

Tara Polar Station

TESTS CAMPAIGN REPORT (July-Sept 2025)

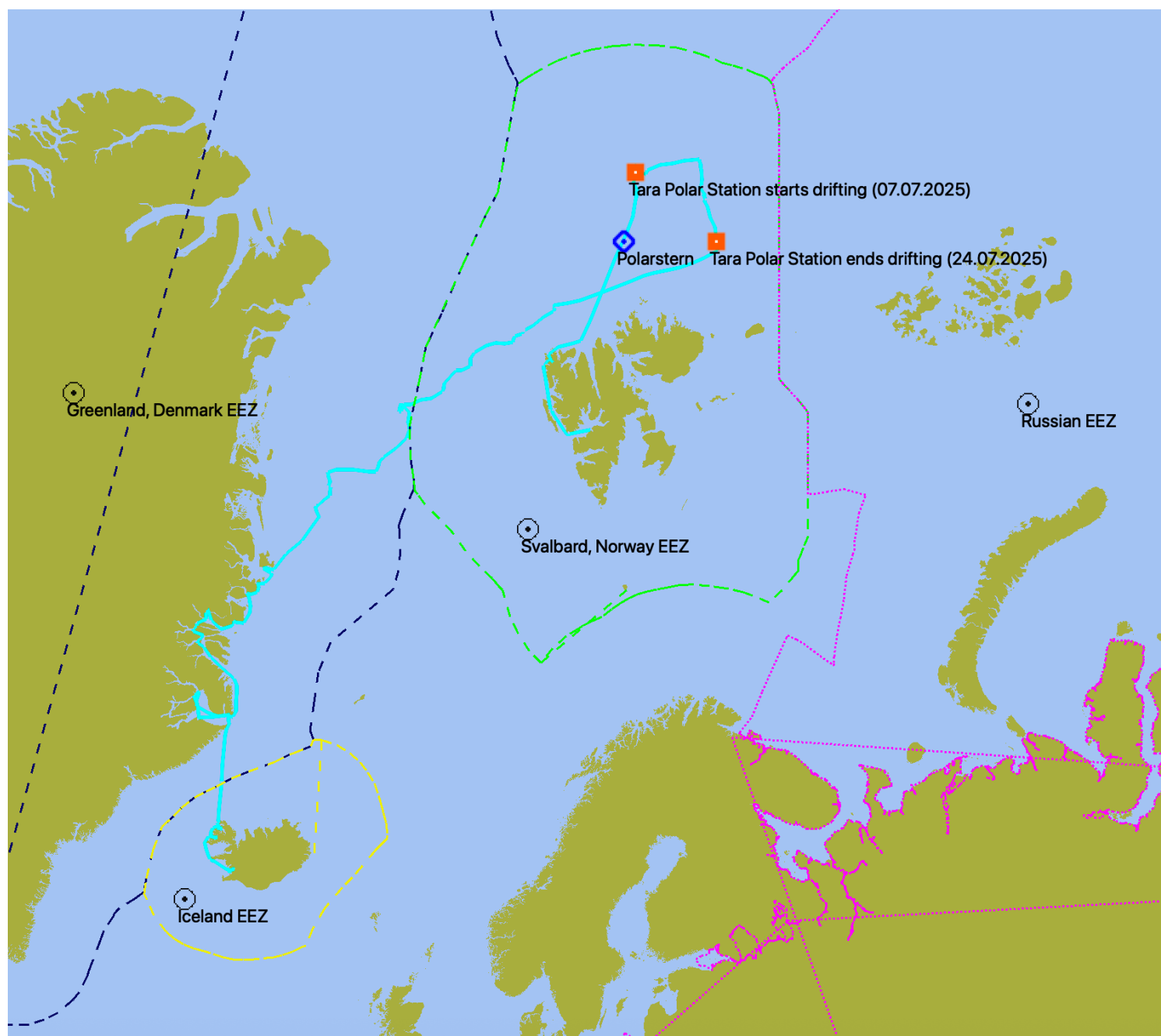


Figure 1. Tara Polar Station' route between 1st of July and 3rd of September 2025 in blue.

Event	Date (DD/MM/YY)	Time	GPS coordinates
Arrival Tromsø	10/06/25	10h08 TU+2	
Arrival Longyearbyen, Svalbard	22/06/25	15h08 TU+2	

Departure from Longyearbyen, Svalbard	04/07/25	10h21 TU+2	
Meeting with R/VPolar Stern	06/07/25	12h01 TU+2	82°12'N / 020°00,8'E
Departure R/V PolarStern for her own mission	08/07/25	02h00 TU+2	82°42,7'N / 020°11,8'E
Start drifting	07/07/25	02h00 TU+2	82°36,8'N / 020°06,8'E
End of drift	24/07/2025	09h30 TU+2	81°38,12'N / 028°24,9'E
Crossing EEZ border between Norway and Denmark	27/07/2025	16h05 TU+2	78°47,14'N / 002°44,55' W
Start route to Iceland	21/08/25	13h27 TU	70°28,72'N / 021°57,5' W
Crossing EEZ border between Denmark and Iceland	22/08/25	08h23 TU	67°55,79'N / 022°48,78' W
Arrival Reykjavik, Iceland	03/09/25	10h20 TU	

DATA SAMPLING REPORT

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Overview

The recently built scientific vessel *Tara Polar Station*, belonging to the Tara Ocean Foundation, left the port of Longyearbyen (NO) on the 5th of July, northward to conduct a series of test lock in the drifting ice.

