

LIFE11 ENV GR 975

FLIRE: Floods and fire Risk assessment and management



Technical Report

Action B4

31/12/2012

Project location	Greece – Attiki region
Project starting date:	01/10/2012
Project ending date:	30/09/2015
Coordinating Beneficiary	National Technical University of Athens
Associated Beneficiary responsible for Action B4	National Technical University of Athens
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Other Associated Beneficiaries involved in Action B4	NTUA
Contact Persons	NTUA: Chrysoula Papathanasiou

Name of the Action: Forest fire risk assessment and mitigation planning

Starting date of the Action: 01/01/2013

Ending date of the Action: 30/09/2013

Short description of the Action

Aim

The aim of Action B.4 is the development of the fire risk assessment and the fire propagation components that will be integrated in the framework of FLIRE.

Objectives

The main objective of Action B.4 is the development, adaptation and testing of a fire risk module using the KBDI index and a fire propagation module that will be based on the GFMS forest fire simulator. Furthermore the objective of this Action include the identification of vulnerable areas based on the analysis of the structural fire risk in the study area and the implementation of the aforementioned modules in this area in a systematic way for monitoring fire risk.

Expected outcomes

The results of this Action shall include the following software modules:

- the forest fire risk assessment module, based on the KBDI index, which will allow the daily monitoring of the forest fire risk in the study area
- the forest fire simulation web service for assessing fire propagation on-line, which module will be integrated in the DSS of FLIRE and
- the forest fire simulation module which can be used for running various potential scenarios in order to support prevention planning

This Action has informally started even before the starting date in order to be able to test the modules during the fire season of 2013. No constraints, deviations and/or amendment to the submitted proposal have been identified so far for Action B.4.

Tasks

1. Collection of appropriate data sets and ancillary information for supporting fire risk analysis and fire simulation studies (**ALGO**) [**High priority**]
2. Development of the forest fire risk assessment module based on the KBDI index. Implementation of the index in the study area. (**ALGO**) [**High priority**]
3. Fire risk analysis. Definition of potential fire scenarios for the study area. Use of the G-FMIS fire simulator and overlay analysis for the development of the structural fire risk map of the study area. (**ALGO**) [**High priority**]

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4. Development of the G-FMIS web service and implementation with data sets concerning the study area (**ALGO**) [**High priority**]
5. Investigation of interaction between fire behaviour and post-fire flood risk. Elaboration of the options of a simple model to be included in the DSS (**ALGO, NTUA**) [**High priority**]

Working Team

ALGOSYSTEMS S.A.

- **George Eftychidis** – Forester, Forest fire behaviour analyst, who will work on:
 - The preparation of the scenarios
 - The development of the structural fire risk map of the study area
 - The fire risk and fire propagation studies of the study area
 - Defining with NTUA the conceptual and modeling approach of linking fire behaviour with its relative impact to flood risk

- **Vassiliki Varela** – Forester, Forest fire modeler, GIS programming expert who will work on:
 - The design of the software modules concerning fire risk assessment and fire propagation
 - The adaptation of the fire models to the needs of FLIRE
 - The fire risk and fire propagation studies of the study area
 - Defining with NTUA the conceptual and modeling approach of linking fire behaviour with its relative impact to flood risk

- **Costantinos Chassapis**, Physicist and Computers Networking specialist, who will work on:
 - the stand alone software module that will be used for running the forest fire simulation scenarios

- **Christos Pateritsas**, Electrical engineer and Computer Science expert who will work on:
 - the data base of the study areas concerning the forest fire modeling modules
 - Web-programming of the software modules

- **Minas Pertselakis**, Electrical engineer and Computer Science expert who will work on:
 - the on-line software module concerning forest fire simulation and fire risk assessment
 - Web-programming of the software modules

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NTUA

- **Maria Mimikou** – Project Coordinator, who will work on the coordination of the NTUA team.
- **Christos Makropoulos** – Internal Project Coordinator
- **Chrysoula Papathanasiou** – Civil Engineer, Hydrologist, flood modeler,
- **Evangelos Baltas** – Senior Engineer, Hydrologist and flood modeler and
- **Nikolaos Mamassis** – Senior Engineer, Hydrologist, expert in Geoinformatics.

These members of the NTUA team will all cooperate and work on:

- Defining with ALGO the conceptual and modeling approach of linking fire behaviour with its relative impact to flood risk
- Sharing available data sets of the study area with ALGO

Further cooperation with NOA and FORTH (not foreseen in the TA) will be examined in order to investigate potential improvement of the fire risk assessment and the fire simulation module, based on the capabilities of the FLIRE consortium.

Deliverables

In the submitted proposal, no deliverables were reported for the Implementation Action B.4.

Milestones

There are two milestones mentioned and more specifically: “Availability of fire risk assessment module” (28/6/2013) and “Operation of fire propagation web services” (30/8/2013). There will be an effort obtaining these milestones before the dates mentioned above in order to have the opportunity of testing development within the 2013 fire season (Alpha test).

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Gantt-chart

TASKS		January-13	February-13	March-13	April-13	May-13	June-13	July-13	August-13	September-13
B4.1	Data collection and organization	ALGO, NTUA								
B4.2	Fire risk assessment module		ALGO							
B4.3	Fire risk analysis				ALGO					
B4.4	G-FMIS on-line module						ALGO			
B4.5	Forest fire and flood interaction frame	ALGO, NTUA								

Key references

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