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CIVITAS SOTERIA

SUMMER SCHOOL 2026
Evidence for Policy in Disaster Risk Management

EXERCISE ARGANIL

GENERAL SCENARIO PACKAGE

Development of a preparedness plan to respond to expected major wildfire outbreaks in late Summer 2026 in Portugal, in the territory of the Municipality of Arganil (District of Coimbra)

Please make sure to bring a printed or electronic copy of this document with you for consultation during the exercise. To reduce the environmental footprint of the event, no printed copies will be made available at the Summer School.

This exercise is based on a scenario developed for training and educational purposes. All events, seasonal forecasts, and developments described in this document are entirely hypothetical. They do not represent real events, official forecasts, or actual assessments by Portuguese authorities or any other institution.

1. Aims and purpose of the scenario-based exercise

What is this exercise about?

The overall goal of this scenario-based exercise is for participants to jointly develop, in a well-coordinated manner, the outline of a preparedness plan to address an emerging serious and significant threat, specifically, the risk of catastrophic wildfires affecting the Municipality of Arganil in late summer 2026, and to go through the motions of preparing such plan, which should be operational, based on scientific evidence, informed by the contributions of key stakeholder groups and be tailored to the needs of the community.

The exercise places participants at the centre of a complex multi-hazard environment characterised by extreme fire-weather conditions, high fuel loads, a dispersed population, and limited local emergency infrastructure. Participants will need to integrate scientific evidence, technical assessments, and multi-stakeholder coordination to produce a coherent and actionable preparedness response.

The exercise will be conducted in various consecutive phases, which 'mimic' - albeit in a highly condensed manner - the events that would trigger the need for a preparedness plan and the approach that would usually be followed to develop the core aspects of such plan. This includes closely examining the situation, determining what is needed and what different stakeholders can bring in, coordination and consultation between stakeholder groups and jointly preparing the outline of the plan.

Participants have been allocated to different groups, each representing a real institutional stakeholder. In your group, you will be tasked to work through the scenario in character, i.e. taking the position that such stakeholder would 'typically' take and take the steps that they deem necessary in the given scenario. This means applying their stakeholder group's mandate, pursuing their specific objectives, operating within the constraints of the specific group, and engaging with other actors as such institutional stakeholder would do in a real situation. In addition to this general scenario, each stakeholder group will be provided with a specific set of information and instructions that will help them to establish their position and liaise with other stakeholder groups.

The exercise will be completed by a debriefing where experts and facilitators, who have been observing the various phases of the exercise, will provide feedback. They will look at both the process and the output of the exercise, and in particular how participants:

- Followed a well-structured process, as part of which they:
    - Collaborated across organisational roles, successfully managing the science-policy (and operational) interface
    - Made good use of scientific evidence and other (quantitative and qualitative) data

- Dealt with uncertainty, considered risks and managed unexpected events.
- Dealt with the rate at which scientific evidence is available.

- Proposed a logical preparedness plan that:
  - Is feasible, evidence-based and tailored to policy and operational needs
  - Addresses the social, economic, ethical, political, security and environmental dimensions of the scenario
  - Takes on board the views and contributions of different stakeholder groups

Is clearly formulated in an accessible and succinct manner

Why have this exercise?

Organised after the Summer School's classes, the scenario-based exercise is designed to enable participants to apply, test, and consolidate the knowledge gained during the event through scenario-based learning, using a scenario that could happen in real life.

By placing decision-makers and scientists in a complex environment requiring a coordinated response, it directly links theoretical concepts to hands-on practice. More specifically, it is intended to strengthen participants' understanding of the science–policy interface: how technical assessments are generated and communicated to decision-makers, how uncertainty is acknowledged and managed, and how expert input is translated into proportionate, coherent preparedness decisions.

At the same time, it places participants at the centre of a collective policy process requiring different institutional actors to coordinate under pressure, reconcile diverging interests, and agree on a common course of action.

2. Exercise structure and timeline

The exercise unfolds in six sequential phases. Each phase serves a specific purpose and builds on the previous one. The table below summarises the full timeline.

Time	Phase	What happens/What you and your group should do
Day 1 (26 May 2026)		
17:30-17:35	**TV news segment**	A short TV news segment introduces the wildfire threat that the Arganil territory may face in late summer 2026
Day 3 (28 May 2026)		
11:45–11:50	**Media opening**	The exercise opens with a short TV news video segment providing an update on the situation presented on Day 1 of the Summer School.

