



**BLOCK IONIAN LEASE AREA
ENVIRONMENTAL REPORT 2023 - 2024**

Contents

1.	<i>Introduction</i>	5
2.	<i>Applying Best HSE Practices while conducting the 3D Marine Seismic Acquisition</i>	6
2.1.	<i>MMO/PAM effort and final results</i>	6
2.1.1.	<i>Executive Summary</i>	6
2.1.2.	<i>Project Summary/Mitigations Measures and Results</i>	7
2.1.3.	<i>Compliance</i>	11
2.2.	<i>Acoustic Monitoring (Background Noise Measurements and Verification of Exclusion Zone)</i>	13
2.2.1.	<i>Executive Summary</i>	13
2.2.2.	<i>"Monitoring of the 4 predefined locations with spot measurements – "prestart phase – during seismic – post phase" of the Block Ionian Acoustic Monitoring Project</i>	14
2.2.3.	<i>Verification of Exclusion Zone</i>	16
2.2.4.	<i>Coastal and Aerial Surveys</i>	17
3.	<i>Environmental Monitoring and Recording of Critical Biodiversity Indicators 2023 final results – 2024 onwards</i>	20
3.1.	<i>2023 Monitoring period – Results</i>	21
4.	<i>Seismicity Monitoring 2023 results and 2024 onwards</i>	24
4.1.	<i>Introduction</i>	24
4.2.	<i>Geological background of the local network installation</i>	25
4.3.	<i>Data analysis</i>	28
4.4.	<i>Recorded seismicity from the local network</i>	30
4.4.1.	<i>Conclusions</i>	31
5.	<i>Environmental Studies and future actions – Geohazards, Environmental Sampling, EBS Stage II, ESIA, Oil Spill Response – 2023 -2024 onwards</i>	32
5.1.	<i>Geohazards</i>	32
5.2.	<i>Environmental Sampling</i>	32
5.3.	<i>Environmental Baseline Survey Stage II</i>	33
5.4.	<i>Environmental and Social Impact Assessment (ESIA)</i>	34
5.5.	<i>Oil Spill Response</i>	36

Figure 1 The M/V Ramform Hyperion completing 3D Seismic Acquisition in Ionian Block	6
Figure 2 Map of the Block 10 (Kyparissiakos Gulf) lease area covered by the 3D seismic survey lines	7
Figure 3 The vessel "Sea Master" used for the underwater acoustic monitoring project	14
Figure 4 Acoustic Monitoring during 3D MSS	15
Figure 5 Map includes the seismic survey area (seismic vessel planned track lines) and the locations of (four) 4 predefined stations of acoustic monitoring program.	15
Figure 6 Comparison of these limits to the average and maximum expected SPL at the limits of the exclusion zone	16
Figure 7 Map of the inspected area with the tracks of the airplane	17
Figure 8 Aerial survey for coastal monitoring in Ionian Block	18
Figure 9 Map of the North Ionian Sea survey area showing the visually inspected coastal areas and marine mammal sighting position.	18
Figure 10 A pod of dolphins was spotted in the northern part of the survey area between monitoring stations N3 and N4 (Corfu Island).	19
Figure 11 Map of the North Ionian Sea showing the seismic survey area and the acoustic monitoring stations	19
Figure 12 Boat and drone surveys trucks	22
Figure 13 Striped dolphins during the boat cetacean surveys	22
Figure 14 Aerial (drone) surveys: Cuvier's Beaked whales	23
Figure 15 Ships recorded during the aerial surveys	24
Figure 16 Geotectonic Map of the Hellenides (Vavassis 2001)	26
Figure 17 Geological map (IGME, 1983) of the portable (purple triangles) and permanent – HUSN (green triangles) seismographic station locations. The hatched yellow polygon represents the study area.	26
Figure 18 Geological map (IGME, 1983) of the portable (purple triangles) and permanent – HUSN (green triangles) seismographic station locations. The hatched yellow polygon represents the study area.	27
Figure 19 Geological map (IGME, 1983) of the portable (purple triangles) and permanent – HUSN (green triangles) seismographic station locations. The hatched yellow polygon represents the study area.	27
Figure 20 Geological map (IGME, 1983) of the portable (purple triangles) and permanent – HUSN (green triangles) seismographic station locations. The hatched yellow polygon represents the study area.	28
Figure 21 Example of analysis and epicentral location from the installed system for a M4.3 earthquake recorded west of Lefkada	29
Figure 22 The locations of the stations of the local network (in yellow) that were installed as part of the project, as well as the permanent stations that are currently in operation in the broader area (in red)	29
Figure 23 Recorded seismicity during the second monitoring period between January 2023 – May 2023	30

Figure 24 Magnitude distribution histogram for the seismic events that were analyzed by the local network..... 31

Table 1 Mitigation requirements summary for Block Ionian 8

Table 2 Marine mammals mitigation effort summary 10

Table 3 MMO sightings records..... 11

Table 4 PAM operator acoustic detection records..... 11

Table 5 The new stations installed by the IG-NOA around the Ionian..... 25

BLOCK IONIAN LEASE AGREEMENT AREA

ENVIRONMENTAL REPORT 2023

HSE Policies & System, Environmental Studies and Implementation

1. Introduction

HELLENiQ UPSTREAM Ionian Single Member S.A. (HELLENiQ UPSTREAM Ionian), 100% subsidiary of HELLENiQ UPSTREAM S.A., owns all the rights to explore and produce hydrocarbons deriving from the Lease Agreement with the Greek State in the offshore area of Ionian Sea (Block Ionian), total area 3.420,6 sq. km. HELLENiQ UPSTREAM Ionian S.A. (100%, Operator) officially signed the Lease Agreement with the Minister of Environment & Energy on April 9, 2019 and on October 10, 2019, the Greek Parliament ratified (Law 4630/10.10.2019). HELLENiQ UPSTREAM Ionian, acting as Operator, is fulfilling its commitments and planning of the first phase of the exploration work program by implementing the most up-to-date, safe and environmentally friendly technological methods and practices with the outmost respect to local societies and socioeconomic activities. According to the Provisions of Article 12 for «Environmental Protection» «The Lessee shall include in each Annual Work Program and Budget to be submitted to the Lessor, an environmental report on the work to be undertaken as provided in that document, as well as on the work undertaken in accordance with the preceding Annual Work Program and Budget».

At the end of fourth quarter of 2022 and at the beginning of the first quarter of 2023 HELLENiQ UPSTREAM Ionian S.A. and HELLENiQ UPSTREAM Kyparissiakos Gulf S.A fulfilled their acquisition of 3D seismic data in the two offshore blocks, Ionian and Block 10 (Kyparissiakos Gulf) in the Ionian Sea. The project produced high quality data, in a record time and in a safe manner. Seismic acquisition constitutes one of the main obligations when owning exploration rights in an area and it is the most efficient way to detect what exists in the subsurface.

In Ionian Block, the survey company Petroleum Geo-Services (PGS) carried out the seismic survey on behalf of HELLENiQ UPSTREAM Ionian S.A. on board the M/V Ramform Hyperion from December 1st, 2022 to December 13th 2022. HELLENiQ UPSTREAM Ionian completed with full success, the marine three-dimensional (3D) geophysical recordings of a total area of 1,160 km² providing the highest level of protection for the marine environment and the Biodiversity of the Ionian Sea, following the best practices according to ACCOBAMS and JNCC, highlighting the importance of the Hellenic Trench for the cetaceans.

The survey was completed following the conditions outlined in the approval from the regulator with reference ID: ΥΠΕΝ/ΔΙΠΑ/107567/7189, issued on 11th of November 2022 by the Greek Republic, Ministry of Environment & Energy, and using the mitigation procedures outlined in the Environmental Action Plan (EAP) for the geophysical exploration program in the sea area of Block Ionian, based on the ACCOBAMS-MOP7/2019/Doc31Rev1 and JNCC Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS area.



Figure 1 The M/V Ramform Hyperion completing 3D Seismic Acquisition in Ionian Block

2. Applying Best HSE Practices while conducting the 3D Marine Seismic Acquisition

2.1. MMO/PAM effort and final results

2.1.1. Executive Summary

The following are covering the Marine Mammals/Fauna Observer (MMO/MFO) and Passive Acoustic Monitoring (PAM) mitigation undertaken during the 3D Seismic Survey on M/V Ramform Hyperion from 29th November to 13th December 2022. The survey was performed in the Ionian Block, offshore western Greece in the Ionian Sea. The seismic data acquisition commenced on December 1st, 2022 and was completed on December 13th, 2022. There were nine (9) soft-starts during daylight, 15 at night and four (4) during dusk or dawn. Seismic operations were conducted over 16 days, during which 24 primary acquisition lines were completed, three (3) re-run lines, and six (6) source tests were performed. Weather conditions during the survey consisted of southeast winds 5B to 6B and sea states Beaufort 5 to 6 predominating, with low swell heights. The Client/vessel recorded also sea states of 8B to 9B and 5 m to 6 m wave heights during this survey. The survey applied the approved Environmental Action Plan, based on ACCOBAMS Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS area. Also applied the Joint Committee on Nature Conservation (JNCC) guidelines for protection of cetaceans.