She starts the drift on the 7th of July.

The goal of these tests was:

- to discover how the ship behaves in ice.
- define emergency procedure at sea, on ice (people injured, fire fighting, abandon ship, etc...)
- define the operating procedure for deployment and recovery of scientific equipment.
- run few scientific equipment to check if they were working properly.

The drift ends on the 6th of August, eastward from its initial position and then cruise toward Reykjavik (IS) along the eastern coast of Greenland, from the 7th to the 21st of august. Tara polar station ends its test on the 22nd of august by reaching the Icelandic exclusive economic zone.

Scientific equipment

The scientific equipment installed onboard for these tests are

- Biomass sonars *EK-80* from Kongsberg (NO)
- Currentmeter ADCP *EC-150* from Kongsberg (NO)
- Passive Accoustic Hydrophone *PAM* from RTSys (FR)
- Sea surface Thermosalinograph *SBE45* from SeaBird Electronics Inc. (US)
- Sea surface thermometer *SBE38* from SeaBird Electronics Inc. (US)
- Multiparameter CTD *SBE911+* from SeaBird Electronics Inc. (US)
- Surface Radiometer *Ramsés* from Trios (DE)

Data destination

The data collected during these tests are not meant to be used for science publication nor research applications but for configuration, functionality and writing standard operation procedure for the Tara POLARIS expedition. This expedition is scheduled to leave Lorient (FR) in July 2026

DATA SUMMARY

Biomass and current- EK80

The acoustic sonar installed on the hull collect data on the first 200m of the water column to detect fish and zooplankton abundance as well water mass velocity and direction. The operating frequencies for these sonars are respectively 120 and 150kHz.

The recording was done continuously by taking one sample (=one acoustic ping) every 2 seconds.

This data collection starts on the 7th of July and ends on the 20th of July.

To validate the data collection and configuration used, the dataset has been send to the Kongsberg representative engineer who ensure the after sale technical service for this product.

Passive Accoustic Monitoring Hydrophone – PAM

The passive acoustic monitoring system is installed on the cable of the oceanographic winch, to be lowered in the water column and listen sounds produce by the vessel itself and marine organisms. It has been lowered in the waters at different depth. The operating frequencies are between 3 Hz and 500kHz.

The recording was done twice, at 100m and then at 100m, 200m, 300m and 400m and recorded continuously for 1hour at each level.

These data were collected on the 15th of July and on the 16th of July.

To validate the data collection and configuration, the dataset has been sent to the CNRS researcher Lucia Di Iorio, from Perpignan University (FR) who want to deploy this system for the Tara POLARIS expedition.

Multiparameter CTD – SBE911+

The multiparameter CTD SBE911+ is installed on the cable of the oceanographic winch, to be lowered in the water column and record biochemical parameters of the water mass. The parameters measure for the test were Temperature, Salinity, Dissolved oxygen and Photosynthetically Active Radiation.

This test was done to define the standard operation procedure (SOP) to handle this equipment onboard and manage its descent and ascent through the oceanographic winch. The crew members were also trained to use the oceanographic winch while the Oceanographic engineer check the data transmission from the multiparameter CTD to the control room onboard.

These tests were run on the 15th of July, by repeating the deployment and recovery procedure several time. The CTD system was lowered to 100 and 500m depth.

No data were archived during these tests.

Sea surface measurement– SBE38 & SBE45

The Thermosalinograph *SBE45* and thermometer *SBE38* are installed on a seawater piping system inside Tara Polar Station. The seawater is pump continuously under the hull, so 3m below the surface) while the Thermosalinograph measures conductivity and temperature and the thermometer is measuring the temperature as close as possible to the seawater intake.

The recoding of these parameters starts on the 8th of August and ends on the 22nd of August.

Due to problems with the seawater pumps, recording was done erratically between these dates.

Surface Radiometer *Ramsés*

The surface radiometer *Ramsés* is installed on the roof of Tara Polar Station to measure continuously the Hyperspectral irradiance from sunlight.

The recording starts on 17th of July and ends on the 22nd of August

To validate the data collection and configuration, the dataset has been sent to the Alfred Wegener Institute (DE) researcher Marcel Nicolaus, who want to deploy this sensor for the Tara POLARIS expedition.

DATA summary table

Equipment	Data Format	Date starts - ends	Data Volume
EK-80 (Biomass & current)	*.raw *.netCDF	6 th of July – 20 th of July	850 Gb
PAM	*.wav	15 th of July – 16 th of July	9 Gb
SBE911+	<i>None</i>	15 th of July – 16 th of July	<i>NC</i>
SBE38 & SBE45	*.raw *.csv	8 th of August – 22 nd of August	142 Mb
Ramsés	*.dat	17 th of July – 22 nd of August	624 Kb