Mitch Torkelson

Wilmington, NC

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EDUCATION

University of North Carolina-Wilmington	**Wilmington, NC**
M.S. in Marine Science - concentration in Remote Sensing & Environmental Monitoring	**Expected Aug. 2024**

Creighton University	**Omaha, NE**
B.S. in Biology, Minor in Environmental Science	**May 2019**

Universidad San Francisco de Quito-Galápagos	**San Cristóbal Island, Ecuador**
Study Abroad – concentration in Marine Biology	**Aug. 2018 – Dec. 2018**

CERTIFICATIONS

GISP, *GIS Certification Institute* ⧉	**Expected Aug. 2024**
GEOINT, *US Geospatial Intelligence Foundation (USGIF)* ⧉	**Expected Aug. 2024**
SCUBA Divemaster, *Professional Association of Diving Instructors (PADI)* ⧉	**Dec. 2021**

PROFESSIONAL EXPERIENCE

University of North Carolina-Wilmington ⧉	**Aug. 2022 – Present**
Graduate Research Assistant	*Wilmington, NC*

- Conducted a comparative study on the accuracy of HawkEye ocean color imagery against in-situ measurements.
- Developed and maintained analytical models for environmental data analysis, significantly improving the efficiency and accuracy of data interpretation. ⧉
- Worked extensively with Python to manage and analyze large datasets, ensuring the reliability and quality of research outputs.
- Applied GIS and remote sensing tools to evaluate coastal and marine environmental parameters.
- Collaborated with faculty and research teams to publish findings and present at scientific conferences of research outputs.

Geo Owl ⧉	**Mar. 2023 – Mar. 2024**
Geospatial Analyst	*Part time – Remote*

- Utilized ESRI ArcGIS Pro for digitization of land features, spatial analysis, and map generation essential for coastal and terrestrial monitoring.
- Managed central GIS data repositories, ensuring organization, maintenance, and quality control; proficient in ArcGIS Pro, ArcGIS Online, and other ESRI applications.
- Conducted spatial data analysis to support decision-making in environmental monitoring and management projects.
- Collaborated with cross-functional teams to deliver geospatial insights and solutions tailored to project requirements.
- Developed and maintained GIS datasets, ensuring data accuracy and integrity for various applications.

Aquatic Safaris ⧉	**Feb. 2022 – Aug. 2022**
SCUBA Divemaster	*Wilmington, NC*

- Led SCUBA divers on explorations of wrecks, ledges, and reefs, ensuring safety and providing exceptional customer service.
- Conducted pre-dive briefings and post-dive debriefings to enhance the diving experience and ensure diver safety.
- Assisted in maintaining and inspecting diving equipment to ensure optimal functionality and safety standards.
- Provided underwater guidance and assistance, enhancing diver confidence and enjoyment.
- Collaborated with the dive team to plan and execute diving excursions, catering to divers of various skill levels.

RED Hospitality & Leisure ⧉	**Aug. 2021 – Dec. 2021**
First Mate	*Key Largo, FL*

- Facilitated daily yacht cruises in the Florida Keys and Everglades National Park.
- Assisted in navigation and ensured the safety of all passengers during excursions.
- Conducted informative and engaging tours, highlighting key natural and historical features of the region.

- Managed the maintenance and cleanliness of the yacht, ensuring a high standard of service and comfort for guests.
- Supported the captain in various operational tasks, including docking and anchoring procedures.

Coral Restoration Foundation ⧉   Jan. 2021 – Aug. 2021
Conservation Intern   *Key Largo, FL*
- Led GIS mapping projects to monitor coral habitats, applying GIS for effective conservation management and stakeholder engagement.
- Conducted field surveys to assess coral health and growth, contributing to data collection and analysis for restoration efforts.
- Assisted in outplanting corals and maintaining underwater nurseries, ensuring optimal conditions for coral growth and resilience.
- Collaborated with a multidisciplinary team on research projects aimed at improving coral restoration techniques and outcomes.
- Engaged with local communities and stakeholders to promote awareness and support for coral conservation initiatives.

Smithville High School ⧉   Aug. 2019 – Mar. 2020
Substitute Teacher   *Smithville, MO*

- Fulfilled short-term and long-term teaching requirements for K-12, continuing education and reinforcing core concepts.
- Adapted to various classroom environments and instructional needs, ensuring continuity of education for students.
- Developed lesson plans and instructional materials to support student learning across multiple subjects.
- Managed classroom behavior and maintained a positive and productive learning environment.
- Utilized skills in public speaking, classroom management, student engagement, teaching, and positive discipline to enhance the educational experience.

University of Georgia-Marine Institute ⧉   May 2019 – Aug. 2019
Research Assistant   *Sapelo Island, GA*
- Utilized drone and remote sensing technology to map and analyze coastal ecosystems, informing regional conservation strategies.
- Conducted fieldwork to collect environmental data, contributing to the understanding of coastal processes and habitats.
- Assisted in the analysis and interpretation of remote sensing data, producing detailed maps and reports for research projects.
- Collaborated with a multidisciplinary team to support ongoing research initiatives and contribute to scientific publications.
- Presented research findings at local conferences, enhancing public awareness and support for coastal conservation efforts.

PEER-REVIEWED PUBLICATIONS

Wu, F., Tong, C., Torkelson, M., Wang, Y. (2020). Evolution of shoals and vegetation of Jiuduansha in the Changjiang River Estuary of China in the last 30 years. Acta Oceanologica Sinica. 39. 71-78. doi.org/10.1007/s13131-020-1636-7.

CONFERENCES, PRESENTATIONS, AND WORKSHOPS

Cornell Satellite Remote Sensing Workshop ⧉   June 2023
Cornell University
Participated in an intensive two-week training workshop designed to impart practical skills for acquiring, analyzing, and visualizing large data sets derived from various ocean satellite sensors. The curriculum emphasized Python programming and NASA's SeaDAS software, covering satellite data sets such as SeaWiFS, MODIS, VIIRS, and HawkEye.

NC Water Resources Research Institute (WRRI) Annual Conference   Mar. 2024
NC State University, Raleigh, NC
Evaluated HawkEye satellite sensors in capturing ocean color imagery for coastal and estuarine environments. Received Honorable Mention for the poster presentation. ⧉
View Poster

CMS Research Showcase   **Feb. 2024**
UNCW, Wilmington, NC
Presented findings to U.S. Secretary of the Interior Deb Haaland and BOEM Director Liz Klein on high-resolution HawkEye data.
View Poster

CMS Research Showcase   **April 2023**
UNCW, Wilmington, NC
Demonstrated capabilities of high-resolution HawkEye data in revealing fine-scale coastal variability.
View Poster

Creighton Undergraduate Research Showcase   **May 2019**
Creighton University, Omaha, NE
Showcased satellite imagery use in identifying chlorophyll and other oceanographic parameters in the South Atlantic Bight.

Omaha in the Anthropocene   **Dec. 2017**
The Durham Museum, Omaha, NE
Presented research on the impact of ancient hunting tools on megafaunal populations.
View Poster

Summer Research Institute   **Aug. 2017**
Creighton University, Omaha, NE
Explored gentrification impacts in the Bemis and Gifford Park neighborhoods.