During the 3D MS Survey, 24 hours of combined visual and acoustical monitoring was maintained. All of the survey operations were in deep water and preceded by an MMO and PAM pre-shooting search period of 120 minutes. A team of six (6) dedicated marine bio-scientists, four (4) Marine Mammal Observers (MMOs) and two (2) Passive Acoustic Monitoring (PAM) operators were present on board to implement mitigation measures as required. Combined acoustic and visual pre-watches were implemented before the start of all operations. Visual monitoring for marine animals resulted in 287:24 (hh:mm) of observer effort during the survey period, where 141:29 (hh:mm) corresponds to day visual and 145:55 (hh:mm) corresponds to night visual monitoring. Acoustic monitoring for the marine mammals resulted in 328:58(hh:mm) of monitoring effort during the course of the survey. Overall, 65.6% of monitoring effort took place while the acoustic source was active, and 34.4% took place while the acoustic source was not active survey. There were four (4) visual sightings and two (2) acoustic detections of marine mammals. There were 23 combined visual and acoustic pre-shooting searches, and four (4) during night using only PAM. During the survey there were no incidences where seismic operations were delayed/shutdown due to the presence of marine animals within the exclusion zone (EZ).

2.1.2. Project Summary/Mitigations Measures and Results

The marine seismic survey area covered Block Ionio off the coast of NW Greece, south of the island of Corfu, at the northeastern edge of the Ionian Sea (Figure 1). The minimum distance between the boundaries of the Concession Area and the coasts of Corfu Island is approximately six (6) km. The survey area was located within Greek territorial waters in Western Greece, with water depths ranging from 100 m to approximately 2,800 m (Figure 1).



Figure 2 Map of the Block 10 (Kyparissiakos Gulf) lease area covered by the 3D seismic survey lines.

The survey followed the Environmental Action Plan (EAP) recommendations approved by the Directorate of Environmental Licensing in the Greek Ministry of Environment and Energy, under license reference number 73695/4484, the competent national regulator body, the Ministry of Environment and Energy, the General Directorate of Environmental Policy, and the Environmental Licensing Department, Section C (Appendix A). These recommendations were designed to minimize the risk of injury and disturbance to marine mammals and sea turtles from anthropogenic noise in the Concession Area of the Ionian Block in the Ionian Sea.

The Environmental Action Plan (EAP) measures for the project were based on the Guidelines from the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS). For those operational aspects not covered by ACCOBAMS regulations, best practice guidance provided by the Joint Nature Conservation Committee (JNCC, 2017) was used.

Table 1 Mitigation requirements summary for Block Ionian

MITIGATION PROCEDURES SUMMARY	
Mitigation Team	At least two dedicated Visual Observers should be on continuous watch at the same time during all seismic operations (24h visual monitoring). 24 hours PAM. At least one operator should be on watch and shifts should be organized to allow 24/24h monitoring, unless automatic detection/alerting systems with proven effectiveness are available.
Species covered	Marine mammals and turtles.
Exclusion zone	750 m for dolphin species and sea turtles. 1500 m extended exclusion zone for sperm whales and beaked whales.
Pre-watch period	30 minutes in shallow waters (< 200 m). 120 minutes in deep waters (> 200 m) due to the presence of deep diving species.
Soft-start length	Minimum 20 min. Maximum 40 min from soft-start to start acquisition line.
Soft-start	At least one soft-start should be recorded.
Soft-start delays	30 minutes after last sighting. Extended to 120 minutes after last sighting of Cuvier's beaked whales and Sperm whales.
Shutdown during production	Immediate shutdown is required if marine mammals or turtles are detected in the EZ.

	<p>Distress behaviour is observed anywhere in the monitoring area.</p> <p>Aggregations of of vulnerable species (Cuvier’s beaked whales or Sperm whales) anywhere in the monitoring area .</p>
Airgun Testing	<p>Pre-watch must be carried out before any gun testing.</p> <p>If testing a single gun, no soft-start required.</p> <p>If testing multiple guns, a soft-start (20 min) is required. Guns should be tested in order of volume, smallest first.</p> <p>40 minutes maximum from soft-start beginning to start of line.</p>
Operation suspended	<p>Less than 10 min, ask MFO/PAM for clearance.</p> <p>More than 10 min, a new pre-watch must be undertaken.</p>
Line Turns	<p>Longer than 40 minutes, firing is to be terminated at the end of the survey line.</p>
Additional requirements	<p>TWO VISUAL OBSERVERS. At least two dedicated Visual Observers should be on continuous watch at the same time during all seismic operations.</p> <p>24 hours PAM OPERATOR. At least one operator should be on watch and shifts should be organized to allow 24/24h operation, unless automatic detection/alerting systems with proven effectiveness are available</p> <p>SEISMIC ACQUISITION IN PROTECTED AREAS. The seismic vessel could enter Natura areas to perform turning manoeuvres, however no seismic survey activities will take place within the NATURA 2000 protected areas and a buffer of 1000 m around them.</p> <p>TURTLE GUARD. Due to presence of sea turtles in the survey area, a turtle protection system (Turtle Guard) should be installed on the towed equipment to prevent any accidents.</p> <p>SEABIRDS. To mitigate the impact on the seabirds, the external lighting should be limited. Furthermore, all injure seabirds must be assisted with regaining consciousness and released back into the environment following the appropriate instructions.</p>

From the first day of operations on 29 November to 13 December 2022, when the project was completed, a total number of 30 active source sequences occurred, consisting of three (3) test lines, 21 primary lines, three (3) re-run lines and three (3) source tests. Of the total active source sequences (including tests and acquisition lines), 13 were initiated during daylight hours and 17 during hours of darkness. In total, 255 hours 42 minutes of active source were recorded throughout, comprising soft-starts, gun tests and production lines. On one (1) occasion, the active source was stopped due to technical issues while on an acquisition line. An automated system

allowed the soft-start to be set at a 21-minute duration. There were 11 soft-starts which took place during daytime and 17 during dark hours. There was an average time of 33 minutes between the beginning of soft-start and the start of the acquisition line and no approach exceeded the 40-minute maximum referenced in the EAP. The source was never active within protected areas.

Table 2 Marine mammals mitigation effort summary

OPERATIONS SUMMARY (29th February to 13th December 2022)		
	Total Source Active (hh:mm)	207:42
	Total Soft-Start to SOL (hh:mm)	15:46
SOURCE ACTIVITY TIME	Total Full Volume Source Time (hh:mm)	193:56
	Total Source Test time (hh:mm)	03:41
	Minimum Soft-Start Time (hh:mm)	00:21
	Maximum Soft-Start Time (hh:mm)	00:21
SOURCE ACTIVITY NUMBER	Total N° of Lines (including re-runs)	24
	Total N° of Soft-Starts	28
	Total N° of Source Test	6
	Total N° of Source Test followed by a Line	0
	Total N° of Source Test during dawn/day	3
	Total N° of Source Tests during night/dusk	3
	Total N° of Soft-Starts during dawn/day	11
	Total N° of Soft-Starts during night/dusk	13
MITIGATION ACTION	N° of mitigation actions initiated	0
NON-COPLIANCE	N° of incidences of non-compliance	0

The survey was conducted in the Ionian Sea, West coast of Greece, where depths varied between 91 m and over 2759 m, allowing for the possibility of encountering both deep-water and shallow-water species. In total, there were four (4) marine mammal sightings, all of them positively identified as common dolphins (*Delphinus delphis*). This dolphin species was recorded previously in the area. Species identification was also confirmed by reference to a field guide (Svensson et al. 1999). Table 3 & 4 below provides a selection of the data collected during each sighting and acoustic detections, including species, range to source, and source status at the time of the sightings/detections.

Table 3 MMO sightings records

ID #	Common Name	Species	Individuals#	Latitude (DDM)	Longitude (DDM)	Time (UTC)	Source Activity at Initial Detection	Closest Approach to Source (m)	Mitigation Action
001	Common dolphin	<i>Delphinus delphis</i>	8	39° 08,03 'N	19° 43,02' E	14:49	Not Active	2407	None Required
002	Common dolphin	<i>Delphinus delphis</i>	3	39° 09,40' N	19° 43,00' E	15:08	Not Active	765	None Required
003	Common dolphin	<i>Delphinus delphis</i>	2	38° 37,63' N	20° 25,24' E	5:50	Not Active	836	None Required
004	Common dolphin	<i>Delphinus delphis</i>	115	38° 55,74' N	19° 53,91' E	12:39	Full Volume	856	None Required

Table 4 PAM operator acoustic detection records

ID #	Common Name	Species or Lowest Classification	Individuals#	Latitude (DDM)	Longitude (DDM)	Time (UTC)	Source Activity at Initial Detection	Closest Approach to Source (m)	Mitigation Action
500	Unidentified dolphin	Delphinidae	1	38° 44,73 ' N	20° 12,07' E	15:38	Not Active	Not Located	None Required
501	Unidentified dolphin	Delphinidae	1	38° 53,07' N	20° 09,59' E	23:47	Full Volume	<750	None Required

2.1.3. Compliance

The Marine Fauna Observers Team was in full and harmonious cooperation with the representatives of HELLENiQ UPSTREAM Ionian S.A., such as the Senior Environmental Coordinator of the HSE Division and the two Client Representatives exclusively hired to monitor the seismic operations on the vessel, under the coordination of the HSE Manager at the HELLENiQ UPSTREAM's HQ's. For the entire duration of the 3D Marine Seismic Survey, the seismic vessel's crew was diligently performing all mitigation requirements, and the procedures were in full compliance with the Environmental Action Plan (EAP) approved by the regulator (Ministry of Environment and Energy, Environmental Licensing Directorate).

