



## Mapping & Navigation Contractor

**Status:** Contract seasonal, as needed

**FLSA Classification:** Non-Exempt

**Compensation Type:** Contracted Day rate

**Benefit Eligible:** No

**Reports to:** Manager of Mapping and Science Operations

**Location:** Onboard Exploration Vessel *Nautilus* worldwide

**Contact:** [careers@oet.org](mailto:careers@oet.org)

### Purpose

Ocean Exploration Trust seeks an experienced seafloor mapping and remotely operated vehicle navigation specialist to support scientific ocean exploration and research aboard E/V *Nautilus*. Expected assignments range from approximately one to three months throughout a six to ten month annual field season. Mapping and remotely operated vehicle (ROV) navigation support varies based on the expedition leg: some are a mix of mapping and ROV navigation, while others are solely seafloor mapping. There is also opportunity to support other autonomous deep-sea robotic technologies, such as autonomous underwater vehicles (AUVs) and autonomous surface vehicles (ASVs).

### Ocean Exploration Trust

The Ocean Exploration Trust (OET) is a 501(c)(3) founded in 2008 to explore the ocean, seeking out new discoveries in the fields of geology, biology, maritime history, archaeology, and chemistry while pushing the boundaries of science, technology, engineering, and mathematics education and technological innovation. The Nautilus Exploration Program centers on scientific ocean exploration from aboard the 68-meter Exploration Vessel *Nautilus*, supported by state-of-the-art ROV, seafloor mapping, and telepresence technologies on board and ashore that are used to advance ocean exploration and outreach. For more information, visit [www.nautiluslive.org](http://www.nautiluslive.org).

### Position Overview

The navigator and mapping specialist's main task is to ensure the ship is in the correct position for scientific operations including ROV dives and seafloor mapping. A navigator acts as a communications liaison between the science team, the operations teams (ROV/ASV/AUV) and the officers on the vessel's bridge. They observe the ROVs, ship and science objectives in their entirety, and use this situational awareness to provide the science team and expedition leader with operational updates including current status, time-to-completion for ship moves, location of waypoints, and future objectives as well as any limitations due to weather, ship maneuverability, and technical systems. In addition, they may mentor undergraduate or graduate students in navigation and mapping roles. They must perform the following duties in close collaboration with the rest of the science and operations team and bridge team:

### **Duties and Responsibilities**

- Operating all mapping and navigation equipment and software including the EM302, Knudsen 3.5 kHz and 15 kHz, UCTD, XBT, AML SSV, Hypack, integrated ROV navigation, TrackLink/Sonardyne, ArcGIS, Qimera, and Fledermaus and other related applications.
- Stand two 4-hour ROV navigation watch per day which includes: maintaining situational awareness of ship position, dive sites, dive waypoints, vehicle location; checking weather and operational conditions and communicating limitations; communicating with scientists, the bridge, ROV pilots for operational purposes and to an online audience for outreach purposes; acting as a role model
- Troubleshooting navigation, position, mapping, and auxiliary sensor systems
- Stand a mapping watch to monitor acoustic data acquisition and troubleshoot any issues, help determine when to conduct sound velocity profile measurements and assist with launch/recovery of instruments, process acoustic data

### **Must be able to**

- Obtain a US Passport or B1/B2 Visa
- Deploy at sea for up to 90 contiguous days
- Be physically and mentally capable of meeting the demands of living and operating aboard a working exploration vessel, and must be able to live in close quarters with other expedition team members (including a shared stateroom)
- Maintain a pleasant and professional demeanor under challenging conditions while interacting with fellow expedition team members and while interacting with the public online.
- Contribute to an inclusive work environment in which all individuals are treated with respect and dignity.
- Support OET's mission of training the next generation of STEM professionals by helping to support junior personnel participating in the expedition by engaging with them and helping to provide a positive learning experience at sea.
- To the level that is relevant to this position, contribute to OET's mission to inspire and engage youth and the public by participating in outreach and/or port tours during the expedition.

### **Required Skills/Experience**

- Prior at-sea experience
- Understanding of acoustic seafloor mapping systems, data acquisition, and processing
- Understanding of Ultrashort Baseline Systems for tracking robotic assets
- Strong team player with a proactive, service-oriented attitude
- Ability to work collaboratively with an international, multidisciplinary, diverse team of engineers, scientists, educators, and students



- Possess strong creative, analytical, and problem-solving skills
- Excellent multi-tasking and time management skills
- Excellent management and interpersonal skills
- Excellent verbal and written communications
- Excellent analytical and organizational skills

#### **Preferred Qualifications**

- Experience operating and/or navigating robotic underwater or surface vehicles
- Experience operating acoustic seafloor mapping systems, data acquisition, and processing
- Resistance to motion sickness

#### **Physical Demands**

This is largely a sedentary role; however, at-sea activity to launch and recover equipment over-the-side and carry up to 50 lbs is required.

#### **Position Type/Expected Hours of Work**

This is a contract position with an estimated at-sea duration of 4 weeks to 12 weeks at a time. A typical day includes two 4-hour navigation or mapping watches for remotely operated vehicle expeditions and one 8-hour mapping shift per day for mapping-only expeditions, plus up to 6 additional hours of work per day.

#### **Pay**

Day rate will be competitive with standard research vessel rates and commensurate with experience.

**To APPLY: Please submit a cover letter and resume to [careers@oceanexplorationtrust.org](mailto:careers@oceanexplorationtrust.org). Position open until filled on a rolling basis.**