Strasbourg 26 February 2018 AP/CAT (2017) 12

EUROPEAN AND MEDITERRANEAN MAJOR HAZARDS AGREEMENT

(EUR-OPA)

NETWORK OF SPECIALISED EURO-MEDITERRANEAN CENTRES

Draft Compilation of Project Proposals for 2018 - 2019

Document prepared by the Secretariat
of the EUR-OPA Major Hazards Agreement

This document will not be distributed at the meeting. Please bring a copy

Table of Contents

EUR-OPA SPECIALISED CENTRES
2018 - 2019 PROJECT PROPOSALS

Algeria - CRSTRA

SPECIALIST CENTRES – PROPOSED PROJECTS 2018-2019

MEDIUM-TERM ACTION PLAN PRIORITIES

x **Using scientific and technological knowledge to assess more effectively evolving risks and adapt the resilience strategies accordingly**

 Strengthening co-operation among all decision-makers to better define the appropriate role of the authorities in disaster risk reduction (DRR)

x **Promoting "risk culture" among the population (children, adults and particularly vulnerable groups)**

 Fostering the active participation of the population (individually and as a community) in DRR

PROJECT No.:

NAME OF THE CENTRE	Centre for Scientific and Technical Research on Arid Regions (CRSTRA)	
COUNTRY	Algeria	
REPRESENTED BY	Ms F. Lakhdari	
PROJECT TITLE	Heat-wave risk and adaptation strategies	
DURATION	2018☐	2019☐
PARTNERS	BUDGET IN €	
Co-ordinating centre		
Partner Centre 1		
Partner Centre 2		
Partner Centre 3		

1. Context

The studies conducted by the CRSTRA under the EUR-OPA Major Hazards Agreement have pinpointed the trend in heat-waves against the background of climate change, highlighting an increase in the length, frequency and intensity of heat-waves since the 1980s. At the same time, the workshops on heat-wave risks and adaptation held by the CRSTRA as part of the activities of the EUR-OPA programme (2014-2015) for the various stakeholders involved in dealing with these risks (Civil Defence, health service, National Climate Change Agency (ANCC), etc.) have produced various recommendations. Some have been implemented; for instance, for the first time in Algeria, alerts have been issued in the media to warn the public about impending heat-waves and the precautions to be

taken. At present, the CRSTRA is developing tools to aid decision-making (heat-wave risk maps for Algeria) and also drawing up an inventory of best practices based on traditional local skills in terms of heat-wave risk adaptation and mitigation. In addition, the CRSTRA is developing outreach media for national institutions, local authorities and vulnerable population groups (children, elderly persons and persons with chronic diseases).

For the next phase (2018-2019), we intend to move on from defining the heat-wave risk to establishing a heat-wave geographical information system (GIS) for risk evaluation. To reach as many people as possible, we will use social media for awareness-raising, outreach, alerts and promoting the relevant risk culture.

2. Specific objectives

[Description of the specific objectives of the project for each year – Maximum 8 lines]

2018

Using scientific and technological knowledge to assess more effectively evolving risks and adapt the resilience strategies accordingly

- Updating and expansion of the heat-wave database for Algeria. Could be a benchmark for the Mediterranean region for this risk because of the size of its territory and its geographical location.
- GIS: development of the conceptual model for the heat-wave GIS for Algeria.
- Inventory of local skills in the region of Adrar (Touat), Oued Souf (Souf) and Touggourt (Rhir).

Promoting "risk culture" among the population (children, adults and particularly vulnerable groups)

- Awareness-raising through the tools and media developed (heat-wave risk platform on the www.crstra.dz website, posters, radio broadcasts, etc.).

2019

Using scientific and technological knowledge to assess more effectively evolving risks and adapt the resilience strategies accordingly

- Updating and expansion of the heat-wave database for Algeria.
- Heat-wave risk GIS (multicriteria analysis) for drawing up the heat-wave risk map for Algeria.

Promoting "risk culture" among the population (children, adults and particularly vulnerable groups)

- Awareness-raising through social media and heat-wave risk platform on the www.crstra.dz website).

3. Activities

[Detailed description of the activities to be carried out in line with the budget – Maximum 24 lines]

2018

Co-ordinating centre:

- Updating of the database of days with heat-waves in Algeria and expansion with additional stations.
- Development of the conceptual model for the heat-wave GIS for Algeria.
- Preparation of data layers for the GIS.
- Carrying out of a survey on local skills in the region of Ghardaïa and El Oued.
- Creation of the risk platform on the www.crstra.dz website.

The project is open to all Euro-Mediterranean Agreement centres which wish to take part.

Partner 1:

Partner 2:

Partner 3:

2019

Co-ordinating centre:

- Updating and expansion of the heat-wave database for Algeria.
- Select expert workshop for the heat-wave GIS and the multicriteria analysis.
- Production of risk maps on the basis of the multicriteria analysis.
- CRSTRA platforms on heat-wave risk with at least five outreach videos.
- Production of a guide to local skills based on local know-how, with possible optimisation if necessary.

Partner 1: The project is open to all Euro-Mediterranean Agreement centres which wish to take part.

Partner 2:

Partner 3:

4. Anticipated results

[Description of the anticipated results of the project for each year – Maximum 8 lines]

2018

- Updating of the database on days with heat-waves and expansion with additional stations so as to complete the coverage of Algeria.
- Development of the conceptual model for the heat-wave GIS for Algeria.
- Creation of a platform on the www.crstra.dz website covering climate risks in general and the heat-wave risk in particular.
- Extending study of the inventory of local skills in the region of Adrar (Touat), Oued Souf (Souf) and Touggourt (Rhir). The choice of the entities for the survey is based on an agri-ecological and socio-economic distribution cutting across the Sahara from East to West.

2019

- Updating of the database on days with heat-waves and expansion with additional stations so as to complete the coverage of Algeria.
- Production of heat-wave risk maps.
- Further development of the heat-wave risk platform on the www.crstra.dz website.

5. Deliverables

[Description of the specific results/products of the project (meeting and workshop reports, maps, guidelines, recommendations, brochures, leaflets, website, etc.) – Maximum 24 lines]

2018

Co-ordinating centre:

- Methodological report on the development of the conceptual model for the heat-wave GIS for Algeria.
- Development of a heat-wave risk platform on the crstra.dz website.
- Guide to local heat-wave risk adaptation skills.

Partner 1: The project is open to all Euro-Mediterranean Agreement centres which wish to take part.

Partner 2:

Partner 3:

2019

Co-ordinating centre:

- Updating and expansion of the heat-wave database for Algeria.
- Heat-wave risk maps for Algeria.
- CRSTRA platforms on heat-wave risks with at least five outreach videos.

Partner 1: The project is open to all Euro-Mediterranean Agreement centres which wish to take part.

Partner 2:

Partner 3:

Armenia - ECRM

PRIORITY FOR ACTION OF THE MEDIUM TERM PLAN:

☐ Using scientific and technological knowledge to better assess evolving risks and adapt accordingly the resilience strategies.

☐ Developing cooperation among all decision-makers to better define authorities' adequate role in DRR.

☐ Promoting risk culture among population (children, adults and groups with special vulnerability).

☒ Fostering population's active participation (as individuals and as community) to DRR.

PROJECT N°: 4.2. Awareness campaigns and public participation.

