
- Red Cross First Aid, Emergency Oxygen, and CPR/AED for the professional rescuer
- Proficient in Microsoft Office
- North Carolina and Florida Boaters Education Certification

## TECHNICAL SKILLS

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- Lab-based Skills- Live coral care in closed circuit aquaria, DNA Amplification with PCR of animal, algal, and bacteria DNA, PAM Fluorometry and Spectrophotometry, 3D Digital Scanning and reconstruction, Analytical quantification of dissolved nutrients
- Field-based Skills- Caribbean coral identification (AGRRA), Caribbean fish, algae, sponge, and other invertebrate survey and identification, Sea Turtle hand-capture, tagging, and release, Biopsy collection for genetic and isotopic analysis, Neuston net sampling, Conductivity, Temperature, and Depth (CTD) deployment
- Computer/Software based Skills-R Statistical analysis, Analysis of sequence data using MEGA and Geneious, Phylogenetic, Population Connectivity and Metabarcoding analyses, Advanced image and film capture and editing using Adobe Creative Suite/Final Cut Pro/Avid, ArcGIS
- Proficient repair and maintenance abilities with advanced media technology

## RESEARCH EXPERIENCE

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### January 2019-Present **Research Technician- UVI Department of Marine Science**

Supervisor: Dr. Marilyn Brandt

Supervision and management of spatial distribution research for the recent emerged Stony Coral Tissue Loss Disease (SCTLD) and implementation of coral disease treatments. Verification and survey of the revitalized Acropora Monitoring Program in the USVI. Additional as-needed work in miscellaneous marine research projects ranging from urchin and coral restoration to marine sponge assessment. Statistics tutor for Masters of Marine and Environmental Sciences students.

### August 2017-December 2019 **Research Assistant – UVI Department of Marine Science**

Advisors: Dr. Tyler Smith, Dr. Marilyn Brandt

Data organization and management for the Territorial Coral Reef Monitoring Project (TCRMP), Analysis of data following hurricanes Irma and Maria. Conducted coral field surveys and data collection at annual locations, and regular collection of fish and algae for study of Ciguatera Fish Poisoning. Assistance with additional fieldwork in miscellaneous marine research projects ranging from urchin and coral restoration to marine sponge assessment. Additional as-needed work on the SCTLD-outbreak in St. Thomas.

### Aug 2018-May 2019 **Sea Turtle Intern – UVI Center for Marine and Environmental Studies**

Advisor: Dr. Paul Jobsis

Management, organization, and data collection associated with UVI's sea turtle catch-and-release tagging program. Responsible for organizing personnel, data management and analysis, proper and effective sea turtle handling and tagging during both the day and at night, organization of outreach events, and maintenance of UVI's sea turtle club.

### Jun 2014-May 2016 **Increasing Diversity Enhancing Academia (IDEA) Student Researcher – UNC Marine Sciences Department**

Advisor: Dr. Karl Castillo

Responsible for daily maintenance of tank system, data collection and analysis of two tank-based coral physiology experiments and one field-based coral ecology study in Belize. Summarized in peer-reviewed journal articles published in *Ecology and Evolution* and *PLoS One*.