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## REGIONS TACKLE NATURAL DISASTERS

### Editorial



Some 85,000 people are killed and 230 million are affected by natural disasters worldwide every year. On top of this, disasters are estimated to cost Europe €15 billion annually. Since 1998, floods alone have killed 700 people, caused the displacement of about half a

million and cost at least €25 billion in insured economic losses in Europe. Thus emergency planning and interregional cooperation is needed to contain the far reaching human, economic and environmental consequences of these catastrophes.

Initiatives such as the Flinkman project aim to bring all actors involved in flood management together and can improve the framework for coping with disasters. Indeed, Macedonia and Thrace, the most northern region of Greece, is well-placed to advise on flood management issues, as the region works closely with all levels of government on water policy. Flood management is a key responsibility for the region, largely because of the presence of the four transboundary rivers (Axios, Strymonas, Nestos and Evros) that originate from the former Yugoslav Republic of Macedonia and Bulgaria.

It is becoming increasingly clear that effective water management policies, as envisaged in the EU's water framework and floods directive, will only be possible through the coordinated management of transboundary water bodies and harmonised policies between neighbouring countries. We look forward to sharing the knowledge gained through our involvement in EU projects on water and flood management with our regional and national partners.

With catastrophes set to increase as a result of global warming, changes in industrial activity and population growth, it is more important than ever for regions to work together on disaster management. Disasters, after all, do not stop at borders. |

**Thyvios N. Sokos**

General Secretary, Decentralised Administration of Macedonia and Thrace (GR)

## When disaster strikes

Europe's regions must work together if they are to cope with the growth in natural and manmade disasters



Flooding of the river Fulda, Hessen (D), January 1995

© Regierungsrat Kassel

Recent events in Japan highlighted the need for coordinated action in dealing with natural catastrophes. With 11,000 people killed by the March earthquake and tsunami – not to mention the havoc caused by the radiation leaks from the Fukushima nuclear plant – it is more important than ever for every level of government to play its part in reducing the risk of natural disasters, and coordinating responses when they occur.

### Rise in natural disasters

The figures from the European Commission – some 85,000 people killed and 230 million affected by natural disasters worldwide every year – are more than frightening! This represents a fivefold increase since 1975 and the frequency of disasters is expected to rise further as a result of global warming, changes in industrial activity and population growth. Indeed, last year saw more than its share of catastrophes in Europe and the world. There was the devastating

Haiti earthquake, floods in Pakistan, the UK and Poland, toxic sludge in Hungary and forest fires in Russia and Portugal, to name but a few.

Geographical vulnerability leaves many of Europe's regions dangerously exposed. For example, the Açores islands (P) have to cope with structural difficulties exacerbated by their remoteness, small size and extreme climate. Indeed, the Açores have had to develop excellent prevention measures as a result of their isolation.

### Interregional cooperation needed

It is up to regions to take ownership of their own territory and develop tailored action plans to cope with the increase in natural and man-made disasters. However, they must work together, via initiatives such as the Flinkman project by learning from each other and coordinating action every step of the way. |

# Crisis management

Regions have a crucial role to play in meeting the ambitions of the Flinkman project on flood risk management



Meeting between the Flinkman project partners, Wiesbaden, Hessen (D)

**Cooperation**, coordination, communication. These are the guiding principles behind the Flinkman project, which aims to improve flood risk management by developing a framework bringing together all players involved in flood management. The project promotes best practice across the EU by developing support tools and encouraging cross-regional and transnational crisis management practices in Europe.

AER, as a platform bringing together 270 regions from 34 countries, has a key role to play in meeting these ambitions and disseminating the project at the regional level. The AER Emergency Planning network, which operated during 2007-2009, focused on how Europe's regions can develop joint prevention strategies and share their resources when responding to emergencies. The Flinkman project marks the conclusion of the work of this network, which aimed to help regions exchange knowledge on risk prevention and crisis management. Its main aims included establishing how services based in regions can be better interconnected and how regions can share equipment when responding to emergencies. These are all ideas which are now incorporated in the Flinkman project to facilitate better flood risk management.

## Europe in partnership

The Flinkman project is led by the Decentralised Administration of Macedonia and Thrace (GR). It also involves the Province of Noord-Brabant (NL) and the Land Hessen (D). AER, the Balkan Environment Centre (GR) and Sigma Consultants (GR) are also partners in the project, providing dissemination support, environmental expertise and project planning advice respectively.

The Flinkman project, co-financed by the European Commission under the civil protection financial instrument, aims to bring stakeholders together to prepare a flood management plan. It is hoped that the creation of support

*“The Flinkman project aims to bring stakeholders together to prepare a flood management plan.”*

tools based on computer applications will help networks flourish and exchange best practice across the EU. It will take existing civil protection mechanisms into account, while promoting cooperation with the relevant organisations involved in flood risk management in Europe.

