



## **Glossary of the FireLab web application:**

### **Agriculture Urban Interface (AUI)**

The interface where farms, crops, olive groves, and orchard, irrigated or non-irrigated, are exposed to forest fires. Also, it includes the Wildland-Agriculture interface.

### **Annual fire hazard**

The annual fire hazard for current conditions is a product of current annual wildfire potential (derived from relatively high spatial resolution climatic data) and [fire spread](#). More specifically, it encompasses “a physical situation (fuels, weather, and topography) with potential of causing harm or damage as a result of wildland fire”.

### **Boundary indicator**

The boundary was defined as the sum of common perimeter between urban and fire hazard areas. Accordingly, the Boundary Indicator interprets the degree of contact between urban and fire hazard areas. Such degree is critical in a sense that a higher Boundary Indicator indicates a higher threat to human lives.

### **Burned Areas**

The included burned areas were extracted from the most recent mapping of fire affected areas conducted within the “National Greenhouse Gas Inventory Report and Mitigation Analysis for the Land Use, Land Use Change, and Forestry (LULUCF) sector in Lebanon” in 2013.

The burned areas (from 2008 until present) used in the country profiles are produced within a collaborative framework between the Ministry of Environment (Department of Ecosystems) and the Institute of the Environment at the University of Balamand (Biodiversity Program).

### **Combustibility**

The fuel combustibility data were produced within a collaborative work between the Institute of the Environment and Lebanon's Reforestation Initiative (LRI) in 2013. The data were derived from a recently produced [fuel type](#) map with the use of satellite imagery and the 1998 landcover/landuse map of Lebanon. Overall, fuel combustibility refers to “the total mass of ground, surface, and canopy fuel per unit area to be consumed by fire”.

### **Country report**

The country profile is a document generated by the application “FireLab” which is developed at the Biodiversity Program (BP) at the Institute of the Environment (IOE), University of Balamand (UOB) within the USAID-PEER project 2013. The datasets used (available starting the year 2008) are based on the existing forest fire ID cards filled by the Internal Security Forces and copied to the Ministry of Environment. The dataset production comes within a collaborative framework between the Ministry of Environment (Department of Ecosystems) and the Institute of the Environment at the University of Balamand (Biodiversity Program).

### **Current fire risk**

This is a product of [annual fire hazard](#) and [overall vulnerability](#).

### **Demographic vulnerability**

The demographic vulnerability is defined as the population's sensitivity level regarding a possible occurrence of a fire event. Such vulnerability was evaluated through integration of the [Occupation](#), [Boundary](#), and [Scatter indicators](#) for each village.

### **Environmental value**

The index is based on the extent of areas which have a certain level of protection (e.g. natural reserves and protected forests among others)

### **Fire threat**

Fire threat is identified based on statistical analysis of several socio-economic factors

### **Forest vulnerability**

This index is calculated based on the [replacement value](#) index and the [environmental value](#) index of each village.

### **Fuel type**

Fuel refers to the flammable material such as tree, shrubs, and grass which allow a fire to occur and spread. The fuel type data were produced within a collaborative work between the Institute of the Environment and Lebanon's Reforestation Initiative (LRI) in 2013. The Prometheus fuel type classification system which is considered to be better adapted to the Mediterranean ecosystem was adopted.

The different types of fuel and their description are presented in the following table.

Fuel type	% Coverage	Description	Combustibility
1	Ground fuels (cover > 50%)	Grass	High
2	Surface fuels (shrub cover > 60%; tree cover < 50%)	Grassland, shrubland (smaller than 0.3-0.6 m and with a high percentage of grassland), and clear-cuts, where slash was not removed.	Moderate
3	Medium-height shrubs (shrub cover > 60%; tree cover < 50%)	Shrubs between 0.6 and 2.0 m	High
4	Tall shrubs (shrub cover > 60%; tree cover < 50%)	High shrubs (between 2.0 and 4.0 m) and young trees resulting from natural regeneration or forestation.	Very high
5	Tree stands (>4 m) with a clean ground surface (shrub cover < 30%)	The ground fuel was removed either by prescribed burning or by mechanical means. This situation may also occur in closed canopies in which the lack of sunlight inhibits the growth of surface vegetation.	Low
6	Tree stands (>4m) with medium surface fuels (shrub cover > 30%)	The base of the canopies is well above the surface fuel layer (>0.5 m). The fuel consists essentially of small shrubs, grass, litter, and duff.	High
7	Tree stands (> 4m) with heavy surface fuels (shrub cover >30%)	Stands with a very dense surface fuel layer and with a very small vertical gap to the canopy base (<0.5 m).	High

### Future fire hazard

A product of future wildfire potential (derived from project climatic data) and [fire spread](#).

### Hotspot

Hot spots events acquired between 2000 and 2013 using MODIS hotspot/fire locations.

### Occupation indicator

The Occupation Indicator determines to what extent people and therefore constructions/homes were present in a fire hazard area. This means the higher the occupation is the higher the demographic vulnerability would be.

### **Overall fire risk**

This is a product of [current fire risk](#) and [fire threat](#).

### **Overall vulnerability**

The demographic vulnerability is a product of [Occupation](#), [Boundary](#), and [Scatter Indicators](#).

### **Replacement value**

In general, the replacement value is found by estimating the cost for recovery of a forest ecosystem after fire. The reforestation cost is considered as a first approximation, given the fact that it represents a minimum cost. In this context, the actual replacement cost comes from wooded forests that might be affected by fires.

### **Risk in fire spread**

It is extracted from the mapping of current wildfire hazard in Lebanon. This involved the use of 1) Lebanon's [combustibility](#) map derived from a recently produced [fuel type](#) map, and 2) Lebanon's slope of terrains derived from a relatively high resolution Digital Elevation Model.

### **Road network**

The road network comprises all main, secondary, and agricultural roads, including asphalted and non-asphalted ones.

### **Scatter indicator**

It determines the degree of proximity of settlements in a forested area.

### **Seasonal variation in fire hazard**

The monthly fire hazard for current conditions is a product of current monthly wildfire potential (derived from relatively high spatial resolution climatic data) and [fire spread](#).

### **Village report**

The village profile is a document generated by the application “FireLab” which is developed at the BP-IOE-UOB within the USAID-PEER project 2013. The datasets used are mainly based on data generated within USAID-PEER for current biophysical and socio-economic conditions (2000-2013)

### **Wildland-Urban Interface (WUI)**

The WUI is described as the line, area, or zone where structures and other human developments meet or intermingle with undeveloped wildland or vegetative fuels (the United States Department of the Interior, 1995)