The seismic survey was carried out during winter season to minimize impacts on marine mammal breeding season.

The average speed of the vessel was 4.3 knots, which complied with the recommendation of the working group IWC-IUCN-ACCOBAMS to reduce speed to 10 knots maximum in order to minimize the strike risk with marine fauna.

- A 750 m radius, from the center of the noise source (Exclusion Zone), extended to 1000 m for fin whales and 1500 m for sperm whales, were established from the center of the noise source.
- There was 24-hour acoustic monitoring as required.

- Shutdown in seismic operations due to aggregations of vulnerable species (such as Cuvier's beaked whales and sperm whales) anywhere in the monitoring area was established.
- 120 min of visual and/or acoustic pre-watches were performed before any firing of guns, including soft-starts, acquisition lines, tests, and resuming operations after unexpected breaks.
- Soft-start duration was a minimum of 20 minutes.
- Soft-start duration and time from soft-start to SOL was less than 40 minutes as required.
- A total of 28 soft-starts were carried out before starting an acquisition line or gun-array test in accordance with procedures described.
- No source was active (including soft-starts and line turns) within the 1000 m safety buffer zone from the Natura 2000 protected areas.
- Good communication was maintained between the MFO/PAM team and seismic vessel's crew throughout the survey to ensure that all guidelines were implemented effectively concerning the protection of marine mammals and sea turtles within the exclusion zones.
- Turtle guards, a structure welded to the underside of tail buoy designs, aims to exclude sea turtles from becoming fatally entrapped in gaps at the front of the tail buoy undercarriage. In the event of turtle entrapment in seismic equipment, the Contractor's appropriately trained staff must intervene immediately to remove the trapped animal, weather permitting.
- As a matter of good practice, the Client introduced shut-down in operations when a sea turtle entered within the Exclusion Zone (EZ) as a mitigation action.
- There was 24-hour acoustic monitoring as required.

As per approved EAP Mitigation Measures and in compliance with the ACCOBAMS Agreement Guidelines, in order to avoid any inconsistency with measures addressed and prior to the commencement of the survey, the following point regarding mitigation procedures was confirmed.

The mitigation team was informed that the number of dedicated visual Marine Mammals Observers (MMO) on continuous watch during the nighttime, concurrently, during seismic operations could be one (1) observer. Before starting operations, the Client confirmed this amendment taking into consideration the results obtain from the previous campaign and overall MMO/PAM effort. In any case, while conducting the survey, there was no inconsistency with guidelines and mitigation measures applied. Throughout the project, during nighttime hours in every shift, one (1) Marine Mammals Observer (MMO) was conducting visual monitoring alongside the passive acoustic monitoring performed by the PAM operator.

2.2. Acoustic Monitoring (Background Noise Measurements and Verification of Exclusion Zone)

2.2.1.Executive Summary

Underwater monitoring was carried out by means of survey, allowing for:

- verify the actual presence of mammals;
- define the background noise level and verify the anticipated Exclusion Zone (EZ)

A research vessel was used to carry out the acoustic survey and separate portable systems provided to monitor the ambient noise on predefined locations and close to critical environmental components such as the Protected Areas of the Natura 2000 Network either/or the shores of Ionian Sea. The objectives of this acoustic study were to measure ambient sound levels as a function of sound frequency components, time and position as well as correlate acoustic anomalies to major acoustic sources within the survey areas:

- **Prestart:** In general, exhibit high ambient sound levels concentrated on the top (or above) limit of the bibliographic prevailing ambient noise.
- **Post Completion:** To identify significant differences in the ambient noise between the pre-start and the post completion stages of the 3D seismic survey.
- **Seismic noise monitoring & Verification of Exclusion Zone:** The aim of the acoustic survey at that stage was to assess the sound pressure level of the noise induced by the air-gun seismic source to the predefined sampling locations. Additionally, field measurement of noise levels around the seismic source (air-guns) taken place and carried out during the acquisition activities in order to record and study the seismic noise attenuation levels and validate the specified mitigation zone.
- **Coastal Zone Inspection as well as Aerial Surveys and Control for marine mammals stranding.**

"Sea Master" vessel stood in positions agreed with the "Ramform Hyperion" navigation team, deploying the sound recorder at 20 m depth, at distances no less than 900 m from the seismic source (air-guns) and while "Ramform Hyperion" executed its prearranged survey lines. Attention has been paid so that sound measurements were obtained from both the forward and broadside directions relative to the fore-aft axis of the seismic source. Each recording station lasted for about 30-40 minutes intended to acquire sound pressure levels regarding more than 3km distance both fore and aft sides of the seismic vessel. Due to harsh weather conditions and time constrains, only the port side of the seismic source has been monitored. The vessel's engines were set on for retaining the desired position as well as for safety reasons.

The immersion of the recording system takes place with special floats and an elastic rope in order to minimize any artificial noises of the platform (self-noises) which can be indicative of: flow noise, cable support noise. In order to minimize hydrodynamic

noises, the boat does not anchor so that it moves in parallel with the sea currents and the prevailing winds. In the above way the sea currents that pass through the submerged hydrophones have a lower relative speed since the whole platform (auxiliary boat) moves in the same direction. The results of the noise simulation models show that the sound propagates in good direction to the bottom and attenuates significantly both horizontally and vertically. At a vertical distance at the depth of 100m, the noise levels are close to those of the source (210dB), but a marine mammal will have already been detected by Passive Acoustic Monitoring (PAM) and geophysical works stopped immediately. At greater depths, due to the pressure, the propagated sound is reduced very quickly at values far below those that could cause any acoustic nuisance to marine mammals. At horizontal distances of less than 1km (750m) from the source according to real-time acoustic measurements, the sound is reduced below threshold values that may cause any probable acoustic nuisance to marine mammals. It is noted that the normal levels of environmental noise (ambient noise) are of the order of 110-140 dB). For more information regarding final reports please follow link below:

[Ambient Noise Acoustic Monitoring Program \(helpe-ionian.gr\)](http://helpe-ionian.gr)

2.2.2. "Monitoring of the 4 predefined locations with spot measurements - "prestart phase - during seismic - post phase" of the Block Ionian Acoustic Monitoring Project.

The Block Ionian Acoustic Monitoring Project planned and carried out by the Oceanus-Lab (Laboratory of Marine Geology and Physical Oceanography) of the Geology Department of the University of Patras. The Ionian Acoustic Monitoring Project is a project for measuring the acoustic noise levels before, during and after the 3D Marine Seismic Survey carried out by HELLENiQ UPSTREAM Ionian S.A. The prestart phase (ITEM 1-A/) last four (4) days from November 27th to 30th 2022.



Figure 3 The vessel "Sea Master" used for the underwater acoustic monitoring project

One portable recording system was used for the monitoring of the ambient noise on the four predefined stations. It included a four-channel digital recorder, two hydrophones (high -170dB and low sensitivity -220dB ones) and a laptop carrying the interfaces for recording and visualizing the data. On the hydrophone were attached a high sensitivity and a low sensitivity hydrophone. Using multi-sensitivity hydrophones

assures that all dynamic ranges and amplitudes will be successfully recorded without any signal clipping. Using multi-sensitivity hydrophones assures that all dynamic ranges and amplitudes are successfully recorded without any signal clipping. The underwater recording system was the compact autonomous recorder model EA-SDA14, calibrated to be compatible with all international regulations. A second recorder was onboard at all times, serving as a backup system in case of failure



Figure 4 Acoustic Monitoring during 3D MSS

Monitoring included (1) Ambient noise measurements (prestart and post completion of seismic activities) and (2) Seismic noise monitoring, at the proximity of the four (4) predefined locations.

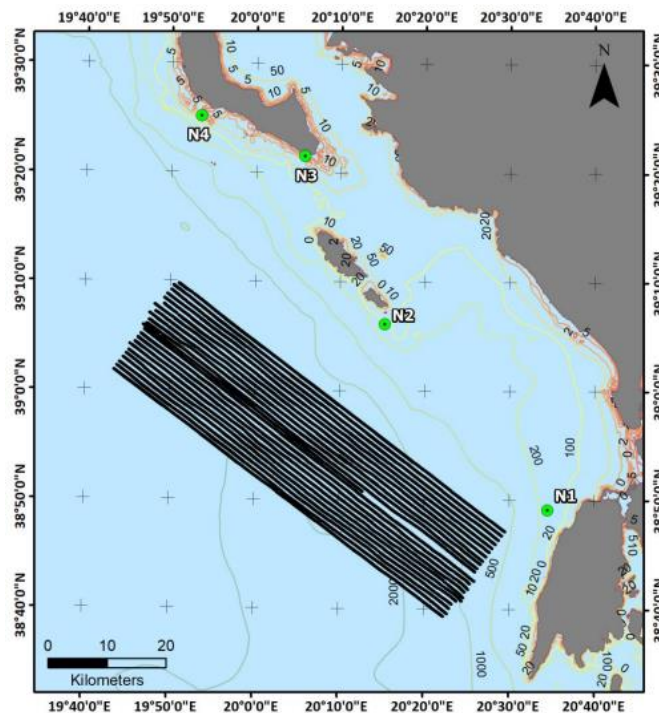


Figure 5 Map includes the seismic survey area (seismic vessel planned track lines) and the locations of (four) 4 predefined stations of acoustic monitoring program.

