

# 16<sup>th</sup> European Cave Rescue Meeting 2023

12-15 October  
Porto de Mós, Portugal

Pre-Meeting  
11-12 October





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## INTRODUCTION

The **16<sup>th</sup> European Cave Rescue Meeting** is going to take place in

**Mira de Aire, Municipality of Porto de Mós,  
Maciço Calcário Estremenho, Portugal**  
from **October 12<sup>th</sup> till 15<sup>th</sup> 2023**.



Pre-Meeting from October 11<sup>th</sup> till 12<sup>th</sup> 2023.

This meeting is organized by the **Portuguese Federation of Speleology** (FPE) on behalf of the **European Cave Rescue Association** (ECRA).

This meeting will take place under the auspices of the **Municipality of Porto de Mós** (CMPM).

During the Pre-Meeting you can enjoy caving and cave diving; we are preparing several interesting locations.




More information will be available soon. Please also visit our website [www.caverescue.eu](http://www.caverescue.eu) for last minute changes or send us an email on [info@caverescue.eu](mailto:info@caverescue.eu) in case of any question.

**Please note the date for ECRA meeting in your diary!**

We look forward to meeting you in the Portuguese Karst.

The Organizing Committee

## TIME SCHEDULE

	Tue	Wed	Thu	Fri	Sat	Sun
	10.10	11.10	12.10	13.10	14.10	15.10
Pré-meeting		Excursions	Excursions			
ECRA Meeting 2023				Opening Sessions	GA Sessions Party	

## PROGRAM

### Technical workshop

The program is being worked on.

### Medical workshop

The program is being worked on.

### Cave diving exercise

The program is being worked on.

### Passage enlargement workshop

The program is being worked on.

### General Assembly

The program is not available yet.

## VENUE

Mira de Aire (Porto de Mós), Maciço Calcário Estremenho, Portugal

→ [Google Maps](#) → <https://www.municipio-portodemos.pt>



Figure 1 - Location of Porto de Mós in Portugal



Figure 2 - Natural Park



Figure 3 - Municipality House

The Municipality of Porto de Mós, endowed with enormous tourist potential, is home to diversified natural beauty, in the heart of the Serras de Aire e Candeeiros Natural Park (PNSAC).

From the historical heritage (highlighting its castle) to the Campo Militar de S. Jorge and the Calçada Romana do Alqueidão da Serra, among other points of interest, together with the good local gastronomy, make Porto de Mós a worthwhile destination for a visit.



Figure 4 - Castle of Porto de Mós



Figure 5 - Partial view of Porto de Mós

**Mira de Aire** is a village crossed by the **Serras de Aire and Candeeiros Natural Park**, where the most spectacular and best preserved natural cave in Portugal is the Mira de Aire Cave, also known as **Moinhos Velhos Cave** (Old Windmills Cave).

It is also known to its inhabitants as extremely rich in natural heritage. In addition to being inserted in the PNSAC and being the "home" of the Caves of Mira de Aire, the polje of Mira-Minde has several water springs that "burst" in winter.



Figure 6 - Polje of Mira-Minde, in winter.

The Mira de Aire Cave along with the Caves of Pena and Contenda are part of a great system of galleries over 11 km long. During rainy winters the water of this system join the water of the Olho

de Mira and Regatinho springs, flooding the great closed depression (Polje of Mira-Minde) existing between the villages of Mira de Aire and Minde.

Caves are also a major magnet for tourism. The Mira de Aire Cave, Alvaldos Cave and Santo António Cave are open to the public with an annual attendance of approximately 400,000 people.

## Meeting Location: House of Culture, Mira de Aire



Figure 7 - House of Culture



Figure 8 - House of Culture Auditorium



Figure 9 - House of Culture Hall



Figure 10 - House of Culture Entrance

Casa da Cultura is one of the most emblematic buildings of the village, built in 2010 with modern features and which houses an extension of the municipal library, an exhibition gallery, and a concert hall.

The auditorium can accommodate up to 200 people. It also has several technical rooms that can be used for committee meetings; it has space for a bar and an exhibition hall.