NAME OF THE CENTRE	European Interregional Scientific and Educational Centre on Major Risk Management (ECRM)	
COUNTRY	Republic of Armenia	
REPRESENTED BY	Stepan Badalyan, Director of ECRM	
TITLE OF THE PROJECT	Development of the "Methodology and Action plan to prepare and regularly hold national and municipal "Campaigns" on informing, awareness raising, acquisition and consolidation of adequate behavior skills and warning for all groups of the population about emergencies".	
DURATION	2018 ☐	2019 ☐
PARTNERS		
Coordinator Centre: ECRM, Yerevan, Armenia		
Partner Centre 1: TESEC, Kiev, Ukraine		
Partner Centre 2: CERU, Lisbon, Portugal, or GHHD, Tbilisi, Georgia		
Partner Centre 3: Specialised Centre, Croatia		

1. **Background**
   [Describe the general aim of the project and what has been achieved so far on related matters – Maximum 10 lines]

By taking into account the significance of the provision of knowledge to enhance awareness and preparation of all groups of the population, to promote effectiveness of actions in disaster risk reduction, and of the complexity of the issues in this area, it is necessary to note, that these issues can be resolved in the most effective way only on the system based approach within the regularly functioning and upgraded national and municipal systems for informing, awareness raising, acquisition and consolidation of adequate behavior skills and warning all groups of the population about emergencies, including the most vulnerable groups.

One of the most effective ways for the setting up and improvement of the above system is launching well prepared and regularly held relevant national and municipal "Campaigns" being inter-combined and mutually supported and enhanced.

2. Specific objectives

[Describe the specific objectives of the project for each year - Maximum 8 lines]

2018

Developing a preliminary version of the "Methodology and Action Plan to prepare and regularly hold national and municipal "Campaigns" on informing, awareness raising, acquisition and consolidation of adequate behavior skills and warning all groups of the population about emergencies" in English and Russian.

Preparation of preliminary versions of some information-educational materials, assigned to be utilized while holding both: national and municipal "Campaigns", including the basic (national) materials for door-to-door distribution and corresponding materials for the municipalities at special risk and for the most vulnerable groups of population.

Distribution of the above documents to partner-centres and concerned national institutions for comments and proposals, discussions at a national level.

2019

Collecting comments and proposals to analyse them.

Developing a final version of the above "Methodology and Action plan" in English and Russian. Preparation of final versions of the above information-educational materials.

Such "Campaigns" are called to combine awareness raising and teach people in working places of their enterprises and establishments; in educational institutions; in other public places, where people usually congregate; in each family through a common policy of inter-combined basic (national) and additional (municipal) information-educational materials, assigned for dissemination through all mass media.

3. **Activities**

[Describe detailed activities to be carried out in relation to the budget – Maximum 24 lines]

2018

<u>Coordinator Centre:</u>

Substantiation of the need for development of the Project under the priorities set by the World Conference on Disaster Risk Reduction.
Acknowledgement of experience gained by the state-members of the EUR-OPA Major Hazards Agreement, European Union and other states in the field under consideration.
Analyses of the state of the corresponding National System.

Revision of the Action Plans for the population (individual plans, family plans, collective residential plans, plans for establishments, organizations, schools and other educational institutions) given the specifics of the region, the municipalities under special risk, and the most vulnerable groups of the population, as well as the level to which theses plans are related to the municipal plans.

Development of the preliminary version of the methodological documents, aimed to prepare and regularly hold national and municipal "Campaigns". Formulation of the Project short- and long term goals, as well as objectives, aiming at their achievement. Bringing in the key elements, Project basic principles and the steps required for their implementation, detailed consideration of the Project phases: planning, preparation, implementation and assessment.

Creation of the preliminary versions of the information-educational materials, assigned for use in holding both: national and municipal "Campaigns".

Holding discussions regarding the preliminary versions of the above methodological documents and information-educational materials in the Academy of Crisis Management of the Ministry of Emergency Situations of RA with the involvement of experts in the relevant fields. Preliminary correction of the above documents and materials, drawn on the feedback from discussions, as an intellectual contribution.

Edition of the above documents and materials, their translation into English and Russian.

Distribution of the documents and materials to partner-centres and national institutions for comments and proposals. Collection of the comments and proposals to analyze them.

Partner 1:

Analyze the preliminary versions of the "Methodology and Action Plan" as well as some information-educational materials: basic (national) and relevant materials for the municipalities at likely radiological risks and for the municipalities in whose territories some hazardous substances are being produced, used or stored.

Develop comments and proposals to improve the above documents.

Partner 2:

Analyze the preliminary versions of the "Methodology and Action Plan" as well as some information-educational materials: basic (national) and relevant materials for the municipalities, situated in flood prone vicinities (with reservoirs adjacent to inundation areas) and materials for the population on how to act when an earthquake is real or seems imminent.

Develop comments and proposals to improve the above documents.

Partner 3:

Analyze the preliminary versions of the "Methodology and Action Plan", as well as some information-educational materials: basic (national) and relevant materials for the groups of population most vulnerable to disasters (in particular people with disabilities and especially children).

Develop comments and proposals to improve the above documents.

2019

Coordinator Centre:

Develop a final version of the "Methodology and Action plan" by given comments and proposals from partner-centres and experts of national institutions (see more above: 2018).

Prepare final versions of the basic (national) and corresponding municipal (for the municipalities at special risk) information-educational materials, as well as materials for the most vulnerable groups of

the population.

Partner 1:

Contribute to the development of the final versions of the above-mentioned (see 2018) documents.

Partner 2:

Contribute to the development of the final versions of the above-mentioned (see 2018) documents.

Partner 3:

Contribute to the development of the final versions of the above-mentioned (see 2018) documents.

4. **Expected Results**
[Describe the expected results of the project for each year - Maximum 8 lines]

2018

The preliminary version of the "Methodology and Action plan to prepare and regularly hold national and municipal "Campaigns" on informing, awareness raising, acquisition and consolidation of adequate behavior skills and warning all groups of population about emergencies" in English and Russian.

The preliminary versions of relevant information-educational materials, assigned to be utilized while holding both: national and municipal "Campaigns

Comments and proposals from the partner-centres and experts of concerned national institutions.

2019

The final version of the "Methodology and Action plan to prepare and regularly hold national and municipal "Campaigns" on informing, awareness raising, acquisition and consolidation of adequate behavior skills and warning all groups of population about emergencies" in English and Russian, with contributions made by the partner-centres and experts of the concerned national institutions.

The final versions of relevant information-educational materials: the basic (national) and for the municipalities at special risk, assigned to be utilised while holding both: national and municipal "Campaigns", as well as for the most vulnerable groups of population.

5. **Deliverables**
[Describe concrete outputs (workshop report, maps, guidelines, recommendations, brochures, leaflets, development of websites, etc.) – Maximum 24 lines]

2018

Coordinator Centre:

A preliminary version of the "Methodology and Action plan to prepare and regularly hold national and municipal "Campaigns" on informing, awareness raising, acquisition and consolidation of adequate behavior skills and warning all groups of population about emergencies" in English and Russian.

Within the framework of the above document will be presented inter alia:

Recommendations on involving all groups of the population into undertaking associated individual or collective action to prevent or mitigate the consequences and to prepare to face disasters, including the ones dealing with drafting of individual emergency and collective action plans, as well as their consistence with municipal evacuation plans.

Recommendations on the development of adequate communication tools for mass media and cooperation with mass media within all phases pursued in preparing and holding national and municipal "Campaigns": 1. Planning, 2. Preparation, 3. Execution, 4. Evaluation of "Campaign".

Additionally, preliminary versions of the below documents will be presented:

Some “basic” (national) information-educational materials for door-to-door distribution, assigned to be utilized while holding both: national and municipal “Campaigns” (a leaflet and two brochures: short and more detailed).

