

LIFE11 ENV GR 975

FLIRE: Floods and fire Risk assessment and management



## Technical Report

### Action B5

31/12/2012

<b>Project location</b>	Greece – Attiki region
<b>Project starting date:</b>	01/10/2012
<b>Project ending date:</b>	30/09/2015
<b>Coordinating Beneficiary</b>	National Technical University of Athens
<b>Associated Beneficiary responsible for Action B5</b>	National Observatory of Athens
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<b>Other Associated Beneficiaries involved in Action B5</b>	ICL
<b>Contact Persons</b>	ICL: Cedo Maksimovic

**Name of the Action: Short-term weather forecasting**

**Starting date of the Action: 01/10/2012**

**Ending date of the Action: 30/9/2015**

### **Short description of the Action**

#### **Aim**

The aim of Action B5 is the provision of short-term weather forecasting data as well as of observed data that will serve as an input in the Weather Information Management Tool (WIMT) of the Decision Support System.

#### **Objectives**

The main objectives of Action B5 are:

- To develop and run operationally a short-term weather forecasting system.
- To provide weather forecasts as well as real-time data from the network of ~20 automatic weather stations in Attiki region, to the WIMT of the Decision Support System.

#### **Expected outcomes**

As foreseen in the submitted proposal, the expected outcomes of Action B5 are:

- Real-time execution of high-resolution short-term weather forecasts over Attiki region.
- Integration of the weather forecasting model results to the WIMT of the DSS platform, with special emphasis on compatibility issues between the form of the reported data and the required information from the DSS tool.
- Integration of observations to the WIMT of the DSS platform.
- Validation of model results and especially of precipitation, against the available observations.

No deviations and/or amendment to the submitted proposal have been identified so far for Action B5.

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## Tasks

1. Finalization of the operational weather forecasting chain that will produce the forecast fields to be introduced into the WIMT. This task includes the model setup in terms of domain selection and definition, spatial and temporal resolution of the model output, selection of the physical parameterizations to be used. **[High priority]**
2. Operational weather forecasting. This task includes the procedure that will take place each day in order to provide timely the forecast fields to be incorporated into the WIMT. All the necessary measures should be taken into account so as to ensure that these data are made available every day. **[High priority]**
3. Weather monitoring. In the frame of this task the network of weather observations operated within the study area by NOA and NTUA will be made available for the needs of the model validation and incorporated in the WIMT. **[High priority]**
4. Development of the model post-processing tools. This task includes the definition of the model parameters to be incorporated into the WIMT, the format of the model output and the development of the relevant software for post-processing the model output. **[High priority]**
5. Development of validation tools. This task includes the definition of the weather parameters to be validated against the available observations during the project duration, the collection of the necessary observational dataset, the definition of the validation strategy including the statistical tools that will be used. **[High priority]**
6. Model validation. In the frame of this task based on the results of task 3 the validation of the model forecasts during the project duration period will be performed. **[High priority]**

## Working Team

The working team involved in Action B5 is described in what follows (AC=Action Coordinator; IAC: Internal Action Coordinator).

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**NOA:** Dr. Vassiliki Kotroni – AC, Research Director, Meteorologist, Model expert, Responsible for operational weather forecasting with MM5 at NOA.

**NOA:** Dr. Konstantinos Lagouvardos - Research Director, Meteorologist, Model expert, Responsible of NOA network of automated surface stations.

**ICL:** Prof. Cedo Maksimovic – IAC, Head of the Urban Water Research Group (UWRG) within the Department of Civil and Environmental Engineering at Imperial College London; Project coordinator, senior engineer, who will work on the coordination of the ICL team advise on flooding/flood protection and interaction with forest fires, post fire flood potential assessment.

**ICL:** Natalia Bulygina, Stochastic processes and uncertainty management in flood/forest fires interactions. Tasks 1, 4 and 5.

**ICL:** James E Keirstead, Integration, sustainability and optimisation issues in flood/forest fires interaction, support and supervision of the work of Maria Aivazoglou. In tasks 1, 4 and 5

**ICL:** Lipen Wang, Merging of data for fine scale rainfall and pluvial flood forecast

**ICL:** Callum Clench – Project Manager, Interactions with project coordinators and other participants in the project in order to assure timely performance of the tasks agreed.

**ICL:** Maria Aivazoglou – Civil Engineer, Environmental Engineer, flood modeler, who will work on tasks 1, 4, 5.

## **Deliverables**

The deliverable products of Action B5 of FLIRE Project are described in the following table.

<b>Name of the Deliverable</b>	<b>Deadline</b>
Weather forecasting report	28-01-2013
Model validation report	31-03-2015

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## Milestones

The milestones products of Action B5 of FLIRE Project are described in the following table.

Name of the Milestone	Deadline
Finalization of weather forecasting model chain	31-01-2013
Completion of the model post-processing tools	30-09-2013
Completion of the model validation tools	30-09-2013
Completion of model validation	31-03-2015

## Gantt-chart

Action B5: Short-term Weather Forecasting		2012			2013				2014				2015		
TASK	Name of the Task	ii	iii	iv	i	ii	iii	iv	i	ii	iii	iv	i	ii	iii
1	Finalisation of the operational weather forecasting chain			■	■										
2	Operational weather forecasting					■	■	■	■	■	■	■	■	■	■
3	Weather monitoring				■	■	■	■	■	■	■	■	■	■	■
4	Development of the model post-processing tools					■	■								
5	Development of validation tools					■	■								
6	Model validation							■	■	■	■	■	■	■	■

## Key references

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