In general, high ambient sound levels due to induced high levels of anthropogenic noise (marine traffic) and other commercial activities.

2.2.3. Verification of Exclusion Zone

The following describe the data collection, data processing methods, and the results of ITEM 2 "Verification of exclusion zone" regarding the Ionian Acoustic Monitoring Project. The ITEM2 project survey aimed to monitor the propagation and attenuation rate of the impulse sounds around the seismic source (Airgun arrays) to validate the geometry of the predefined exclusion zone. The Ionian Block Acoustic Monitoring Project planned and carried out by the Oceanus-Lab (Laboratory of Marine Geology and Physical Oceanography) of the Geology Department of the University of Patras. Results presented in this report refer to acoustic data collected during December 12th of 2022.

The objective of ITEM 2 was to measure impulse sound pressure levels around the seismic source (Airguns) to record and study the seismic noise attenuation levels and validate specified mitigation zones.

During Marine 3D Seismic Survey, a) Sound Pressure Levels never exceed and well below marine mammals' threshold values for temporary acoustic trauma and b) Real time monitoring verified the Simulated Exclusion Zone of 750 meters. Following figure shows the comparison of these limits to the average and maximum expected SPL at the limits of the exclusion zone, making clear that they are well below the specified risk levels. Figure 6 below shows the comparison of these limits to the average and maximum expected SPL at the limits of the exclusion zone, making clear that they are well below the specified risk levels.

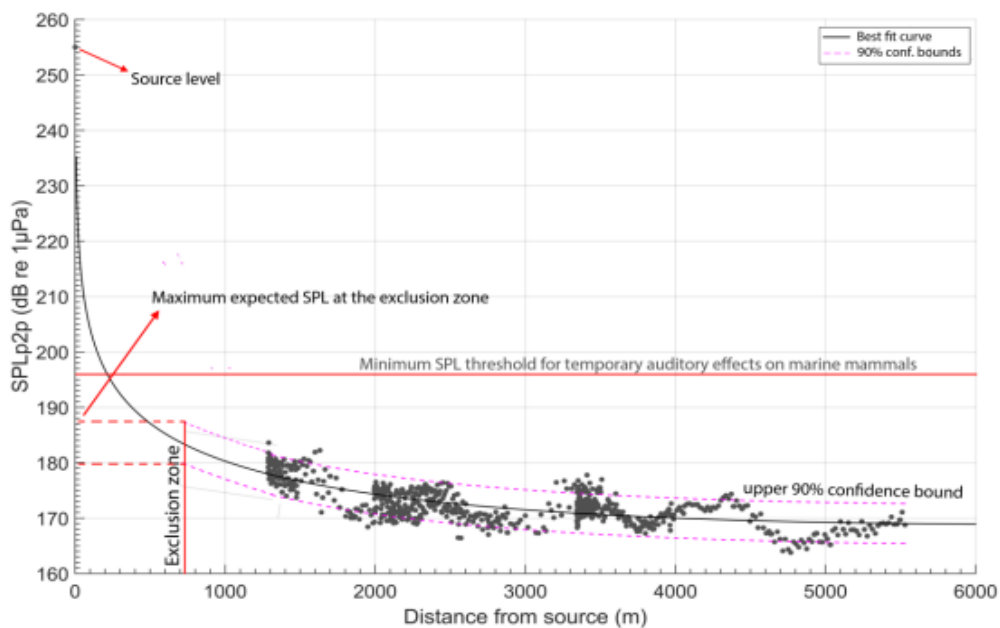


Figure 6 Comparison of these limits to the average and maximum expected SPL at the limits of the exclusion zone

2.2.4. Coastal and Aerial Surveys

An aerial inspection of the Northern Ionian Sea coastline was conducted on the 14th and 15th of March 2022, following seismic surveys conducted in the wider marine area. The aim of the inspection was to record the existence of any stranded animal/s and especially cetaceans along the coasts of the area where the seismic surveys were conducted. Figure below shows the Map of the inspected area with the tracks of the airplane.

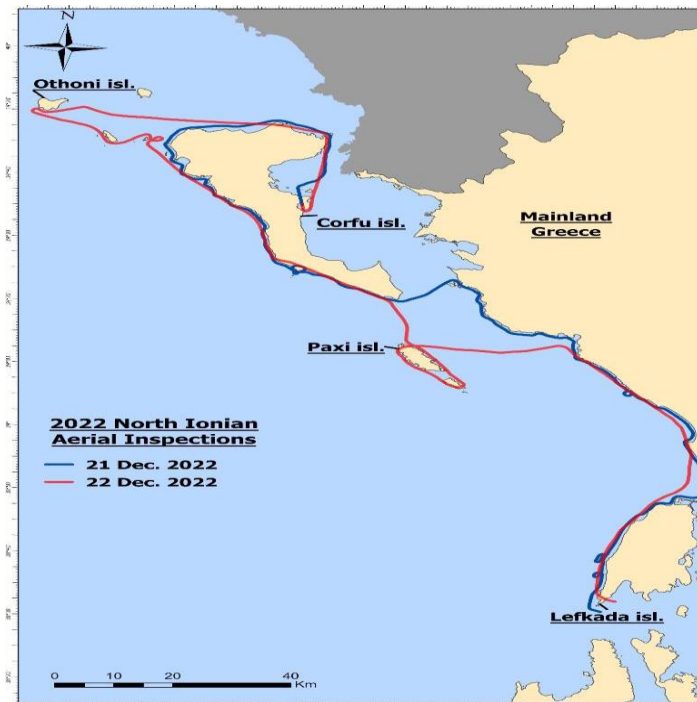


Figure 7 Map of the inspected area with the tracks of the airplane

The aerial investigation was conducted on the 21st (see blue track on Map 1) and on the 22nd of December 2022 (see red track on fig.7). A total of 370 km of coastline were inspected thoroughly, covering a zone of about 2 nautical miles from the shoreline to the open sea. The aircraft covered 646 km in total (296 km during the first survey day and 350 during the second survey day). During the surveys no cetaceans were recorded (swimming/floating in the marine zone or stranded ashore) as well as no other species of marine megafauna (monk seals, sea turtles) along the entire coastline inspected. Following below 2 photos of the aerial investigation.



Figure 8 Aerial survey for coastal monitoring in Ionian Block

In addition, from the 17th to the 22nd of January 2023 a visual inspection for marine mammals' presence was carried out by the Laboratory of Marine Geology & Physical Oceanography of the Department of Geology (University of Patras), at the coastal zone of the study area. The coastal areas, where the access was not possible, were approached and filmed by the Laboratory surveyors' team using the acoustic monitoring survey vessel, while the remaining coastline was inspected from land.

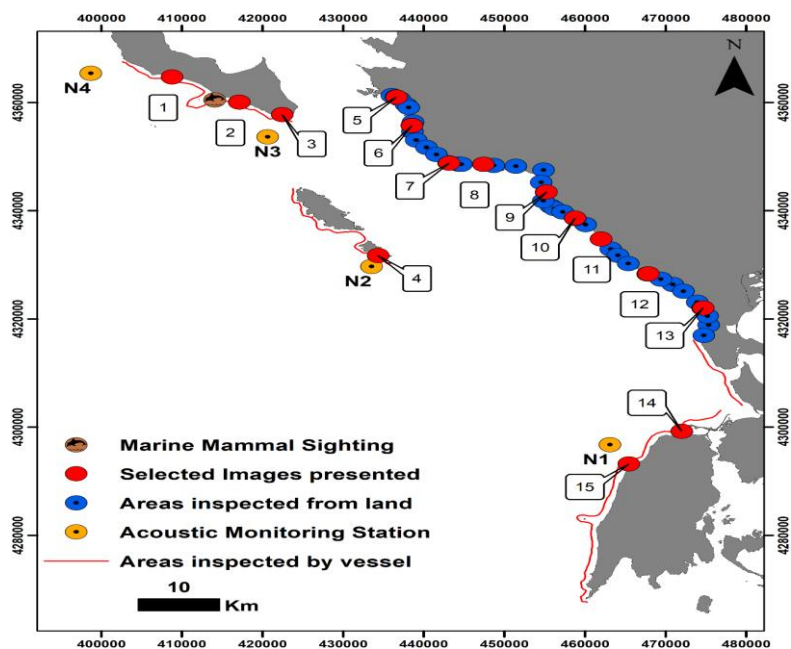


Figure 9 Map of the North Ionian Sea survey area showing the visually inspected coastal areas and marine mammal sighting position.

Throughout the inspection, no marine mammal was detected that had been washed ashore along the coastal zone. A pod of dolphins was spotted in the northern part of the survey area between stations N3 and N4 (Corfu Island).



Figure 10 A pod of dolphins was spotted in the northern part of the survey area between monitoring stations N3 and N4 (Corfu Island).

The following map shows the Map of the North Ionian Sea showing the seismic survey area and the acoustic monitoring stations.