Three additional information-educational Modules (brochures) for the municipalities at special risk: one for the municipalities at radiological risk; another for the municipalities in whose territories some hazardous substances are being produced, used or stored, and the third for the municipalities, situated in flood prone vicinities (with reservoirs adjacent to an inundation area).

The “Manual for the population on how to act when an earthquake is real or seems imminent.

Partner 1:

Recommendations, comments and proposals to improve the preliminary versions of the “Methodology and Action Plan”, as well as some information-educational materials: “basic” (national) - a leaflet and two brochures, and two Modules (brochures) for the municipalities at likely radiological risk and for the municipalities in whose territories some hazardous substances are being produced, used or stored.

Partner 2:

Recommendations, comments and proposals to improve the preliminary versions of the “Methodology and Action Plan”, as well as some information-educational materials: “basic” (national) - a leaflet and two brochures, and two Modules (brochures) for the municipalities, situated in flood prone vicinities (with reservoirs adjacent to an inundation area), and for population, concerning how to act, when an earthquake is real or seems imminent.

Partner 3:

Recommendations, comments and proposals to improve the preliminary versions of the “Methodology and Action Plan”, as well as some information-educational materials: “basic” (national) - a leaflet and two brochures, and Module (brochure) for the groups of population, being most vulnerable to disasters (in particular people with disabilities and including children).

2019

Coordinator Centre:

The final version of the “Methodology and Action Plan” with the recommendations presented within the frameworks of the mentioned document (see more above: 2018), by given comments and proposals from partner-centres and national experts.

The final versions of relevant information-educational materials: a leaflet and six brochures (see more above: 2018).

Partner 1:

Contribution to the final versions of the “Methodology and Action Plan”, as well as to relevant information-educational materials (brochures, see more above: 2018).

Partner 2:

Contribute to the final versions of the “Methodology and Action Plan”, as well as to relevant information-educational materials (brochures, see more above: 2018).

Partner 3:

Contribute to the final versions of the “Methodology and Action Plan”, as well as to relevant information-educational materials (brochures, see more above: 2018).

Bulgaria - ECRP

SPECIALISED CENTRES - PROJECT PROPOSAL 2018-2019

PRIORITY FOR ACTION OF THE MEDIUM TERM PLAN:

- Using scientific and technological knowledge to better assess evolving risks and adapt accordingly the resilience strategies.
- Developing cooperation among all decision-makers to better define authorities' adequate role in DRR.
- Promoting risk culture among population (children, adults and groups with special vulnerability).
- Fostering population's active participation (as individuals and as community) to DRR.

PROJECT N°: 2.1

NAME OF THE CENTRE	European Centre for Risk Prevention (ECRP), Sofia – (Partner 1)
COUNTRY	Bulgaria
REPRESENTED BY	Kolio Kolev
TITLE OF THE PROJECT	Identification of good governance practices in the management of nuclear disasters and cross-border technology. (Coordinated TESEC, Kiev)

DURATION	2018 x	2019	
PARTNERS	BUDGET IN EURO	BUDGET IN EURO	TOTAL BUDGET 2018 - 2019
Coordinator Centre: TESEC Ukraine			
Partner Centre 1: ECRP Bulgaria			

1. Background

In 2011, after Fukushima nuclear accident, the meeting of the EUR-OPA Permanent Correspondents requested the network of scientific centers to develop a booklet "Basic Knowledge of Nuclear Hazards: Lessons from CHERNOBYL and FUKUSHIMA" in order to better inform and protect people against nuclear or radiation disasters. The Booklet has been developed, translated in 12 languages, successfully presented in more than 20 countries and became an information tool for better protection of people. This is a good basis for harmonising the response of nuclear hazards in case of an accident involving different countries, which is extremely important for cross-border cooperation. Unfortunately, in case of nuclear accident people do not feel directly the radiation and has to trust information, which could be different in neighbouring countries and need to be harmonised, as well as early warning and other implemented countermeasures.

2. Specific objectives

We continue collecting and distributing best international experience for the protection of people against nuclear disasters, also using good governance practices in the management of nuclear disasters and cross-border technology. National and

international regulation (like IAEA conventions) defined some key points in cross-border cooperation in case of nuclear accident but precise studies of Chernobyl and Fukushima disasters on international exercises in neighbour countries, demonstrated that some important issues for better protection of people still need improvement. Like the harmonisation of early warning systems, effective channels for communication, take into account different levels of emergency management (state, local), communication with mass media and public, radio-monitoring procedures and forecasting of the radiological situation, intervention levels for different countermeasures and others.
The aim is to develop a questionnaire on all these issues - for defining good governance practices for better protection of people against nuclear disasters, taking into account cross-border cooperation. It will be distributed to member states and neighbouring countries for collecting different practices and problems, and be analysed by experts. On this basis, recommendations for better protection of people in case of nuclear disasters will be developed and adopted by EUR-OPA.
As Chernobyl and Fukushima demonstrated that citizens of countries far away from Chernobyl or Fukushima also worry about health effects of disasters, such system of governance and information is of interest to many counties.

2018

Develop a questionnaire about the governance of cross-border collaboration in case of nuclear disasters. Reflect on such issues to better harmonise early warning systems, effective channels for communication, take into account different levels of emergency management (state, local), communication with mass media and public, radio-monitoring procedures and forecasting of the radiological situation, intervention levels for different countermeasures and others.

Distribute the questionnaire to member states.

Collect information from the replies to the questionnaire and analyse it.

Develop proposals for good governance practices.

Prepare document for adopting by EUR-OPA and distribution to member States.

3. Activities

2018

Coordinator Centre:

Develop a questionnaire about the governance of cross-border collaboration in case of nuclear disasters, reflect on such issue to better harmonise early warning systems, effective channels for communication, take into account different levels of emergency management (state, local), communication with mass media and public, radio-monitoring procedures and forecasting of the radiological situation, intervention levels for different countermeasures and others.
Distribute the questionnaire to member states.

Collect information from the replies to the questionnaire of different countries and analyse it.

Develop proposals for good governance practices. Prepare document for adoption by EUR-OPA and distribution to member states.

Partner 1:

ECRP Bulgaria

Contribute to developing the questionnaire about the governance of trans-border collaboration in case of nuclear disasters.

Help national authority to reply to the questionnaire.

Contribute to developing proposals for good governance practices.

Partner 2:

ECBR Romania

Contribute to developing the questionnaire about the governance of trans-border collaboration in case of nuclear disasters.

Help national authority to reply to the questionnaire.

Contribute to developing proposals for good governance practices.

Partner 3:

ECRM Armenia

Contribute to developing the questionnaire about the governance of trans-border collaboration in case of nuclear disasters.

Help national authority to reply to the questionnaire.

Contribute to developing proposals for good governance practices.

Partner 4:

AFEM Turkey

Translate into Turkish the "Basic Knowledge of Nuclear Hazards: Lessons from CHERNOBYL and FUKUSHIMA"Booklet to present it to national authority.

4. Expected Results

Better protection of people against nuclear disasters using good governance practices in the management of nuclear disasters and cross-border technology.
A questionnaire will be developed for defining good governance practices for better protection of people against nuclear disasters, taking into account cross-border cooperation. It will be distributed to member states for collecting data on different practice and problems, and will be analysed by experts. On this basis, recommendations for better protection of people in case of nuclear disasters will be developed and adopted by EUR-OPA.

2018

A questionnaire about the governance of cross-border collaboration in case of nuclear disasters, reflect on such issues to better harmonise early warning systems, effective channels for communication, take into account different levels of emergency management (state, local), communication with mass media and public, radio-monitoring procedures and forecasting of the radiological situation, intervention levels for different countermeasures and others will be developed.
A recommendation for better protection of people in case of nuclear disasters will be developed and adopted by EUR-OPA.

