Certificate in forest fires: Risks and Management

Current climate change and IPCC projections for the coming decades show that the risk of wildfire is expected to increase worldwide. EPHE - PSL offers practical training in risk analysis and wildfire management.

Overview

Context

Current climate change and IPCC projections for the coming decades show that the risk of wildfire is expected to increase worldwide. No country will be excluded, even regions that have so far been relatively spared from wildfire. There is therefore an urgent need to train national and international land managers and agents in fire-related concepts, from the risk of fire and the conditions that encourage its occurrence and behavior, to the means and techniques of prevention, control and restoration. The impacts on human societies, ecosystems and their biodiversity, and more generally the environmental conditions of yesterday and today, are presented and studied using examples from all over the world.

Training highlights

- Theoretical as well as practical training that takes you out in the field
- International speakers
- 4 modules with different levels
- Introduction to basic concepts and methods for studying fire regimes in relation to global change

For whom?

- Engineers and technicians from government services (Prefecture, Civil Security (DDAF...), ONF, CRPF, SDIS)
- Engineers and technicians in local authority departments (towns, districts, regions)
- Management counterparts and international firefighters

Please note: As the training is mainly taught in English, a good level of English is required. However, training materials in French may also be available.

Admission

This training course consists of 4 modules, with each of the first three serving as the basis for the next. Validation of all levels is required to obtain the certificate.

Registration

From July to mid-September (on production of a CV)

Schedule

1. Module 1: October 2-13, 2023 (Montpellier)
2. Module 2: November 6 to 17, 2023 (Montpellier)
3. Module 3: November 27 to December 1, 2023 (Aix-en-Provence)
4. Module 4: December 4 to 8, 2023 (Aquitaine region)

Fees

Price per module

1,000 € per week, i.e. :

- Module 1 (2 weeks): €2,000
- Module 2 (2 weeks): €2,000
- Module 3 (1 week): €1,000
- Module 4 (1 week): €1,000

Fees for all 4 modules

Modules 1 to 4: €5,600 if you register for all levels over one year or commit to two years.

Decreasing fees

€900 per week, in the case of several registrations by the same employer.

Program outline

The program comprises 4 modules with different levels. A certificate is issued when the trainee has completed and validated all 4 levels. Modules can be taken individually, but only one proof of participation is issued for each module.

Modules are valid for 2 academic years (a year starts in September and ends in August). A trainee can therefore take several levels without losing the benefit of each one, as long as the period between two modules does not exceed 2 academic years.

Module 1: From particle to pyrogeography

Location: Montpellier.

Prerequisites: work in natural and forest environments to be protected or exploited.

Objectives : This module introduces basic concepts and methods for studying fire regimes in relation to global change.

Skills :

- Be able to distinguish between fire behavior and fire regime variables and know their spatiotemporal scales.
- Be able to use BehavePLUS and FlamMap fire behavior models.
- Acquire the basics for collecting natural archives (lake cores and dendrochronological cores) and know the protocols for analyzing them to reconstruct fire history.
- Perform queries in fire databases (Prométhée and BDIF databases in France) and process queries using R software.
- Perform queries to extract burnt areas from satellite products, then analyze them statistically.
- Know the characteristics of fires in different regions of the world.

Dates : October 2-13, 2023.

Module 2: From risk forecasting to fire prevention

Location: Montpellier.

Prerequisites: Module 1.

Objectives : This course focuses on the characterization of the different forcings of fire initiation and spread and addresses their management in order to reduce the vulnerability of ecosystems and societies.

Skills :

- Be able to calculate IFM indices to assess meteorological risk.
- Understand, depending on the ecosystems and regions studied, the main factors responsible for fire risk and how they can be included in the development of risk calculations.
- Understand the various means of preventing wildfire, both theoretical (models) and operational (land-use planning) in different parts of the world.
- Understand the contribution of knowledge of past fire regimes to current and future ecosystem management.
- Understand the health consequences of smoke plumes and the risks incurred by those involved in preventing and fighting fires (toxicity and biomarkers).
- Acquire a basic understanding of the forest fire risk prevention plan (PPRIF) and its positioning in relation to the local urbanization plan (PLU).
- Learn about national, European and global fire-related networks and their possible interactions.
- Understand national fire regulations.
- Understand the international legal context related to forest fires.

Dates : November 6-17, 2023.

Module 3: Integrated fire management: fire-fighting methods and means, restoration, development (first part)

Location: Valabre (near Aix-en-Provence).

Prerequisites: Module 2.

Objectives : This module focuses on the French operational strategy of fire fighting, from forecasting and fighting to stop a fire (short term) to restoring ecosystems and their management (medium and long term). This strategy was initially developed in south-east France, the region historically most affected by forest fires.

Skills :

- Explain the French strategy for fighting forest fires, explaining the 2 principles and 4 objectives to be achieved.
- Be able to identify the composition of the different teams (vehicle, unit, group, column) involved in fire-fighting and their command.
- Read and position information on the DFCI grid used in France.
- Be able to use the Campbell prediction system to project changes in fire behavior.

- know the different families of retardants, their specific features and their legislation
- Understand the specific features of the French Forest-Meteorological Index compared with the original Canadian method.

Dates : November 27- December 1, 2023.

Module 4: Integrated fire management: fire-fighting methods and means, restoration, development (second part)

Location: Bordeaux region.

Prerequisites: Module 3.

Objectives : This module consists of several days of fieldwork in the Eastern Pyrenees and the Landes de Gascogne region.

Skills :

- Understand the regional similarities and differences between southeastern and southwestern France in terms of French forest fire-fighting strategy.
- Understand how New Aquitaine's DFCI Associations are structured and operate.

Dates : December 4-8, 2023.

Contact us

Contact and registration (July to mid-September)

Head of studies: Christelle HELY, Director of Studies

Administrative registration, terms and conditions of financing: Continuing Education Department

To apply, please send an e-mail with your CV to formation.continue@ephe.psl.eu AND to christelle.hely@ephe.psl.eu