

This guide will walk you through the NIOZ Marine Facilities Planning Website tool to plan expeditions.

You will have to consider which station locations are favorable for successfully answering your research question. The steps below will provide you with a quick introduction to using the webpage: <https://nioz.marinefacilitiesplanning.com/cruiselocationplanning#>

Overview of the Interface:

Dashboard: The main area where you can create and manage your expedition plan.

Map Interface: Used for planning locations and visualizing your expedition route.

Tools and Menus: Located on the right side of the screen, these help you add stations, import data, and adjust the map.

1. Select Port of Departure and Arrival

- On the dashboard click "**Select Port of Departure**"(left side of the page) and choose an appropriate port based on your research objectives. Appropriate ports are indicated with a red dot and clickable.
- Do the same for "**Select Port of Arrival**". Consider the transit days and how they impact the available research time.
- Next to "Select Port of Departure", you can choose your vessel size by navigating through the "**any acceptable ship**" dropdown menu.

2. Adding Layers

- Via the **Layers** button on the right side of the screen, you can choose to include the Exclusive Economic Zones (EEZ), Marine Protected Areas (MPA), Extended Continental Shelf, Geographic Lines, and Territorial Seas along with other specific datasets. You can also choose between a preferred projection. Usually mercator or globe projections are the easiest to work with
 - You can toggle between these layers and decide which ones you would prefer to be visible.
 - These layers provide visual information regarding the marine zones, something you will need to consider when choosing research stations and obtaining permits.
- You can also switch between the Base Layer (physical cartographic information) and the GEBCO grid (bathymetric information).

3. Adding Research Locations

- Use the "**Add new locations to map**" button (located on the right side) to place different types of research stations:
 - For the current research project, we are only working with **Sampling Stations**.
 - Click on the Sampling Station button and then you can add points on the map you would like to include in your research plan.
 - After each station added, you will have to chose Sampling Station again in order to add a point to your plan.

- You can also add research stations using the “import coordinates” feature if you have pre-existing coordinates.

4. Configure Station Details

- After selecting your ports, vessel type, layers, and after adding sampling stations, you can choose the order or have a suggested order (via the “Suggest Order” button in the top left corner).
- Station Metadata: For each station, you can specify the duration you would like to remain stationed to conduct your research.
 - To do so, click on the time shown in green next to the sampling station on the dashboard.
 - Keep in mind the time limitation of your research project and the depth of the ocean.
- You can also edit your stations, add waypoints and labels, through the dashboard and by clicking on the three grey dots next to the sampling stations on the dashboard
- You can also view some details like transit time, distance, fuel consumption and CO₂ emissions via the **Statistics** button near the upper left corner of the page.

5. Export the Map and Cruise Details:

- Use the **Export** button (right side) on the website to download a high-resolution map of your working. You can zoom-in and out of the map to get more detailed maps or an overall layout.
- Using the same Export button you can download the coordinates of your sampling stations and plan. **Decimal Degrees (DD)** format is generally the easiest to work with.
- Now if you wish to work on your project at a later duration, you can simply import your coordinates via the **Import** button and select the excel file (.xlsx). Just remember to select your port of departure and arrival as well as the vessel size again.