11:50–12:15	**Group preparation**	Each group has 25 minutes to review its materials and organise internally. Your group should: • Establish your initial understanding of the situation from your institutional perspective; • Identify the most pressing preparedness priorities within your mandate; • Note the key information gaps that could affect your contribution; and • Agree on a concise starting position: what you intend to propose, what you need from other actors, and any immediate coordination you recommend. *This position will guide your bilateral consultations and your opening contribution at the plenary.*
12:15–13:15	**Consultations and positioning**	Groups may request and hold bilateral meetings to exchange information, align positions, and prepare for the Stakeholder Consultation Meeting. Some bilateral meetings are pre-arranged in your role-specific package; others may be initiated freely by contacting the relevant group directly. You are encouraged to distribute tasks within your group and run parallel bilateral meetings to maximise the number of actors consulted. *Bilateral meetings may also be requested during the plenary session itself, in parallel, to resolve specific issues with individual counterparts.*
13:15–14:30	**Stakeholder Consultation Meeting and finalisation of the preparedness plan outline**	The following groups convene for the Stakeholder Consultation Meeting, chaired by the representatives of the Minister of Interior. • Intermunicipal Community of the Coimbra Region • Municipality of Arganil • Portuguese National Authority for Emergency and Civil Protection (ANEPC) • Institute for Nature Conservation and Forests (ICNF) • EU representatives (including ERCC staff) • Arganil Volunteer Fire Brigade • Casal de São João Residents' Association • Public Information officers (working on the side of public institutions) All groups work collectively to define the key elements of the plan — measures, triggers, responsibilities, and coordination interfaces — and must finalise the preparedness plan outline by 14:30.

14:30–15:30	**Debriefing and closing**	All participants involved in the two scenario-based exercises conducted as part of the Summer School reconvene for a joint final debriefing session. Thematic experts, together with class coordinators and exercise directors, will provide structured feedback on both the process and the outcomes of the exercises, based on a set of predefined criteria. *The Summer School closes at 15:30 after a short closing ceremony.*

EXPECTED OUTPUT

By 14:30 the **preparedness plan outline** has to be submitted to the Government of Portugal. The outline should identify, as a minimum:

- The key preparedness measures to be put in place, including protective actions, communication measures, and early warning protocols.
- The coordination mechanism and arrangements for the plan overall, as well as responsible institutional stakeholders for each measure (not only identifying who would lead but also describing the interface with other stakeholder groups that would be involved in the measure)
- The activation triggers and conditions under which each measure would be implemented.

The plan should address the social, economic, ethical, political, security and environmental dimensions and take into consideration the needs of the vulnerable populations.

3. The information package

As part of the exercise, you will work with two complementary documents:

1) **The General Scenario Package** — which you are now reading — provides the baseline context: the regional wildfire risk environment, the specific threat picture for 2026, the characteristics of the Arganil territory, and an overview of the relevant emergency response actors and systems in the area.

2) **The materials specific to your assigned group,** which will be distributed at the start of the exercise, contain your group's institutional mandate, key responsibilities, operational constraints, and privileged information available only to your group.

Not all the information provided will be equally relevant to every group. Participants are expected to assess which elements are most pertinent to their role, determine priorities, and decide how best to use the available information during the exercise.

4. The scenario

The following sections provide the situational context within which the exercise unfolds. They present the broader wildfire risk environment, the nature of the 2026 threat, and the characteristics of the Arganil territory and its surrounding area. This information reflects the current state of knowledge available to all stakeholders at the outset of the scenario and forms the common baseline upon which all actors will build their assessments and preparedness planning.

4.1 General Context

Portugal is one of the European countries most exposed to the risk of large-scale wildfires. The combination of a Mediterranean-Atlantic climate, extensive forests, a long history of rural depopulation, and the accelerating intensity of climate-driven heat extremes has produced conditions in which catastrophic fire events have become frequent during the summer season. In this broader context, the municipality of Arganil, located in the mountainous interior of the district of Coimbra in central Portugal, stands out as one of the country's most fire-affected territories. A designation dramatically underscored by the events of 2017 and again by the 2025 fire season.

The fires of October 2017 marked a turning point in national public awareness of the wildfire threat in the Arganil area. Driven by extreme winds associated with Storm Ophelia, the fires burned for several days across a large part of central Portugal and affected more than thirty municipalities, including Arganil, Góis, Pampilhosa da Serra and Oliveira do Hospital. In Arganil alone, official assessments reported direct economic damage of more than €20 million, with very significant additional losses in neighbouring territories. The event destroyed hundreds of hectares of forestry assets, damaged rural tourism infrastructure, and triggered a lasting decline in visitor numbers to the territory that persisted for several years afterward.