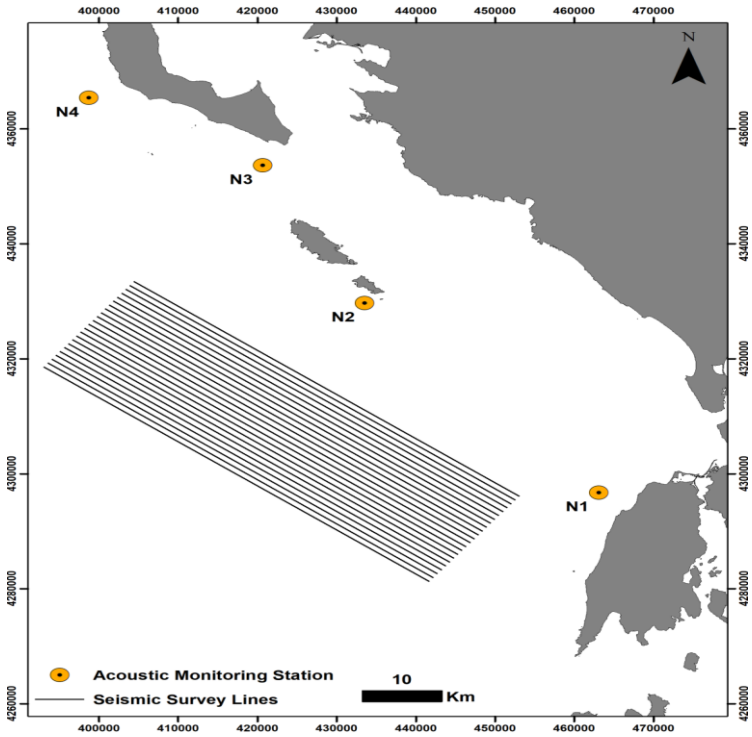


Figure 11 Map of the North Ionian Sea showing the seismic survey area and the acoustic monitoring stations

3. Environmental Monitoring and Recording of Critical Biodiversity Indicators 2023 final results - 2024 onwards

In the context of Environmental Monitoring and Recording of Critical Environmental Indicators of Biodiversity, such as marine mammals (cetaceans and monk seals), sea turtles and seabirds, the HELLENiQ UPSTREAM Ionian Single Member Société Anonyme (HELLENiQ UPSTREAM IONIAN S.A.) company has assigned to Nature Conservation Consultants (NCC) Ltd a contract for conducting the present Project, namely the "Survey of the Status of Important Fauna Species in the Ionian Block Lease area".

The project presents the field surveys carried out during 2023 and the results in each Work Package of the project "Survey of the Status of Important Fauna Species in the Ionian Block Lease area". The present project is the 2023 continuation of the ongoing project "Survey of the Status of Important Fauna Species in the Ionian Block Lease area", which started in 2022.

The Project consists of four (4) Work Packages:

WP I: Pelagic Surveys for marine mammals, seabirds, sea turtles, nearshore and in the open sea, using open water research vessels, in combination with drone surveys.

- A total of 897 nautical miles of boat-based visual surveys and cetacean surveys were carried out during 2023 (14-15/03/2023, 22-26/05/2023, 19-20/06/2023, 22-23/06/2023, 24- 25/09/2023 and 27-30/09/2023) in the Pelagic Survey Area, as well as in the surrounding areas in the Wider Project Area, to assess the presence, abundance and distribution of the cetacean, sea turtle and seabird species of interest.

WP II: Aerial surveys for marine mammals, seabirds, sea turtles, nearshore and in the open sea, using a light aircraft.

- The first aerial survey was conducted on the 8th of May 2023. An area of a total of 605 km was inspected thoroughly, covering the larger part of the Pelagic Project Area. During the survey two (2) individuals of Cuvier's Beaked whale (*Ziphius cavirostris*) and twenty-three (23) individuals of Striped dolphin (*Stenella coeruleoalba*) were recorded at the edge of the Project Area. Additionally, marine debris and trawlers were recorded in the central part of the Project Area. The second aerial expedition conducted on the 12th of October 2023 with ideal weather conditions. A total of 435 km was covered within the project area. Two groups of Stripped dolphins (*Stenella coeruleoalba*) were recorded and photographed, one off the west coasts of Corfu Island (at least 25 individuals) and one of the west coasts of Lefkada Island (approx. 15 individuals).

WPI II: Coastal surveys for monk seals, Scopoli's shearwater and Mediterranean shag breeding sites in the coastal zones of the adjacent Natura 2000 sites, using open water RIB vessels in combination with drone surveys.

- Coastal surveys for the Scopoli's shearwater were conducted on October 2023 using the sailing boat. The coastal surveys focused on Paxoi and Antipaxoi islands and the surrounding islets to locate breeding colonies of the species. No breeding of Scopoli's Shearwaters was confirmed, but the marine area around the islands was used by the species for foraging. However, more effort is required to have a clearer image regarding the breeding of the species in the area.

WP IV: Telemetry for seabirds at the Special Protection Area of Diapontia Islands by tagging 10 breeding individuals with GPS/GSM transmitters.

- Marine surveillance radar in association with SPx Target Tracker Server Software was used to detect and record seabirds and marine mammals in pelagic areas, as well as seabirds in the vicinity of seabird colonies where other long-range detection methods at night are not available. The initial stage involved testing and setting up of the SPx Target Tracker Server Software. Marine surveillance radar supported by a thermal camera was used at Mathraki Scopoli's Shearwater colony.

More details regarding the Final Report on the field surveys carried out during 2023 and the results in each Work Package of the project could be found in the website of the Environmental Unit of HELPE IONIAN:

<https://helpe-ionian.gr/en/environment/critical-habitats-biodiversity.html>

3.1. 2023 Monitoring period - Results

During 2023, all the scheduled tasks have been performed on time:

- Six boat surveys (both visual-based and acoustic) and two aerial surveys were carried out in the project area. In total 4 species of cetaceans (Cuvier's Beaked whale, Striped dolphin, Common dolphin and Bottlenose dolphin) were spotted. The most numerous species was the Striped dolphin, but the observation of 18 individuals in total of Cuvier's Beaked whales is also considered an important finding. Most important is the fact that calves of Cuvier's Beaked whales, as well as of the two species of dolphins, were recorded during the boat and aerial surveys.



Figure 12 Boat and drone surveys trucks



Figure 13 Striped dolphins during the boat cetacean surveys

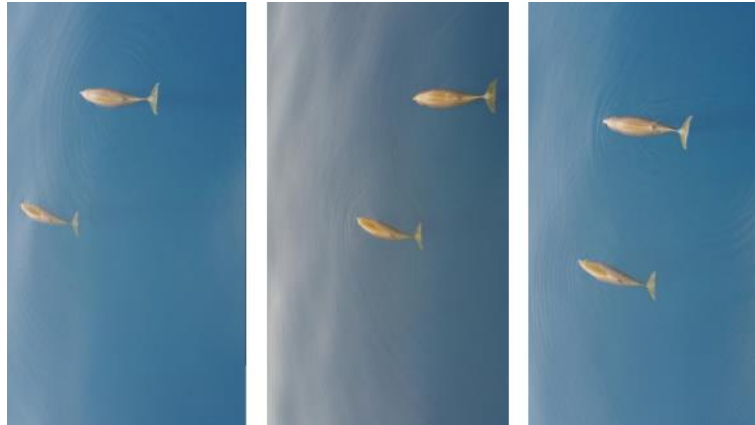


Figure 14 Aerial (drone) surveys: Cuvier's Beaked whales

- Additionally, during the surveys, 19 species of birds and one species of sea turtle were recorded. All seabird target species were recorded, with Scopoli's Shearwater be the most abundant one, as the species holds two breeding colonies in the Ionian Sea (Strofades islands and Diapontia islands) and regularly uses the Project Area as a foraging ground. However, no breeding colony of the species was found on the Paxoi-Antipaxoi islands, but more effort is required to confirm the breeding status of the species in this area. Additionally, during the surveys, a number of migrant bird species was recorded, a fact that confirms the importance of Northern Ionian as a migration route.
- Regarding the Monk seal, the surveys revealed that the presence of the species in the Wider Project Area is constant but in smaller numbers than these of the central Ionian region. However, the area is considered of great importance for the species conservation on a Mediterranean level since the presence of the Monk seal is constant and possibly increasing and Monk seal pupping has been documented in at least two sites, in Paxoi and Othonoi islands. Additionally, the area is considered as a stepping stone for the already observed reestablishment of monk seal populations in the Adriatic countries.
- It has to be mentioned that during the implementation of the project in 2023 new innovative field methods were tested, such as the surveys with the ornithological radar and the use of thermal cameras for the assessment of the population and the distribution of the target species. The combination of these data with the ones of the boat and aerial surveys will provide a more integrated spatial information for the target species ecology and movements, within the project area.

During the aerial surveys marine traffic was also recorded in the area. The type and position of all vessels observed was recorded and georeferenced photographs were taken. In the figure below the distribution of vessels is presented (Cs: commercial ships, Fb: Fishing boats, Ws: War ships). It is important to underline the activity of war ships within the project area (at least two during the aerial surveys, one Russian and one Spanish (NATO) frigate).