5. Deliverables

Development of a questionnaire, distribution of the questionnaire to the member states, report on replies obtained, drafting of Recommendations to be addressed to EUR-OPA member states.

2018

Coordinator Centre:

A questionnaire about the governance of cross-border collaboration in case of nuclear disasters, reflect on such issues to better harmonise early warning systems, effective channels for communication, take into account different levels of emergency management (state, local), communication with mass media and public, radio-monitoring procedures and forecasting of radiological situation, intervention levels for different countermeasures and others will be developed.
A recommendation for better protection of people in case of nuclear disasters will be developed.

Partner 1:

ECRP Bulgaria

Contribution to the questionnaire about the governance of cross-border collaboration in case of nuclear disasters, reflect on such issues to better harmonies early warning systems, effective channels for communication, take into account different levels of emergency management (state, local), communication with mass media and public, radio-monitoring procedures and forecasting of the radiological situation, intervention levels for different countermeasures and others.

Contribution to a recommendation for better protection of people in case of nuclear disasters.

Partner 2:
ECBR Romania
Contribution to the questionnaire about the governance of cross-border collaboration in case of nuclear disasters, reflect on such issue to better harmonise early warning systems, effective channels for communication, take into account different levels of emergency management (state, local), communication with mass media and public, radio-monitoring procedures and forecasting of the radiological situation, intervention levels for different countermeasures and others.
Contribution to a recommendation for better protection of people in case of nuclear disasters.

Partner 3:
ECRM Armenia
Contribution to the questionnaire about the governance of cross-border collaboration in case of nuclear disasters, reflect on such issue to better harmonise early warning systems, effective channels for communication, take into account different levels of emergency management (state, local), communication with mass media and public, radio-monitoring procedures and forecasting of the radiological situation, intervention levels for different countermeasures and others.
Contribution to a recommendation for better protection of people in case of nuclear disasters.

Partner 4:
AFEM Turkey
Booklet “Basic Knowledge of Nuclear Hazards: Lessons from CHERNOBYL and FUKUSHIMA” translated to Turkish and presented to National authority.

Cyprus – Be Safe Net

SPECIALISED CENTRES - PROJECT PROPOSAL 2018-2019

PRIORITY FOR ACTION OF THE MEDIUM TERM PLAN:

☒ Using scientific and technological knowledge to better assess evolving risks and adapt accordingly the resilience strategies.

☐ Developing cooperation among all decision-makers to better define authorities' adequate role in DRR.

☒ Promoting risk culture among population (children, adults and groups with special vulnerability).

☒ Fostering population's active participation (as individuals and as community) to DRR.

PROJECT N°:

NAME OF THE CENTRE	European Centre for Disaster Awareness with the use of Internet; Nicosia
COUNTRY	Republic of Cyprus
REPRESENTED BY	Demetris Christou, Civil Engineer, Cyprus Civil Defence, Ministry of Interior, Republic of Cyprus
TITLE OF THE PROJECT	Protect yourself from hazards - BeSafeNet.

DURATION	2018 ☐X	2019 ☐X	
PARTNERS	BUDGET IN EURO	BUDGET IN EURO	TOTAL BUDGET 2018 - 2019
Coordinator Centre: BeSafeNet			
Partner Centre 1: TESEC			
Partner Centre 2:			
Partner Centre 3:			

Background
Natural and technological disasters cause great human and economic losses and we cannot prevent

many of them (especially those natural) but there are ways to minimize the risk of disaster, in particular by distributing to all countries the best international experience on Emergency Management.

The main aim of the BeSafeNet initiative is to better protect people from hazards through an improved information process on the nature, causes and consequences of natural and technological hazards. A wide distribution of such knowledge will help people to better understand the potential risks and consequently to better protect themselves against them.

The BeSafeNet initiative represents an opportunity for networking to provide e-learning material on natural and technological hazards and related risks.

6. **Specific objectives**
   [Describe the specific objectives of the project for each year - Maximum 8 lines]

2018

In order to foster knowledge on hazards and the associated preventive measures among secondary school students, an Olympiad on Natural and Technological Hazards will be organized in March/April 2019. The Olympiad will consist of an online competition.

The Quiz will be based on the content of BeSafeNet.net, a web-portal on Risk Awareness.

Based on Specialized Centers' respective fields of expertise (earthquakes, landslides, nuclear accidents, etc.), it provides trusted educational material about hazards, risks and preparedness.

In 2018 the final version of Multiple-choice Questions and Answers for Earthquake, Landslides and Nuclear Hazards will be developed and verified.

Dissemination for the Olympiad competition using digital posters, social media, Permanent Correspondents and Council's Network.

2019

Dissemination for the Olympiad competition using digital posters, social media, Permanent Correspondents and Council's Network etc.

Promote participation in the Olympiad.

Olympiad procedure will be tested by EUR-OPA network of Specialized Centers and their feedback will be collected.

Launch Olympiad Competition on March/April 2019

7. **Activities**
   [Describe detailed activities to be carried out in relation to the budget – Maximum 24 lines]

2018

Coordinator Centre:

In 2018 the final version of Multiple-choice Questions and Answers (MCQ) for Earthquake, Landslides and Nuclear Hazards will be developed and verified.

Launch the registration for the Olympiad.

Disseminate the Olympiad competition using digital posters, social media, Permanent Correspondents and Council's Network etc.

Promote participation in the Olympiad.

Editorial Board meeting on April/May in Strasburg.

Joint meeting of the Permanent Correspondents and Director of the Specialized Centers.

Partner 1:

Develop and verify final version of Multiple-choice Questions and Answers for Nuclear Hazards

Partner 2:

Partner 3:

2019

Coordinator Centre:

Disseminate the Olympiad competition using digital posters, social media, Permanent Correspondents and Council's Network etc.

Promote participation in the Olympiad.

Organize the Olympiad competition.

Editorial Board meeting.

Joint meeting of the Permanent correspondents and Director of the Specialized Centers.

Partner 1:

Supervising, monitoring and evaluation of participants replies to MCQ for Nuclear Hazards

Partner 2:

Partner 3:

8. **Expected Results**
[Describe the expected results of the project for each year - Maximum 8 lines]

2018

To reach the aim of the website which is to become a multilingual educational tool in the hands of teachers focusing on risk prevention, preparedness, immediate reaction and rehabilitation.

BeSafeNet to become an interactive tool.

Enroll as many participant teams as possible.

2019

BeSafeNet to become an interactive tool.

Enroll as many participant teams as possible.

Test and finalize the Olympiad competition based on feedback.

A successful Olympiad Competition.

9. **Deliverables**
[Describe concrete outputs (workshop report, maps, guidelines, recommendations, brochures, leaflets, development of websites, etc.) – Maximum 24 lines]

2018

Coordinator Centre:

To produce a Digital Poster.

A list of participants, as many as possible.

Final version of Multiple-choice Questions and Answers

Dissemination of the Olympiad Competition.

Partner 1:

Partner 2:

Partner 3:

2019

Coordinator Centre:

A list of participants, as many as possible.

Dissemination of the Olympiad Competition.

Lunch the final version of Olympiad (to be used for future competitions).

Partner 1:

Partner 2:

Partner 3:

Georgia - GHHD

SPECIALISED CENTRES - PROJECT PROPOSAL 2018-2019

PRIORITY FOR ACTION OF THE MEDIUM TERM PLAN:

☒ Using scientific and technological knowledge to better assess evolving risks and adapt accordingly the resilience strategies.