The summer of 2025 brought consequences of an entirely different order of magnitude. The main fire complex centred on the Arganil territory burned 64,451 hectares across seven municipalities — the largest single wildfire event ever recorded in Portugal. Portugal activated the Union Civil Protection Mechanism, deploying Canadair CL-415 aircraft and firefighting teams from

several Member States. Estimated direct and indirect economic losses reached approximately €190 million, affecting forestry assets, rural housing, agricultural activities, tourism infrastructure, and basic services.

Post-fire landscape management has been pursued but remained insufficient relative to the scale of recurrent fire events. Prevention and fuel management measures were initiated following the 2017 fires, but their implementation was fragmented and not fully coordinated, leaving structural vulnerabilities that became more evident during the events of 2025.

4.2 Threat of major wildfire outbreaks expected in late Summer 2026

In this context, seasonal forecasts and environmental monitoring data assembled in May 2026 point to a highly likely and potentially catastrophic wildfire season in Portugal during late summer 2026, with the Arganil territory among the areas at highest risk. The Portuguese Institute for Sea and Atmosphere (IPMA) projections for late summer 2026 indicate an elevated probability of continued drought conditions, with a higher-than-average probability of heat wave events in July and August.

Temperature anomaly projections for the Centro Region point to a +1.5°C to +2°C deviation above the 1991–2020 reference period — a pattern consistent with the pre-fire conditions documented in both 2022 and 2025. European Centre for Medium-Range Weather Forecasts (ECMWF) seasonal forecasts for the Iberian Peninsula, integrated through the Copernicus Climate Change Service (C3S), independently indicate above-normal temperatures and below-normal precipitation for the June–August 2026 season.

The Fire Weather Index (FWI), as calculated by European Forest Fire Information System (EFFIS) using Copernicus satellite data and ECMWF atmospheric modelling, is projected, under current modelling assumptions, to potentially reach 'extreme' to 'very extreme' classes over central Portugal in August–September 2026, with the highest-risk areas concentrated in the mountainous interior of the Coimbra district — including the municipalities of Arganil, Góis, and Pampilhosa da Serra. However, these projections remain sensitive to short-term meteorological fluctuations, particularly wind patterns and humidity levels, which could either amplify or temporarily reduce fire danger.

Critical aggravating factors specific to the Arganil territory in 2026 include: the persistence of large quantities of dead woody biomass and charred vegetation from the 2025 fire — a highly combustible fuel load that dried further over the winter months; incomplete restoration of canopy cover; active re-sprouting of eucalyptus across large portions of the burned area (eucalyptus regenerates rapidly after fire and returns to extreme flammability within 12–18 months); live fuel moisture content in re-sprouting eucalyptus stands is expected to fall below the critical threshold of 80% as early as late June 2026, a level historically associated with extreme fire behaviour in the region.

4.3 Geographic and Demographic Context

The municipality of Arganil is located in the southern portion of the district of Coimbra, in the mountainous interior of central Portugal, at approximately 40°13'N 8°03'W. It

comprises 14 parishes covering 332.84 km², with a resident population of approximately 11,000. The municipality encompasses 178 named settlements and localities — a pattern of extreme dispersion that is central to understanding evacuation planning requirements.

The main urban centre is the town of Arganil (parish of Arganil), with 3,827 inhabitants, concentrating the principal municipal services, the fire station, a primary health centre providing basic outpatient care (no hospital facilities), and most commercial activity. The nearest hospital facility is the Coimbra Hospital and University Centre (CHUC), approximately 50 km to the west. Outside the main urban centre and the larger parish unions, much of the municipality is characterised by small, dispersed settlements, many of them hamlets with fewer than 50 residents..

4.4 Environmental, Economic and Water Resources Context

The landscape is characterised by steep, complex terrain dominated by schist bedrock, with elevations ranging from approximately 150 metres in the Ceira and Alva river valleys to over 1,400 metres on the Serra do Açor massif. This topographic complexity promotes fire-behaviour dynamics that challenge suppression operations and can produce sudden, unpredictable changes in fire direction.

Forest and shrubland occupy approximately 44% of the municipal area, making Arganil one of the most densely forested municipalities in the Coimbra district. Eucalyptus (Eucalyptus globulus) constitutes approximately 55–60% of the forested area, maritime pine (Pinus pinaster) around 25–30%, with the remainder comprising native broadleaf species — oak, chestnut — shrubland, and rocky areas.

The principal economic activities in the municipality are commercial forestry, rural tourism, traditional agriculture, and small-scale light industry. Commercial eucalyptus and pine plantations supply the paper and pulp industry. Rural tourism is supported by the municipality's mountain villages and heritage landscapes, including the Historic Village of Piódão and the Schist Village of Benfeita, as well as river beaches and nature-based tourism in the Alva and Ceira valleys. Traditional agriculture includes cattle and goat rearing, chestnut groves, olive production, and subsistence cropping. A small light-industry base is concentrated at the Relvinha Industrial Area, approximately 3 km from the town of Arganil along the IC6 road, hosting textile, metallurgy, agri-food processing, and light manufacturing enterprises.