## Exercise area: Olho da Pena Escarpment and surroundings



Figure 11 – Olho da Pena Spring



Figure 12 - Olho da Pena Escarpment

This site is situated at the NE boundary of the Polje of Mira-Minde, which is the largest in the region being 4000m long and 1800m wide. It is a depression with a flat bottom full of temporary springs caused by several streams that are lost in the ground, being considered a unique natural monument, characteristic of the limestone regions, to separate the Serra de Santo António mountain from Serra de Aire mountain. In winter, the polje fills with water giving rise to a large lake in which forest species and animals develop. In some areas the water reaches a depth of eight meters. The polje of Mira-Minde is drained on the outskirts of the massif by the springs of the rivers Lena, Alviela and Almonda, just to name the most well-known.

This place was modeled by the spring of the subterranean river, that created the Moinhos Velhos Cave (Old Windmills Cave), called Olho da Pena (vertical and horizontal spring that is dry in Summer).

This escarpment is often used for vertical progression training and rescue manoeuvres by cavers.

### Geology and geomorphology

Except for small border areas, the entire PNSAC area is included in the Mesozoic Limestone Massif, and the main geological constituents belong, almost entirely, to the Jurassic with predominance of limestones belonging to the Dogger (Middle Jurassic).

From the morphological point of view, three subunits can be differentiated in the Maciço Calcário Estremenho (Estremenho Limestone Massif) that correspond to elevated compartments – the Serra de Candeeiros (Candeeiros mountain range) to the west, the Planalto de Santo António (Saint António plateau) to the center and to the south and the Planalto de São Mamede (São Mamede plateau) and the Serra de Aire (Serra de Aire mountain range), respectively to the north and east. Separating these subunits are three depressions caused by major fractures, respectively the depression of Mendiga, the Mira-Minde polje and the depression of Alvados.

For all these reasons, this is a place where the most significant and typical karst phenomena are represented in Portugal, such as the dolinas, the grape, the poljes and fields of lapiás, with regard to the surface model, and the existence of numerous caves (more than 1500) that cross the interior of the massif.

*Figure 13 – Moinhos Velhos Cave**Figure 14 – Vale da Canada Valley*

The depression of Alvados is a basin of flat, wide background, with an immense carpet of olive trees that timidly rehearse an ascent through the extensive and uniform Costa dos Alvados, as is called the shed of 300 m of slope that reaches the plateau of Santo António. This is one of the most beautiful landscapes of this massif. It is a dry land area where the olive grove predominates, but which has important oak cores.

*Figure 15 – Poldje of Alvados**Figure 16 – Fórnea Valley*

## Hydrology

Despite the absence of surface watercourses organized in this region, they exist in abundance underground, constituting one of the largest – if not the largest – underground freshwater reservoir in our country and extending between Rio Maior and Leiria.

Of the various karst springs in the region, the most well-known and important about emitted flow rates, is that of the Olhos de Água do Alviela (Water Eyes of Alviela). The source of the Alviela River is in the transition between the Estremenho Limestone Massif, an area where limestone rock predominates; and the Lower Tagus Tertiary Basin, a landscape composed mainly of sandstone. Its feeding basin extends over about 180 km<sup>2</sup>, where the water runs through true underground labyrinths until it reaches the source.





Figure 17 – Olhos de Água do Alviela Spring, in Winter

The spring of Olhos de Água do Alviela is one of the most important in our country, reaching 17,000 liters per second, that is, 1,5 million m<sup>3</sup> of water per day (peak flood). From 1880 until very close to the present day, the source of Alviela was one of the main sources of water supply to the city of Lisbon (through EPAL), and today it still "opens doors" to one of the largest freshwater reservoirs in the country.

South of the Serra de Aire (altitude of 679m) is also the Cave of the Almonda Spring. Its source came to debit 4.5 million m<sup>3</sup>, in the flood of March 10, 1979.

It develops over more than 15 km, constituting an authentic sanctuary of portuguese caving because, as a whole, it is the most extensive karst network currently known in Portugal. It consists of several underground streams that give rise to the source of the Almonda River.

Regarding cultural heritage, there are several archaeological deposits, ranging from the Lower Paleolithic to the Roman era.



Figure 18 – Cave of the Almonda Spring



Figure 19 – Cave of the Almonda

## Climate

The climate in this area is characterized by constituting a peculiar transition between Mediterranean and Atlantic conditions, being therefore humid, of medium temperatures and with great water deficiency in summer.



## PARTICIPATION FEE

The participation fee is EUR 60, payable upon the participant's check-in.

The participation fee includes accommodation, breakfast, lunch, and dinner during the ECRA meeting.

Drinks are at your own expense.

## ONLINE REGISTRATION

Not yet available.