☐ Developing cooperation among all decision-makers to better define authorities' adequate role in DRR.

☐ Promoting risk culture among population (children, adults and groups with special vulnerability).

☐ Fostering population's active participation (as individuals and as community) to DRR.

PROJECT N°: 1.1. Social networks serving to inform the population and vulnerable groups in the management of major hazards. Possible actions: Development of early warning systems and monitoring tools with a focus on inter- institutional partnership and coordination.

NAME OF THE CENTRE	Geodynamical Hazards of High Dams (GHHD)
COUNTRY	Georgia
REPRESENTED BY	Prof. T. Chelidze
TITLE OF THE PROJECT	**Development of innovative cost-effective autonomous telemetric early warning system for detecting floods, mudflows and rockfall initiation**

DURATION	2018 X	2019 X	
PARTNERS	BUDGET IN EURO	BUDGET IN EURO	TOTAL BUDGET 2018 - 2019
Coordinator Centre: GHHD			
Partner Centre 1: CERG			
Partner Centre 2: ECMNR			

10. **Background**
[Describe the general aim of the project and what has been achieved so far on related matters - Maximum 10 lines]

Flashfloods, rapid mudflows and rockfalls occur in most countries in the world, including Europe. They can cause gross damage and heavy human losses: as was the case in recent catastrophic events in Germany, Poland, Hungary, France, Italy etc. According to the new data, catastrophic events have occured more and more frequently over the last decades due to global climate change. Georgia, France and Moldova are prone to such catastrophes. Flashfloods, mudflows and rockfalls Early Warning

Systems (EWS) can save many lives and reduce damage. Existing EWS systems for such events are as a rule expensive. Development of effective and cost-effective telemetric autonomous EWS is very important, especially for developing countries, which are most vulnerable to hydrogeological catastrophes. Creation of such systems became possible last years thanks to development of compact, precise and very cheap high-tech devices (MEMS, Arduino) or through the use of low-cost optical cameras and open sources processing libraries (e.g. structure-from-motion).

11. Specific objectives

[Describe the specific objectives of the project for each year - Maximum 8 lines]

2018

WP1. Analysis of existing water level monitoring systems' sensors for selection of modern cost-effective and accurate sensors for monitoring water level in rivers as well as multi-channel data acquisition module *(GHHD)*

Analysis of existing cameras systems for monitoring water levels, mudflows and rockfalls and creating times series of images *(CERG)*

WP2. Assembling and testing the water level monitoring prototype module including sensors and data acquisition system and testing it in laboratory conditions *(GHHD).* Deployment of a series of permanent terrestrial cameras on-site for mudflow and rockfall monitoring *(CERG).*

WP3. Assembling and testing of existing cost-effective power sources (solar batteries etc) to provide autonomous regime of water level monitoring system in rivers in laboratory conditions *(GHHD)*

WP4. Testing open source librairies for an automated processing of stacks of images in order to detect changes (e.g. slope erosion, mass in moverment) and possibly create digital surface models *(CERG)*

2019

WP5. Analysis, assembling and testing of existing cost-effective telemetry systems to provide close to real-time transmission water level monitoring system in rivers in laboratory conditions *(GHHD)*.

WP6. Selection of appropriate site with high risk of flooding for installation of field monitoring station and information on seasonal safe, increased and critical water levels *(GHHD)*.

WP7. Development of on-site processing tools for rapid identification of possible changes in the slope surface morphology (e.g. integration of the processing algorithm on low-cost PCs) and testing the systems on the sites of year 2018 (*CERG*).

WP8. Assembling field monitoring station and testing of autonomous telemetric early warning system for detecting flood initiation to provide close to real-time transmission of water level in rivers in natural conditions

12. **Activities**

[Describe detailed activities to be carried out in relation to the budget – Maximum 24 lines]

2018

<u>Coordinator Centre:</u>

WP.1. 1. Analysis of existing water level monitoring systems' sensors for selection of modern cost-effective and accurate sensors for monitoring water level in rivers
WP.1.2. Analysis of existing modern cost-effective multi-channel data acquisition modules for accumulation of water level data.
WP.2.1. Assembling the working monitoring prototype module including water level sensors
WP.2.2. Assembling the working monitoring prototype module including sensors and data water level acquisition system and testing it in laboratory conditions

WP.3.1. Analysis of existing cost-effective power sources (solar batteries etc) to provide autonomous regime of water level monitoring system in rivers
WP.3.2. Assembling and testing of existing cost-effective power sources (solar batteries etc) to provide autonomous regime of water level monitoring system in rivers in laboratory conditions

Partner 1:

CERG: WP.1.1.Contribute to the selection of modern cost-effective and accurate sensors for monitoring water level in rivers. Analysis of existing cameras systems for monitoring mudflows and rockfalls and creating times series of images. Benchmark of several cameras and comparisons to reference high resolution datasets.

CERG: WP.1.2. Contribution to the selection of modern cost-effective multi-channel data acquisition modules for collecting water level data and times series of photographs.

CERG: WP.2.1. Deployement of 3 permanent terrestrial cameras in the field (site prone to mudflow and rockfall monitoring). Testing of the systems in terms of energy consumption, performance, and data quality. Acquisition of external datasets (LiDAR) for creating reference data for comparisons. Definition of optimal storage systems (e.g. database) for archiving all the data (raw, corrected, processed) and provide data requests.

CERG: WP.4.1. Testing open source librairies (MicMac, PCL) for an automated processing of stacks of images in order to detect qualitative changes in the morphology of the slope (e.g. monoscopic approach). Identification of the best strategy to create digital surface models from pairs of imags (e.g. stereo-scopic approach) and derive quantiative measaures of changes. Comparisons of the results to ancillary data.

Partner 2:

ECMNR: WP.1.1.Taking part in selection of modern cost-effective and accurate sensors for monitoring water level in rivers

ECMNR: WP.1.2. Taking part in selection of modern cost-effective multi-channel data acquisition modules for accumulation of water level data.

2019

Coordinator Centre:

WP.5. Analysis, assembling and testing of existing cost-effective telemetry systems to provide close to real-time transmission water level monitoring in rivers in laboratory conditions.

WP.6. Selection of appropriate site with high risk of flooding for installation of field monitoring station

WP.8. Assembling field monitoring station and testing of autonomous telemetric early warning system for detecting flood initiation to provide close to real-time transmission of water level in rivers in natural conditions

Partner 1:

CERG: WP.5. Analysis of existing cost-effective telemetry systems to provide close to real-time transmission water level monitoring in rivers in laboratory conditions.

CERG: WP.6. Selection of appropriate site with high risk of flooding for future installation of field monitoring station

CERG: WP.7. Integration of the proposed algorithms of WP4 on-site processing on low-cost PCs for rapid transmission of 1st order information. Testing the systems on the sites equiped in 2018. Comparisons to other datasets.

Partner 2:

ECMNR: WP.5. Analysis of existing cost-effective telemetry systems to provide close to real-time transmission water level monitoring in rivers in laboratory conditions.

ECMNR: WP.6. Selection of appropriate site with high risk of flooding for installation in future field monitoring station

13. **Expected Results**
[Describe the expected results of the project for each year - Maximum 8 lines]

2018

WP.1. Selection of modern cost-effective and accurate sensors for monitoring water level in rivers, and slope morpholofy changes (e;g. camzras) as well as multi-channel data acquisition module
WP.2. Assembled and tested in laboratory conditions monitoring prototype module for water levels in rivers ; tested cameras systems on site (real conditions) for mudflow and rockfalls monitoring and return of experience (ReX)
WP.3. Assembled and tested in laboratory conditions cost-effective power sources
WP.4. Tested open source libraries for processing image time series. Report on the best strategy to install cameras on site and to detect changes using both monoscopic '1 camera) and stereo-scopic (2 cameras) approaches.