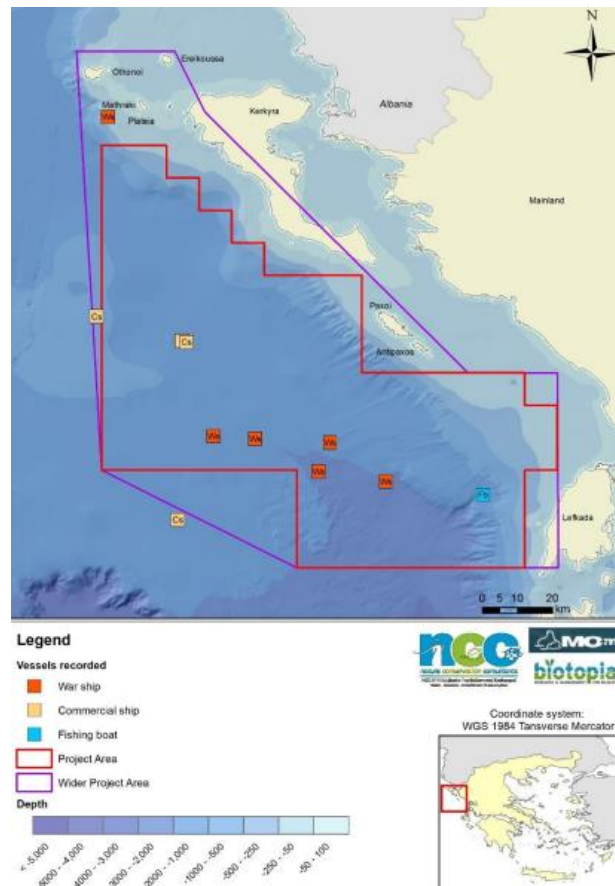


Figure 15 Ships recorded during the aerial surveys

4. Seismicity Monitoring 2023 results and 2024 onwards

4.1. Introduction

HELLENiQ UPSTREAM Ionian S.A. continued during 2023 the Seismicity Monitoring of the Block Ionian lease area in collaboration with the Geodynamic Institute of the National Observatory of Athens (CONTRACT AGREEMENT 2022014/06.05.2022), in order to monitor the existing seismic activity in real time. To this end, a local network and a local seismic array were installed in 2022. The National Observatory of Athens (NOA), headed by its President, Prof. Emmanouel Plionis, and the Principal Investigator Dr. George Drakatos (Emmer. Researcher IG/NOA) undertook the installation of a local network consisting of twelve (12) portable seismographs, as well as a local seismic array.

The aforementioned took place for the purpose of increasing the density of the already existing national seismograph network, used by the Institute of Geodynamics of NOA for the continuous monitoring of the daily seismic activity of the Greek area. In addition to the already existing stations that are operated by the National Seismographic

Network, twelve (12) new stations were installed that are in continuous operation with real-time data transmission to the Institute of Geodynamics.

The installation of the stations was performed in such a way as to achieve the maximum density of the network using, where possible, even the smallest islands of the Ionian. Besides the geometry of the network, the selection of the station locations considered, both the ground conditions and the noise level of each location. The coverage of the mobile telephony was also considered, so that the direct transmission of data could be achievable. The coordinates of the local network positions are described in the table below:

Table 5 The new stations installed by the IG-NOA around the Ionian

No	Code name	Location	Latitude (N)	Longitude (E)
1	OTHN (ION 1)	Othoni Isl.	39.84	19.41
2	ALTS (ION 2)	Avliotes, Corfu	39.78	19.67
3	PLKS (ION 3)	Pelekas, Corfu	39.59	19.82
4	VRAG (ION 4)	Vragkaniotika, Corfu	39.47	19.91
5	KAVS (ION 5)	Kavos, Corfu	39.39	20.11
6	PAXO (ION 6)	Paxoi	39.19	20.18
7	AGKR (ION 7)	Ag. Kyriakoi, Parga	39.28	20.45
8	LYGI (ION 8)	Lygia, Preveza	39.15	20.57
9	MTKS (ION 9)	Mytikas, Preveza	39.00	20.71
10	IRAS (ION 10)	Ag. Nikolaos of Ira Monastery, Lefkas	38.59	20.56
11	ATHR (ION 11)	Atheros, Cephalonia	38.30	20.41
12	KMNR (ION 12)	Kaminarata, Cephalonia	38.22	20.38

4.2. Geological background of the local network installation

The broader North Ionian Sea region is located on the External Hellenides, which are divided to the following geotectonic zones (from east to west): Pindos, Gavrovo-Tripolis, Ionian and Paxoi-Kastelorizo (or else Apulia/Preapulia):

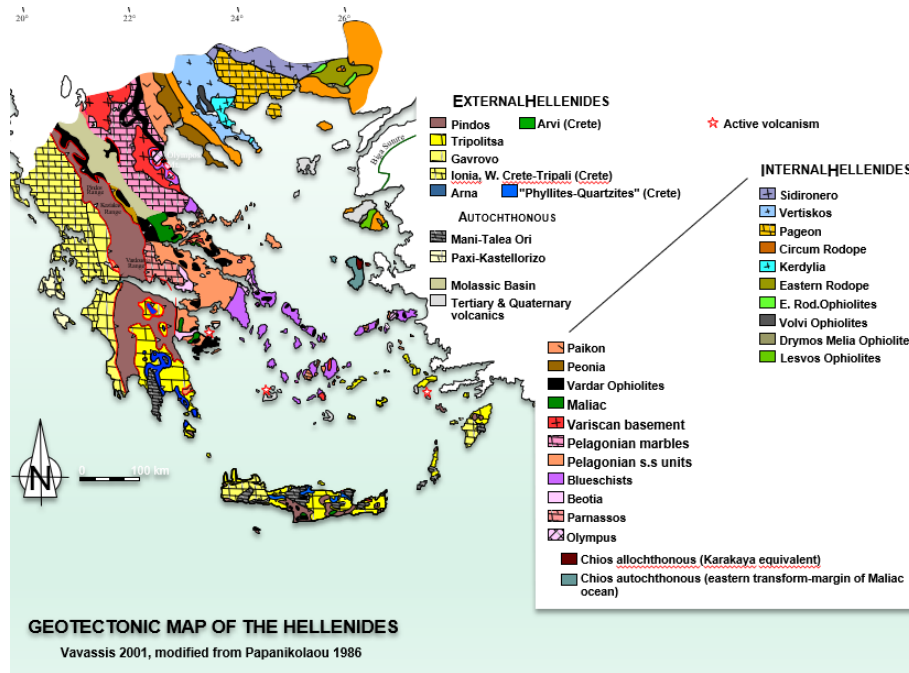


Figure 16 Geotectonic Map of the Hellenides (Vavassis 2001)



Figure 17 Geological map (IGME, 1983) of the portable (purple triangles) and permanent - HUSN (green triangles) seismographic station locations. The hatched yellow polygon represents the study area.

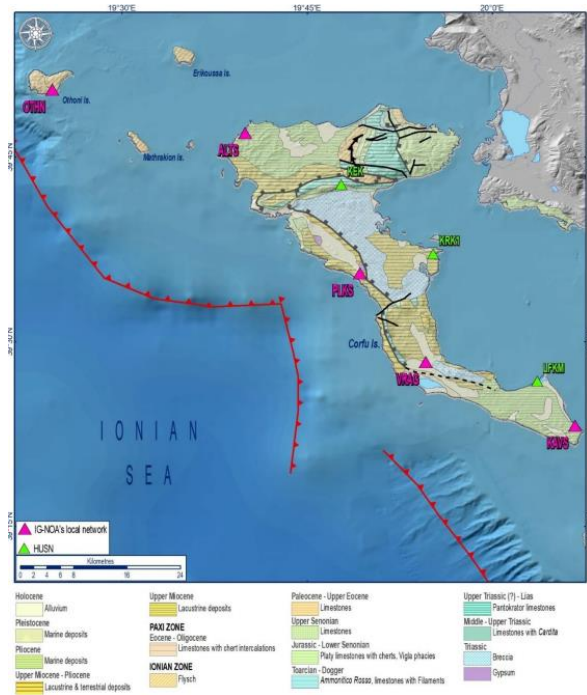


Figure 18 Geological map (IGME, 1983) of the portable (purple triangles) and permanent - HUSN (green triangles) seismographic station locations. The hatched yellow polygon represents the study area.



Figure 19 Geological map (IGME, 1983) of the portable (purple triangles) and permanent - HUSN (green triangles) seismographic station locations. The hatched yellow polygon represents the study area.

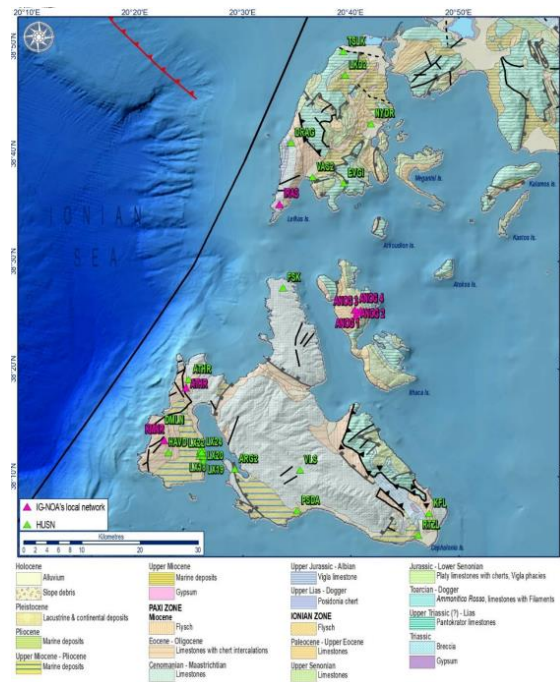


Figure 20 Geological map (IGME, 1983) of the portable (purple triangles) and permanent – HUSN (green triangles) seismographic station locations. The hatched yellow polygon represents the study area.