The two main watercourses — the Rio Ceira and the Rio Alva — drain the municipality roughly north-to-south before joining the Rio Mondego to the west. Both rivers serve as natural reference boundaries in fire containment planning, with accessible bank sections also functioning as helicopter water-scooping points for aerial firefighting operations.

The municipal water supply depends on the Rio Alva catchment; during major fire events, water treatment operations may be affected by ash runoff, potentially compromising drinking water quality and supply, particularly in isolated hamlets reliant on local springs.

The Municipal Forest Fire Defence Plan (PMDFCI) Arganil 2018–2027 includes a network of certified firefighting water points distributed across the municipal territory, including natural water bodies, constructed cisterns, and river access ramps.

4.5 Infrastructure

The Arganil territory is functionally dependent on Coimbra for specialist services, tertiary medical care, and logistics. The main road axis is the Complementary Itinerary 6 (IC6), running approximately 50 km westward through the Ceira valley. The IC6 is a single-carriageway national road traversing extensively forested terrain for much of its length; it has been closed on multiple occasions during fire events due to direct fire involvement, smoke, or road damage. There is no railway connection to Arganil.

The regional electricity distribution network is operated by E-REDES (the national electricity distribution operator), via medium-voltage overhead lines crossing forested terrain. During the 2025 fire, the distribution network was disrupted across significant portions of the municipality, causing multi-day power outages with cascading effects on water pumping, mobile telecommunications, and emergency coordination. Backup generator capacity in rural areas is limited.

Telecommunications infrastructure presents a compounding vulnerability. Mobile network coverage is partial in mountainous valleys and in several upper-terrain hamlets; some isolated communities have no reliable signal. Mobile repeater stations throughout the territory depend on uninterrupted grid power and would fail during extended power outages.

There is no hospital within the municipality. The nearest hospital facility is the Coimbra University Hospital Centre (CHUC), approximately 50 km to the west; the nearest district hospital is the Figueira da Foz District Hospital (approximately 93 km to the west).

4.6 Emergency Response Actors, Monitoring Capabilities and Public Warning Systems

4.6.1 Emergency Response Actors and Capacities

Preparedness and response to a major wildfire threat in Arganil would depend on the interaction between national authorities, regional and local government, municipal civil protection structures, operational response services, technical agencies, and community-level actors.

The primary fire and rescue resource is the Arganil volunteer fire brigade, staffed by approximately 60–80 volunteers with a rotating on-call crew, supplemented under mutual aid protocols by brigades from neighbouring municipalities. These local resources provide the first operational response, but a severe or fast-moving wildfire would quickly require reinforcement from regional and national capacities.

The Portuguese National Authority for Emergency and Civil Protection (ANEPC) provides the main civil protection coordination framework and can deploy specialised national resources, and additional operational support. The national aerial firefighting fleet provides pre-positioned aircraft at regional aerodromes during the fire season.

Law enforcement, evacuation enforcement, and perimeter security are provided by the National Republican Guard (GNR), including its fire surveillance units.

Emergency medical response is coordinated by National Institute of Medical Emergency (INEM), with helicopter assets reaching Arganil within approximately 15–20 minutes.

4.6.2 Fire Monitoring and Environmental Surveillance

Fire monitoring is provided by Portuguese Institute for Sea and Atmosphere (IPMA), which produces daily fire-danger forecasts by municipality using the Fire Weather Index (FWI) system, issuing special weather warnings during high-risk conditions. At European level, European Forest Fire Information System (EFFIS) provides pan-European fire risk assessment and burned-area mapping via Copernicus satellite imagery, with data integrated into the Integrated System of Protection and Relief Operations (SIOPS) operational platform. Real-time fire detection is further ensured by the Institute for Nature Conservation and Forests (ICNF)'s aerial surveillance programme and the national network of fixed lookout towers, with SIOPS integrating fire brigade dispatch, resource tracking, and inter-agency communication in real time.

4.6.3 Public Warning Systems

ANEPC operates a national public warning system. This system enables automatic SMS messages to all mobile devices active in a defined geographic area, reaching residents and transient visitors simultaneously, and is activated for events requiring immediate public protective action. The national emergency number is 112.

Rádio e Televisão de Portugal (RTP), Portugal's public-service broadcaster is the primary channel for detailed official guidance during civil protection emergencies and is required to broadcast official emergency instructions in real time. SIC Notícias and CNN Portugal provide continuous news coverage during major events. Arganil Municipality's official website and social media accounts are used for territory-specific communication.