2019

WP.5. Selection of modern cost-effective telemetry systems

WP.6. Selection of appropriate site at the river with high risk of flooding for installation of field station and information on seasonal safe, increased and critical water levels.

WP.7. Integration of the algorithms of WP4 for on-site processing and transmission of 1st order information.

WP.8. Installation in the selected site of the assembled and tested autonomous telemetric early warning system for detecting flood initiation to provide close to real-time transmission of water level in rivers in natural conditions with different levels of alarm: safe, attention, danger.

14. **Deliverables**
[Describe concrete outputs (workshop report, maps, guidelines, recommendations, brochures, leaflets, development of websites, etc.) – Maximum 24 lines]

2018

Coordinator Centre:

i. Operating water level monitoring/early warning system prototype module including sensors and data acquisition system for detecting flood initiation tested in laboratory conditions

ii. Cost-effective power source (with solar panel, batteries etc) to provide autonomous regime of water level monitoring system in rivers in laboratory conditions

Partner 1:

i. Report and leaflets on the best strategy to install permanent cameras on site for long-term monitorign and early-warning

ii. Report and leaflets on the algorithms developed to detect changes using both monoscopic (1 camera) and stereo-scopic (2 cameras) approaches.

Partner 2:

i. Selection of modern cost-effective and accurate sensors for monitoring water level in rivers

ii. Selection of modern cost-effective power sources

2019

Coordinator Centre:

i. Operating autonomous telemetric early warning system for detecting flood initiation to provide close to real-time transmission of water level in rivers in natural conditions with different levels of alarm: safe, attention, danger.

ii. Delivering workshop report, brochures, leaflets, development of websites with information on autonomous telemetric early warning system for detecting flood initiation and poroviding close to real-time transmission of water level in rivers

Partner 1:

i. Workshop reports, brochures, leaflets, development of websites with information on autonomous optical (cameras) based early warning system for detecting mudflow and rockfall initiation.

Partner 2:

i. Delivering workshop reports, brochures, leaflets, development of websites with information on autonomous telemetric early warning system for detecting flood initiation and providing close to real-time transmission of water level in rivers

Germany - GFMC

PRIORITY FOR ACTION OF THE MEDIUM TERM PLAN:

☐Using scientific and technological knowledge to better assess evolving risks and adapt accordingly the resilience strategies.

☒Developing cooperation among all decision-makers to better define authorities' adequate role in DRR.

☐Promoting risk culture among population (children, adults and groups with special vulnerability).

☐Fostering population's active participation (as individuals and as community) to DRR.

PROJECT N°: 1

NAME OF THE CENTRE	Global Fire Monitoring Center (GFMC)		
COUNTRY	Germany		
REPRESENTED BY	Prof. Dr. Johann Georg Goldammer		
TITLE OF THE PROJECT	Improving governance of wildfire disaster risk reduction through cross-border cooperation between CoE member states, with adjoining countries and globally		
DURATION	**2018 ☒**	**2019 ☒**	
PARTNERS	**BUDGET IN EURO**	**BUDGET IN EURO**	**TOTAL BUDGET 2018 - 2019**
Coordinator Centre: GFMC			
Partner Centre 1: Regional Eurasia Fire Monitoring Center (REFMC)	To be catered by GFMC (logistics for meeting)	To be catered by GFMC (travel)	Remarks: REFMC was established in 2017 by contract between the host and GFMC
Partner Centre 2: Regional SE Europe / Caucasus Fire Monitoring Center (RFMC)	To be catered by GFMC (travel)	To be catered by GFMC (travel)	Remarks: RFMC was established in 2010 under the aegis of GFMC / EUR-OPA
Partner Centre 3: Regional Eastern Europe Fire Monitoring Center (REEFMC)	To be catered by GFMC (travel)	To be catered by GFMC (travel)	Remarks: REEFMC was established in 2013 under the aegis of GFMC / EUR-OPA
Partner Centre 4: Regional Central Asia Fire Management Resource Center (RCAFMRC)	To be catered by GFMC (travel)	To be catered by GFMC (travel)	Remarks: RCAFMRC was established in 2015 under the aegis of GFMC / OSCE
Participation of Associated Centres (not financed by this project)			

Other Associated Centres from inside and outside Europe will not be sponsored by the project funding. Their participation and inputs into the 2018-19 meetings will be sponsored by external sources.

Partner Centre 5: The European Center for Forest Fires (ECFF) (Greece) will be invited to attend the 2019 activities at the 7th International Wildland Fire Conference.

Partner Centre 6: Regional Fire Management Resource Center – South East Asia Region (FMRC-SEA) (FMRC-SEA was established in 2017 under the aegis of GFMC / IWPM). The Center will cover its participation in 2018-19 activities by own budget.

Partner Centre 7: Regional Fire Management Resource Center – South America Region (FMRC-SAR). The Center will cover its participation in 2018-19 activities by own budget.

	2018 ☒	2019 ☒	
PARTNERS			
Partner Centre 5: European Center on Forest Fires (ECFF)	--	-- Travel to the global conference is requested to be financed by own project resources	-- Remarks: ECFF will be involved if the specific expertise will be required, notably in the 2019 activities
Partner Centre 6: Regional Fire Management Resource Center – South East Asia Region (FMRC-SEA)	-- Travel to the second meeting at GFMC to be financed by external sources	-- Travel to the global conference to be financed by external sources	-- Remarks: FMRC-SEA was established in 2017 under the aegis of GFMC / IWPM
Partner Centre 7: Regional Fire Management Resource Center – South America Region (FMRC-SAR)	-- Travel to the second meeting at GFMC to be financed by external sources	-- Host of the global conference	-- Remarks: FMRC-SAR is being established in 2017 under the aegis of GFMC / IWPM

1. **Background**

Fires burning in forests and in other ecosystems often cross borders between different jurisdictions within a country and borders between neighboring countries. Following the *UNECE/FAO Regional Forum on Cross-boundary Fire Management*, organized by the GFMC in 2013 and supported by the CoE EUR-OPA Secretariat, representatives of the CoE Member States (also in their function as UNECE and OSCE Member / Participating States) recommended the establishment of the UNISDR International Wildfire Preparedness Mechanism (IWPM), aimed at enhancing governance of wildfire emergency management across borders (IWPM was established 2014; Interim Secretariat: GFMC). Between 2010 and 2017 the EUR-OPA Secretariat provided seed funding for the GFMC to establish

two regional branches of GFMC in Europe (RFMC & REEFMC); RCAFMRC in Mongolia was established with funding of OSCE (2015); and the REFMC, the FMRC-SEA and the FMRC-SAR are being established by support of the GFMC in 2017. The last major wildfire emergencies within Europe and along the borders with neighbour regions, as well as in other regions (Israel 2016, Chile 2017), revealed the need to further develop or refine guidelines, Standard Operating Procedures (SOPs) and protocols aimed at enhancing inter-operability, effectiveness and efficiency of cross-border cooperation in fire management. The process of intensifying and further refining capacity building and preparedness within Member States and globally. The experience of GFMC and its core partners gained in the frame of the work under the sponsorship of the EUR-OPA increasingly demanded within the CoE Member States. However, vice-versa, Europe is profiting from experiences gained in regions outside Europe. Sharing of experiences in cross-boundary cooperation in fire management with other regions of the world will be a significant benefit for the CoE Member States.