## OFFICIAL LANGUAGE

The official language of the European Cave Rescue Meeting and Pre-Meeting is English.

Simultaneous translation into other languages will not be available.

## PRESENTATIONS

All presentations and documents should be written in English.

The email for sending your presentations is [info@caverescue.eu](mailto:info@caverescue.eu).

For the smooth running of the meeting, we kindly ask that you send us your presentations no later than one week before the start of the meeting.

## EXERCISES

Usually, no special equipment is needed for the exercise during the meeting. If necessary, it will be announced in advance. Required equipment for excursions will be specified in Pre-Meeting section.

## VISA

No visa is required from citizens of the European countries.

Please consult the Portuguese Embassy in your country if in doubt.

## LETTER OF INVITATION

If needed, the participants can request a Letter of Invitation by e-mail to [16ecrameeting@fpe-espeleo.org](mailto:16ecrameeting@fpe-espeleo.org).

## SECURITY WARNINGS

No specific warnings for the Portuguese Republic. Public safety in Portugal is very high.

## CURRENCY

EURO

## ARRIVAL AND DEPARTURE

All variations are possible for arrival - own car, bus, train, plane.

### Lisbon Airport (LIS):

International airport about 110 km away from Mira de Aire centre.

### Oporto Airport (OPO):

International airport about 220 km away from Mira de Aire centre.

### By Bus:

There are regular bus lines from Lisbon and Oporto to the city of Fátima:

Flixbus <https://www.flixbus.pt/>

Renex <https://www.rede-expressos.pt/>

### By Train:

There are regular train lines from Lisbon and Oporto to Fátima station, the nearest of Mira de Mire (32km and 40mn long).

CP - Comboios de Portugal <http://www.cp.pt/passageiros/pt>



Figure 20 – Location of the venue's village and the nearest airports

## PICKUP SERVICE

We will provide transfer to the meeting location from:

- Fátima train station
- Fátima bus station

Contact the helpdesk for pickup.

## ACCOMMODATION

Provided by the organizers: (included in the participation fee)

Accommodation in a sports pavilion – please bring your own sleeping bag and pads.

Area for own tents is also available – please take your own campsite equipment.

We will also provide a “caravan park”, near the pavilion.



Figure 21 – Sports pavilion at Mira de Aire



Figure 22 – Working room



Figure 23 – Sports pavilion



Figure 24 – Caravan Park, at Mira de Aire



Figure 25 – Caravan Park, drink water station

**Alternatives:** (not included in the participation fee)

- Youth hostel: Pousada de Alvados      Web: [pousadasjuventude.pt](http://pousadasjuventude.pt)  
Mail: [alvados@movijovem.pt](mailto:alvados@movijovem.pt)
- Caves Houses (bungalows): Grutas de Mira de Aire  
Web: [grutasmiradaire.com/en/8/caves-houses](http://grutasmiradaire.com/en/8/caves-houses)  
Mail: [geral@grutasmiradaire.com](mailto:geral@grutasmiradaire.com)  
Accommodation capacity is limited



Figure 26 – Pousada de Juventude (Youth Hostel), at Alvados



Figure 27 – Caves Houses (bungalows)

## MEAL AND DRINKS

Participants will eat in the restaurant directly in the building where the meeting will take place or at the sports pavilion.

Also "Speleo Bar" will be available during afternoon and evening.



## ORGANISING COMMITTEE, CONTACTS

Host

### Local Organizing Committee

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Cave Rescue Bulgaria / CRB, Bulgaria



## PARTNERS

Municipality of Porto de Mós	<a href="http://www.municipio-portodemos.pt">www.municipio-portodemos.pt</a>
Mira de Aire Caves	<a href="http://www.grutasmiradaire.com">www.grutasmiradaire.com</a>
Vertline – Technical Rescue	<a href="http://vertline.pt/">vertline.pt/</a>
Parish of Mira de Aire	<a href="http://www.jf-miradeaire.pt">www.jf-miradeaire.pt</a>

## FIGURES AND PHOTOS BY

Municipality of Porto de Mós  
Grutas de Mira de Aire  
Fernando Pires  
Manuel Soares  
Vitor Gandra  
Pousadas de Juventude  
Google Maps

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Manuel SOARES, Head of the Local Organizing Committee  
Kurt DENNSTEDT, General Secretary of ECRA  
February 5<sup>th</sup>, 2023

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