4.3. Data analysis

For the acquisition, analysis and archiving of the data, the SeisComp3 software was used, which was developed by the GEOFON project in Helmholtz Centre Potsdam in GFZ German Research Centre for Geosciences and Gempa GmbH. The software was installed on an independent server and the huge amounts of data, which are obtained by the local network, are stored on special disk arrays.

The SeisComp3 software performs, after appropriate parameterization, automatic picking of seismic phases for the recorded seismic waves (Fig 8) and makes an initial automatic determination of the local earthquakes.

In the figure below, we can see an example of the analysis and the re-evaluated solution of the ML4.3 earthquake of 16/09/2022 12:58 GMT in the region of the Ionian Sea, within the area of interest. It can be seen that the waveforms recorded by all stations of the local network were perfectly clear.

An SMS paging system was also built, with automatic alerts, with the automatic solutions for important earthquakes that are sent to the relevant scientists of G.I. and ELPE within 1-3 minutes.

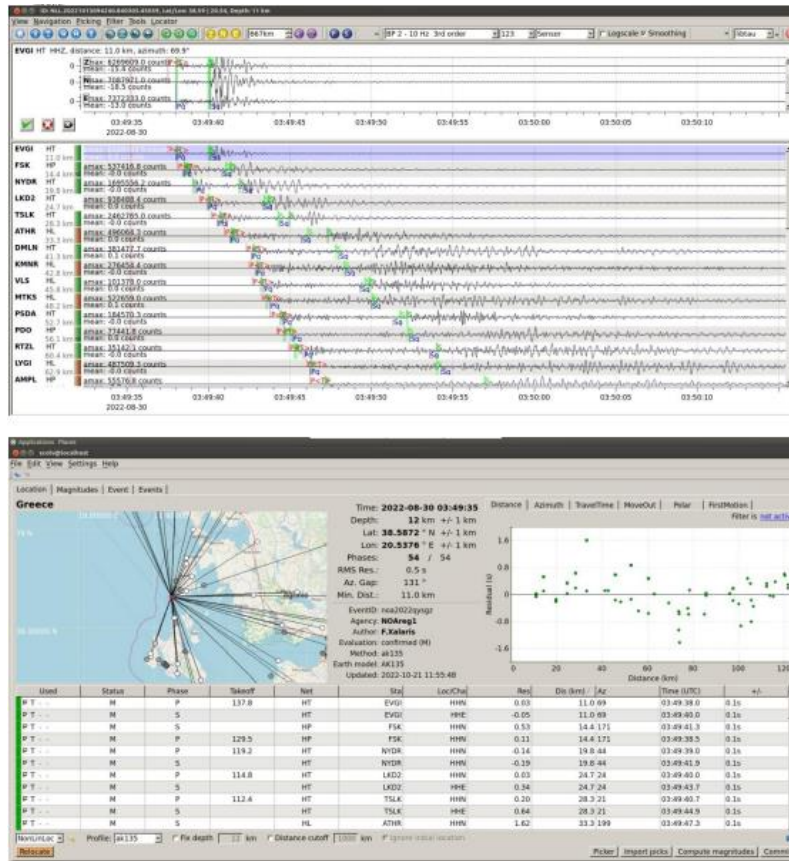


Figure 21 Example of analysis and epicentral location from the installed system for a M4.3 earthquake recorded west of Lefkada

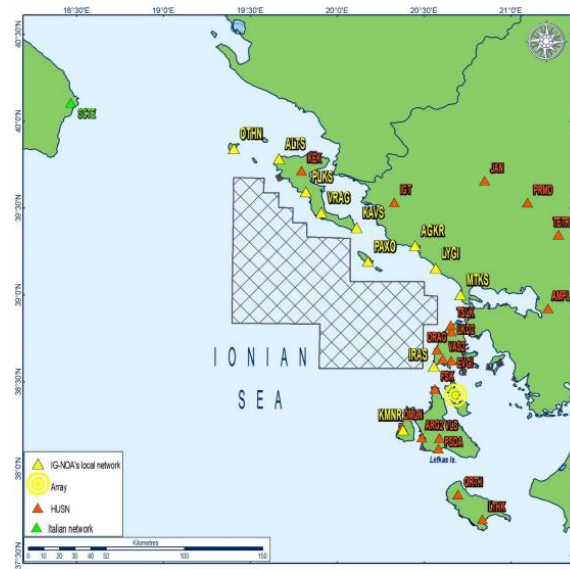


Figure 22 The locations of the stations of the local network (in yellow) that were installed as part of the project, as well as the permanent stations that are currently in operation in the broader area (in red)

The portable stations of the Institute of Geodynamics are shown in yellow color. A detailed description per installation site, have been provided to HELLENiQ UPSTREAM Ionian S.A. in Deliverable A: Report: Portable local network installation – Maintenance of existing stations in the concession area “IONIO” (June 2023).

4.4. Recorded seismicity from the local network

Although the installation and operation of the local network started on May 2022, it was completed at the end of July 2022 and therefore seismicity monitoring under the same conditions practically started from August 2022.

From the start of the recording period up to the end of May 2023, a total number of 3938 earthquakes were recorded, with the majority of them being concentrated in the Cephalonia transform fault zone, as well as the broader region of Parga. Of them, 2121 were automatically detected by the network. The rest, which were mostly micro-earthquakes of very low magnitudes, were detected by analysts and they were then analyzed. It should be noted that for all the above seismic events, their hypocenters were recalculated based on an optimal minimum 1D velocity model which was calculated for the broader region. This model was derived after 1D inversion of the obtained travel-times from the best identified events. Details of the process are presented in the final 1st year report (Report on the first year of monitoring – results - suggestions). During the same period NOA recorded a significantly lower number of earthquakes (1483 events) for the same region, i.e. equal to approximately 1/3 of the ones identified by the local network. Of all the seismic events, 2185 were recorded during the second monitoring period between November 2022 – May 2023. The distribution of seismicity during this second period does not show any significant change compared to the corresponding distribution of the first monitoring period (May – December 2022).

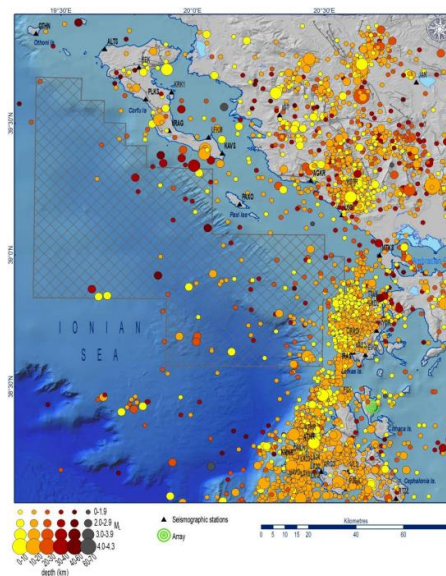


Figure 23 Recorded seismicity during the second monitoring period between January 2023 – May 2023

The greatly increased number of events recorded by the local network compared to the national network shows the high seismicity monitoring capabilities that were achieved. A more general estimate of the total seismicity of the area with the local network shows that the magnitude of completeness in the broader area improves by about half a degree on the Richter scale (Figure 18). However, the area also includes the Cephalonia transform fault which is adequately covered by the national network. More specifically, for the area of interest, the very limited seismicity makes it particularly difficult to determine NATIONAL OBSERVATORY OF ATHENS Project: Seismicity monitoring and Seismic Hazard Assessment study in the Ionio region Report: Seismicity Monitoring and Analysis - Web Interface -Page 21- the magnitude of completeness. Based on the enriched catalogue obtained during the present monitoring phase, it is possible to make an initial estimate of the magnitude of completeness at MC1.2. Throughout the whole monitoring period, the study area shows evidence of very low seismicity with a very small number of events and with small magnitudes.

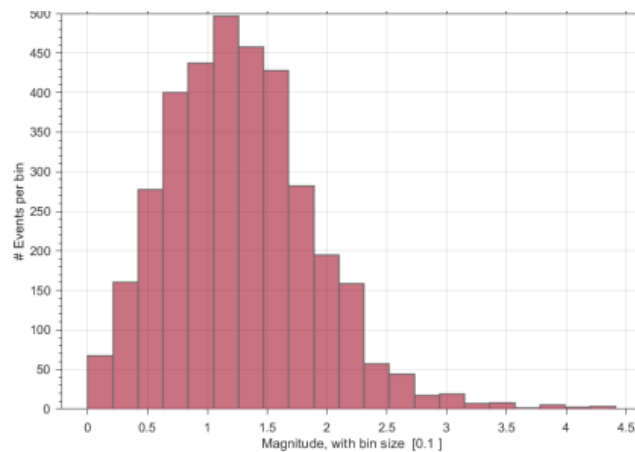


Figure 24 Magnitude distribution histogram for the seismic events that were analyzed by the local network

4.4.1. Conclusions

During the time of operation of the local seismographic network and until 31/05/2023, the microseismic monitoring was carried out smoothly, without technical problems, recording about 4 thousand earthquakes in total in the broader study area. However, within the narrow area of interest and specifically within the Block 3 area no significant seismicity is observed. *The area is characterized by particularly low seismicity without significant active zones.*

5. Environmental Studies and future actions - Geohazards, Environmental Sampling, EBS Stage II, ESIA, Oil Spill Response - 2023 -2024 onwards

As part of our preparation for the upcoming drilling operations and in order to complete the necessary permitting process the prerequisites as per Lease Agreement are:

- the Geohazards Study
- the Environmental Sampling
- the Environmental Baseline Survey (EBS Phase II)
- the ESIA Study (Environmental & Social Impact Assessment for exploratory drilling)

The aforementioned works are strongly linked and depended on the tasks that have been completed during the previous phases such as the marine seismic surveys and their results. Once the interpretation of the 3D Marine Seismic acquisition has been completed and the possible targets have been identified, we will begin the preparation of the Geohazards study in the area where the exploratory drilling of the next phase will be focused.