2. Specific objectives

2018

Organization of two consultations:

(1) 2018 Activity I: A national workshop and consultation in Russia will be organized at the newly established REFMC in Krasnoyarsk (Russia). Objectives: **(a)** Discussion of the lessons identified by the EUR-OPA/GFMC project *Enhancing the national interagency and international cross-boundary dialogue and inter-operability in fire management in Southeast Europe and Eastern Europe* (2016-17) and applicability in the Eastern region of CoE Member States; **(b)** Use of satellite-derived fire information processed and distributed by REFMC within Russia and neighbouring countries; **(c)** Intensifying of cooperation between the REFMC, other Russian institutions and relevant institutions of neighbouring countries.

(2) 2018 Activity II: Conducting a regional consultation between CoE Member States, to be convened at GFMC (Germany). Objective: Discussion of progress and further sharing of experience in cross-boundary cooperation in fire management of CoE Member States. This consultation will be organized with the OSCE (in following-up the OSCE Ministerial Council Decision 6/2014) and the UNISDR Wildland Fire Advisory Group).

2019

Organization of a consultation in the format of a side event at the 7th International Wildland Fire Conference (Brazil, May 2019) entitled: *Sharing experience in enhancing national interagency and international cross-boundary dialogue and inter-operability in fire management in Europe with other regions*. This event will follow the format of a similar CoE/EUR-OPA side event at the 6th Conference in Korea 2015 (http://www.fire.uni-freiburg.de/korea-2015/Files-Korea-2015/Agendas/Side-Event-CoE-UNESCO-OSCE.pdf). Objective: To promulgate the achievements in cross-border cooperation gained by EUR-OPA projects during the (then) last decade. Most importantly for choosing this conference is the expected exchange with the experiences of cross-boundary cooperation in wildfire emergencies between countries of other regions of the world and the benefits for European countries for learning the experiences of other regions with regards to bilateral and multilateral legal and voluntary agreements, and vice-versa, other regions globally to share experiences with Europe. The overall aim of the consultation will be to increase the political awareness for the need of developing targeted and effective preparedness for managing large wildfire emergencies that will require multinational assistance and cooperation.

3. Activities

2018 (1)

Coordinator Centre: The GFMC as coordinator will administer the complete budget (costs for catering, accommodation and travel), but source out different preparatory and logistical tasks to the Partners 1 and 2. GFMC will take the overall responsibility of preparing, moderating and reporting.

Partner 1: Host of the consultation: The Regional Eurasia Fire Monitoring Center (REFMC), established in Krasnoyarsk (Russia) in 2017 will organize the local logistics of the workshop & consultation.

Partner 3: The head of the Regional Central Asia Fire Management Resource Center (RCAFMRC) (founded 2015 and based in Ulaanbaatar, Mongolia) is a former staff member of GFMC and has worked for EUR-OPA-sponsored activities of GFMC and has supported building the regional centers in FYROM and Ukraine. He is now the head of the first Regional Fire Center outside of Europe. For the future work of the Russian REFMC his participation and inputs are vital, especially since the two centers have different fundamental tasks (Russia: Satellite Fire Monitoring; Mongolia: Fire Management Capacity Building, Fire Management Policy development). He shall be invited to share the experience and success of the work of his Center. His Center will work with and benefit Partner 1 in the preparation and organization of the consultation and the future work programme. The sponsoring of his travel costs to the two meetings in 2018 are justifiable because of the expected value added to the performance of the new center in Russia.

2018 (2)

Coordinator Centre: The GFMC as coordinator will administer the complete budget (costs for catering, accommodation and travel), serve as host and take the overall responsibility of preparing, moderating and reporting.

Partners 1 to 4: Attend and contribute to the consultation.

2019

Coordinator Centre: The GFMC as coordinator will administer the complete budget (costs for catering, accommodation and travel), but source out different preparatory and logistical tasks to Partner 6 (Brazil). GFMC will take the overall responsibility of preparing, moderating and reporting.

Partner 6: Host of the Side Event.

Partners 1 to 5: The other five Regional Fire Monitoring Centers / Regional Fire Management Resource Centers will attend and contribute. Note: The centers outside of Europe will NOT be financially sponsored.

4. Expected Results

2018 (1)

Foster dialogue and cooperation in the field of wildland fire early warning, monitoring, capacity building and management, including wildfire emergency situations, between CoE Member States, represented by Russia, with emphasis on border-crossing fires and transboundary smoke pollution. The Russian Center established in Krasnoyarsk 2017, which by mandate shall synergize with the Central Asian Center in Mongolia (RCAFMRC) (operational since 2015), will establish formal ties and agree on details of cross-boundary cooperation in fire management by a MoU or LoI.

2018 (2)

Evaluation of progress made in establishing dialogue and mechanisms in cross-boundary cooperation in fire management in SE Europe, Eastern Europe and Central Asia, with emphasis on border-crossing fires and transboundary smoke pollution, notably transboundary transport of Black Carbon and radioactivity activated and transported by fire smoke. Sharing of experiences and development of recommendations for future coordinated bilateral and multilateral agreements.

2019

Evaluation of progress made in establishing dialogue and mechanisms in cross-boundary cooperation in fire management in Europe and other regions at international level, with emphasis on border-crossing fires and transboundary smoke pollution. Sharing of experiences, lessons identified in successful and failed activities in cross-boundary fire management, and development of recommendations for future coordinated bilateral and multilateral action. Focus: Development of bilateral agreements, multilateral

voluntary frameworks (guidelines, standards, and SOPs).

5. Deliverables

2018 (1)

Coordinator Centre: GFMC will deliver the report summarizing the results of the consultation and provide recommendations and good practices to improve governance and cross-border cooperation on wildfire disaster risk reduction with emphasis on Eastern Europe.

Partner 1: The Regional Eurasia Fire Monitoring Center (REFMC) (Krasnoyarsk, Russia) has established a web portal for their wildland fire early warning and monitoring products to be made publicly available and has signed a MoU or LoI with the Central Asian Center.

2018 (2)

Coordinator Centre: GFMC will deliver the report summarizing the results of the second consultation and provide recommendations and good practices to improve governance and cross-border cooperation on wildfire disaster risk reduction among the Council of Europe Member States.

Partners 1 to 4: The heads of the 4 Regional Centers (REFMC, RCAFMRC, RFMC, and REEFMC) have prepared a presentation summarizing the experience and success of the work of their centers, and present these to the host (GFMC) and other attendees at the consultation (regional representatives of the Global Wildland Fire Network). The results will be inputs to the joint report by GFMC.

2019

Coordinator Centre: GFMC will deliver the report summarizing the results of the Side Event and provide recommendations, good practices and guidelines to improve governance and cross-border cooperation on wildfire disaster risk reduction at international level.

Partners 1 to 6: The six Regional Fire Monitoring Centers / Regional Fire Management Resource Centers have prepared a presentation summarizing the experience and success of the work of their centers, and present these at the Side Event. The results will be Regional Statements, which inputs to the joint report by GFMC and enter the recommendations of the 7th International Wildland Fire Conference.

Greece – ECFF

PRIORITY FOR ACTION OF THE MEDIUM TERM PLAN:

- Using scientific and technological knowledge to better assess evolving risks and adapt accordingly the resilience strategies.
- Developing cooperation among all decision-makers to better define authorities' adequate role in DRR.
- Promoting risk culture among population (children, adults and groups with special vulnerability).
- Fostering population's active participation (as individuals and as community) to DRR.

PROJECT N°:

NAME OF THE CENTRE	ECFF	
COUNTRY	GREECE	
REPRESENTED BY		
TITLE OF THE PROJECT	Fine and Ultrafine particles from forest fires: Recommendations/Guidelines for protection of vulnerable groups of population	
DURATION	**2018** ☐	**2019** ☐
PARTNERS		
Coordinator Centre: ECFF		
Partner Centre 1: GFMC		

1. **Background**

Large scale forest fires have been correlated with climate change, posing significant risks for the exposed receptors, such as population, critical infrastructures and the environment; i.e. Portugal 2017, Greece 2007 [1]. However, apart from the impacts due to fire expansion, specifically for the areas in forest-surface, there is a critical issue to take into account; the smoke produced and the respective consequences on the relevant exposed receptors. Forest fire smoke is a complex chemical mixture of a variety of substances, e.g. particles or gaseous pollutants, based on the types of materials burnt in the line of fire-front expansion [2]. Fine particles, such as $PM_{2,5}$, can be transferred far away from the fire source, affecting areas over long distances (transboundary effects) [3-4]. According to epidemiological studies, fine particles are known to have adverse health effects and for that reason the International Health Organizations have set the relevant exposure limits for PM2,5 [5-8]. It seems that populations' preparedness against fire and smoke adverse effects is very important, especially for countries frequently affected by forest fires, like the Mediterranean ones. In that framework, a joint project under EUR-OPA framework has delivered a number of proposed guidelines [9].

However, it seems that the issue of toxic effect of fine particles, especially the PM1 and ultrafine

(PM0,1), needs further investigation, since so far no exposure limits have been regulated. Though, exposure to nanoparticles due to urban pollution is a priority topic for experts on a global basis over recent years, along with nanotechnology industry growth [10-11].

The aim of the project is to prepare a catalogue of useful practices and recommendations/ guidelines for the protection of population against exposure to fine and ultrafine particles, specifically as a side effect of forest fires, with special attention to vulnerable groups of population, such as the elderly, pregnant women, children, people with disabilities or hidden disabilities like asthma, or cardiopulmonary diseases.

Updated version of recommendations/guidelines will be achieved by networking with medical, health or other relevant organizations in Europe, as well as in USA, Australia, or Canada. In that framework, state-of-the art knowledge relevant to ultra-fine particles and cutting edge technologies for monitoring their concentration will be recorded and valued.

---

[1]FFNet 5, 2007, "Forest fires in Greece during summer 2007: The data file of a case study", European Center for Forest Fires, Council of Europe, Available at: http://fiactu.ntua.gr/index.php?option=com_content&view=article&id=6&Itemid=10

[2]Statheropoulos, M., Karma, S., 2007. Complexity and origin of the smoke components as measured near the flame-front of a real forest fire incident: A case study. Journal of Analytical and Applied Pyrolysis 78, 430–437

[3] Statheropoulos, M., and. Goldammer, J.G., 2007. Vegetation fire smoke: Nature, impacts and policies to reduce negative consequences on humans and the environment, UN-ISDR [64] International strategy for disaster reduction

[4] Goldammer, JG., Statheropoulos, M.M., Andreae, M.O., 2008. Impacts of vegetation fire emissions on the environment, human health, and security: A Global Perspective Developments in Environmental Science, Volume 8, p. 1-33.

[5]Sapkota A., Symons J.M., Kleiss I.J., Wang L., Parlange M.B., Ondov J., Breysse P.N., Diette G.B., Eggleston P.A., Buckley T.G., 2005. Impact of the 2002 Canadian Forest Fires on Particulate Matter Air Quality in Baltimore City, Environ. Sci. Technol., 39, 24-32.

[6]Mott, J.A., Mannino, D.M., Alversona, C.J., Kiyub, A., Hashimb, J., Leec, T., Falterc K., Redda SC., Cardiorespiratory hospitalizations associated with smoke exposure during the 1997 Southeast Asian forest fires, Int J Hyg Environ Health, 208 (2005) 75-85.

[7]Angle, J.S., 2005. Occupational safety and health in the emergency services. Thomson Delmar learning, New York, USA.

[8]Environmental Protection Agency (EPA IRIS), 2016. Integrated Risk Information System, Available at: http://www. epa.gov/iris/intro.htm).

[9]Defence of Villages, Fars and Other Rural Assets against Wilfires: Guidelines for Rural Populations, Local Communities and Municipality Leaders in the Balkan Region, Available at GFMC website: http://www.fire.uni-freiburg.de/Manag/Village-Rural-Assets-Wildfire-Defense-Guidelines-2013-ENG-web.pdf

[10]Chen, R., Hu, B., Liu, Y., Xu, J., Yang, G., Xu, D., and Chen, C., 2016. Beyond PM2,5: The role of ultrafine particles on adverse health effects of air pollution. Biochimica et Biophysica Acta, 1860, 2844-2855

Diaz-Robles, L.A., Fub, J.S., Vergara-Fernández, A., Etcharren, P., Schiappacasse, L.N.,

[11]Reed, G.D., and Silva, M.P., 2014. Health risks caused by short term exposure to ultrafine particles generated by residential wood combustion: A case study of Temuco, Chile. Environment International 66, 74-181

2. Specific objectives

2018

- Record state-of-the art knowledge on the issue of smoke pollutants and adverse health effects, focusing on vulnerable groups of population.
- Prepare possible evacuation criteria of an area based on particles concentration-indicative field measurements of particulates can be incorporated.
- Discuss on exposure limits of ultrafine particles.

2019

- Training of vulnerable groups on smoke emergency-training in "risk culture".
- Informing the population who live nearby forests about possible smoke impacts and protective measures.

3. **Activities**

2018

ECFF:

- A study/research on health impacts of ultrafine particles on vulnerable groups of population with participation of experts.

- Organize a workshop entitled “Fine and Ultrafine particles from forest fires and possible impacts on vulnerable groups of population" with participation of experts from Europe, USA, Australia and Canada in order to record knowledge and expertise on relevant issues.

GFMC:

Participate in the workshop transferring their expertise and know-how/contribute to the proceedings for preparation of the recommendations/guidelines.

2019

ECFF:

- Prepare recommendations/guidelines in Greek and English for the protection of population from UFPs/smoke exposure, including vulnerable groups.

- Information and dissemination campaigns of the recommendations/guidelines to citizens, especially those who live in forest-surface municipalities; to specific civil organizations and special groups (e.g. representatives of the disability community).

4. Expected Results

2018

- Recording new scientific knowledge on a global basis about forest fire smoke and specifically nanoparticles impacts, in order to better protect the population and minimize adverse health effects, with special attention to vulnerable groups.

- Networking with medical, health or other relevant organizations in Europe, USA, Australia, or Canada to provide with their expertise and know-how on relevant issues.

2019

- Promote awareness of the population on UFPs/smoke impacts and personal protective equipment aspects, including vulnerable groups.
- Enhance preparedness and promote risk culture.

5. Deliverables

2018

ECFF:

- Forest Fire Net publication Volume 8, including state-of-the art literature review and recent/new research by specific groups.

ECFF and GFMC:

Workshop report-proceedings.

2019: ECFF

- Booklet prepared in Greek and English with recommendations to protect population from UFPs/smoke exposure, including vulnerable groups.
(a special edition in Greek Braille language will be considered);
Delivery through social media of the booklet e.g. via Facebook, twitter etc. and also uploaded to relevant websites.
-Revised particle exposure limits focusing on UFPs and vulnerable groups/proposed standards.

Italy – CUEBC

SPECIALIST CENTRES – PROPOSED PROJECTS 2018-2019

MEDIUM-TERM ACTION PLAN PRIORITIES