5.1. Geohazards

The Geohazards' Study that will focus on the Well site, should have the following objectives:

- Establish water depths and seabed conditions
- Identify any seabed obstructions that may impact anchoring or the well location
- Assist in the identification of all geo-hazards and geological conditions related to a Semi-sub drilling Rig or Drillship and subsequent drilling operations from the acquired data.

The main scope of the Geohazards' Study is to identify and assess any hazards due to local sea bottom conditions such as great depths, steep seabed morphology, sea bed pockmarks that could cause submarine landslides and/or release of gases. Also, cables and shipwrecks should be identified and mapped. The Geohazards' study will provide the necessary information for the design of the preliminary exploration well.

5.2. Environmental Sampling

The Environmental Baseline Sampling Survey and Habitat Assessment Study have the aim to establish the physico-chemical and macrofaunal conditions in the area of the target to be drilled ahead of drilling operations. The Environmental Sampling Survey Objectives are:

- identify and delineate any internationally protected or sensitive habitats at the well site and across the coastal areas
- identify any areas of environmental interest, which could be impacted by anchoring or drilling activities.

The Hellenic Centre for Marine Research (HCMR, Greece) is one of the most recognized scientific Research Center in Greece with vast experience in marine research and expertise in the field of geohazards and the marine environmental studies. To this aim, HELLENiQ UPSTREAM Ionian S.A. is planning to enter into an agreement with HCMR in the context of the drilling preparation stage for the exploration activities in Ionian Block.

5.3. Environmental Baseline Survey Stage II

The purpose of the Environmental Baseline Survey Stage 2 (EBS II) is the collection of data, the survey and evaluation of the environmental condition in the lease area under exploration in order to:

- Survey the condition of the environment within the research area before starting any drilling operations.
- Be part of an integrated system for monitoring the condition of the environment in the exploration area, to allow the monitoring of any impact of the individual stages of the research program.

According to Article 12 «Environmental Protection» paragraph 14, HELLENiQ UPSTREAM Ionian S.A. shall not be liable for any environmental condition or damage existing in the Contract Area prior to the commencement of the operations therein and nothing in this Agreement shall be construed to hold HELLENiQ UPSTREAM Ionian S.A. liable in relation to any such pre-existing environmental condition or damage. For this purpose, an Environmental Baseline Study (EBS), covering the whole extent of the boundaries of the Lease Area Ionian Block was already prepared by HELLENiQ UPSTREAM Ionian S.A., to detail the condition of the environmental parameters and resources at the time prior to operation commencement.

The EBS was submitted and approved by the Ministry of Environment and Energy (Environmental Licensing Directorate).

Prior to entering the 3rd exploration phase and before the drilling of the exploration well, HELLENiQ UPSTREAM Ionian S.A. is committed to prepare and submit a baseline survey (Stage 2) which will study an area limited around drillable target. The Report shall address the existing physical, biological and socioeconomic environment and sensitivities of a limited area around the drillable target in Ionian Block and provide any updated information or newly published data might not covered in the Environmental Baseline Survey Stage 1 for the Ionian Block.

The EBS Stage 2 will focus in the area around the drillable targets and will involve detailed sampling and evaluation for potential geohazards and environmental parameters.

An indicative Table of Contents (ToC) of EBS Stage II will include the following indicative chapters:

- Introduction - Project description
- General Framework of the Elaboration of the Environmental Baseline Report
- Updated description of the Current Condition of the Environment
- Natural and Biological Environment

- Socioeconomic Environment
- Establishment of Environmental Quality Indicators
- Results of the Environmental Monitoring Program executed in 2023 (final report completed) and any more updated report in 2024.
- Results of the Geohazards Survey Environmental Sampling & Habitat Assessment (final report).

5.4. Environmental and Social Impact Assessment (ESIA)

All the results that will arise from the aforementioned studies will necessarily be part of the ESIA Study that will have to be submitted to the competent authorities in order to license the drilling works. According to the provisions of Article 12 of the Lease Agreement for the «Environmental Protection», HELLENiQ UPSTREAM Ionian S.A. shall conduct all O&G operations in a manner, which will assure the protection of environment in accordance with Good Oilfield Practices. Furthermore, HELLENiQ UPSTREAM Ionian S.A. shall prepare and submit to the competent licencing authorities, an Environmental and Social Impact Study (ESIA) for the relevant O&G operations in respect of which an Environmental and Social Impact Assessment (ESIA) procedure is required. The ESIA shall, as a minimum:

- fully comply with the requirements of the EIA legislation in force;
- meet the requirements and guidelines set out by the Strategic Environmental Assessment Study (SEA); and
- be prepared by a third party with adequate expertise in the field of environmental studies, which will be appointed by the Lessee to work on its behalf.

Each project, work, activity or any other part of the Oil & Gas Operations that is subject to an Environmental and Social Impact Assessment (ESIA), shall commence only after the issue of the Approval of the Terms of Environment (TOE). Regarding Environmental Licensing and more specific according to the provisions of Law 4014/2011 «on Environmental licensing of projects and activities, regulation of illegally constructed buildings, with the aim to promoting a better environmental stability», HELLENiQ UPSTREAM Ionian S.A. has the obligation to apply for Approval of Environmental Impact Assessment (category A projects subcategories: A1 and A2). Category A includes works and activities, which may cause severe environmental impact because of their nature, size or location. Category A is divided into groups 1 and 2. Exploration and Exploitation Projects are under Category A1.

For activities of both groups of Category A, an ESIA is needed in the form an overall scientific assessment.

An Environmental and Social Impact Assessment (ESIA) shall include at least the following minimum matters, which are:

- a description of the proposed activities;
- a description of the potential affected environment, including specific information necessary to identify and assess the environmental effect of the proposed activities;

- an assessment of the likely or potential environmental impacts of the proposed activity and the alternatives, including the direct or indirect cumulative, short-term and long-term effects;
- an identification and description of measures available to mitigate adverse environmental impacts of proposed activity and assessment of those measures;
- an indication of gaps in knowledge and uncertainty which may be encountered in computing the required information;
- a brief and non-technical summary of the information provided under paragraphs (a) to (e) of this section.

Indicatively, the ESIA report will address the following areas:

- Project description
- Policy, legal and administrative framework
- Environmental and socio-economic background
- Impact assessment
- Oil Spill Modelling
- Mitigation & Control Measures
- Environmental Management Plan and Monitoring Program.

The potential impacts of the project activities were identified, with regard to abiotic, biotic and human environment. Particular attention was given to, the marine ecology and the socioeconomic environment. Main objectives of the Environmental Action Plan (ESIA) are the following:

- Detailed and documented compliance of the proposed activities with all the requirements of the applicable environmental legislation, including the provisions concerning the protection of marine species and sensitive habitats and the avoidance of any kind of pollution due to exploration activities.
- Avoiding any impact of the proposed activities on critical elements of marine ecology, such as marine mammals (cetaceans and monk seals), sea turtles (*Caretta Caretta*) and seabirds.
- Impact minimization of the drilling activities on critical elements of marine ecology, such as marine mammals (mainly cetaceans and seals) and sea turtles (mainly *Caretta Caretta*).
- Implement all necessary measures and methods related to the prevention of any incident of marine pollution, including solid and liquid waste management methods.
- Implementation of all necessary measures and methods related to the prevention of any marine pollution incident, including at least solid waste and wastewater treatment methods and accident and chemical use mitigation.
- Effective limitation of any potential disturbances on the existing maritime activities such as fisheries.
- Assess and evaluate the effects of the proposed activities on all individual environmental elements.
- Assess and evaluate the environmental risks for the proposed activities.
- Propose prevention and mitigation measures to minimize risks and impacts and execute an environmental monitoring program during project activities.

5.5. Oil Spill Response

In order to ensure the maximum safety of the drilling operations and the protection of the environment during the third phase, a very important collaboration is planned to take place with Oil Spill Response Limited (OSRL).

In case of an incident, an emergency plan and Tiered Preparedness and Response Plan will be prepared in order to set the highest standards in Emergency management.

The Tiered Preparedness and Response will:

- Define and structure the levels of oil spill response capabilities.
- Plan for appropriate resources to be rapidly mobilized and cascaded to an incident location.
- Enable response escalation for an oil spill of any magnitude and severity.

OSRL is a world-renowned and leading organization, whose members are the largest O&G Producers joining forces globally in the prevention, emergency response and remediation of marine pollution due to oil spill incidents.

HELLENiQ UPSTREAM and its affiliate Companies had a very good cooperation with OSRL, in the past as an Associated Member and is planned to do the same in the third exploration phase in Ionian Block.

This cooperation will concern our best possible preparation and readiness in taking the necessary measures of Prevention, Avoidance and Preparedness for any possible accident and pollution of the marine environment.