## Measuring progress

As a partner, AER's main role is to raise awareness, disseminate knowledge about the Flinkman project and keep its members informed on the project's progress. In working with its members, AER can collect information on best and worst practices at ground level and analyse how the good ones can be applied across the regions. It also has a key role in encouraging cooperation between member regions and external partners, and stimulating the development of services tailored for emergency planning and response. With its experience, the organisation can help to identify possible stakeholders that may be able to take the project forward and come up with successful strategies. These bottom-up strategies that will be crucial if the Flinkman project is to prove succeed in developing innovative risk prevention and crisis management tools. |



## Ourania Georgoutsakou

AER Senior Policy coordinator of the 'Social policy and Public health' Committee

## —Interview

**AER: What do you hope the Flinkman project will achieve?**

**OG:** I hope it will show other regions how important it is to include all stakeholders at an early stage when developing prevention and management plans. This allows for a rounded plan that takes into account all aspects of preparation and response, and also encourages the shared ownership of the plan. It is a general principle of AER regional policy-making that stakeholder inclusion from an early stage leads to rounded policies that are supported and embraced by all the relevant actors.

**AER: Why is it important for regions to work on disaster management?**

**OG:** Emergency planning may not always be a direct regional competence, but at the end of the day every regional politician has a responsibility to protect their territory and citizens. In the 21st century, in light of the technology we have at our disposal and the progress our society has made, citizens cannot accept that people die in natural disasters that should be foreseen and prevented.

It is important for each region to know its own context well: its geographic specificities and risks and the resources it has at its disposal to prevent and manage disasters. Civil protection is hierarchical, but regions have a clear role to play in minimising risks and ensuring they are prepared to respond to any disaster that may occur. |

# Project partners

Province Noord-Brabant



## PROVINCE OF NOORD-BRABANT

The key tasks of Noord-Brabant relate to spatial development, accessibility and mobility, regional economic policy and culture and regional identity. Via its involvement in the Flinkman project, Noord Brabant aims to facilitate the sharing of knowledge and best practice between regions. |

HESSEN



## HESSIAN MINISTRY OF ENVIRONMENT, ENERGY, AGRICULTURE AND CONSUMER PROTECTION (HMUELV)

The ministry is responsible for all issues connected to the protection of the environment and natural resources. HMUELV's wealth of experience on interregional and crossborder cooperation, especially in the field of flood control and precautionary measures, is particularly useful to the work of the Flinkman project. |



## BALKAN ENVIRONMENT CENTRE (BEC)

With sustainability at its core, the BEC provides decision makers from south-east Europe with tools to plan and implement environmental management. In line with the goals of the Flinkman project, it also works to inform policymakers about the practical steps needed to prevent and mitigate flood risks. |



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
ΑΠΟΚΕΝΤΡΩΜΕΝΗ ΔΙΟΙΚΗΣΗ  
ΜΑΚΕΔΟΝΙΑΣ - ΘΡΑΚΗΣ

## MACEDONIA AND THRACE

Macedonia and Thrace is primarily involved in bringing stakeholders on emergency planning together and helping all players understand how they can develop the resources to improve coordination. The region's civil protection directorate has extensive experience in tackling emergencies and preventative measures make up a key part of the regional action plans. It is up to Macedonia and Thrace to implement these plans and disseminate information on disaster management to its citizens. |



## ASSEMBLY OF EUROPEAN REGIONS (AER)

With its 270 member regions from 34 countries, AER can support interregional cooperation and exchange of best practice on emergency planning. Via the Flinkman project, AER raises awareness and disseminates knowledge on successful strategies and tools for risk prevention and crisis management. |



## SIGMA CONSULTANTS

SIGMA Consultants is an engineering and consultancy firm active in the Greek and European market. SIGMA works across a breadth of portfolios, including project planning and management, environment policy, and health and safety – including emergency response plans. These are particularly useful in relation to its role in the Flinkman project. |

# Risk assessment

The Flinkman project partners in the spotlight

## —Interview



**Marja Segers** is a policy advisor on flood prevention at the Province of Noord-Brabant

**AER: Why is the Flinkman project interesting for you?**

**MS:** Flinkman offers the possibility to learn from other European regions on emergency planning. We can also share our experiences with other regions, namely on prevention and structural measures to boost safety.

**AER: What do you hope it will achieve?**

**MS:** It is about connecting stakeholders in our own region working on the same safety issue but from different perspectives, and about sharing knowledge between the participating European regions.

**AER: What experience does your region have in tackling natural disasters?**

**MS:** The Netherlands has a long history in flood protection. We have built many dykes to reclaim land from the sea, and along the main rivers to protect ourselves. We have suffered some major flood events and came to the conclusion that a new approach was needed. Simply raising the dykes is not a sustainable solution. We now give the rivers more space and simultaneously improve the spatial quality of the river basin. |



**Matthias Löw** works on flood protection and hydrology at the Hessian Ministry of Environment, Energy, Agriculture and Consumer Protection

**AER: What do you hope the Flinkman project will achieve?**

**ML:** One crucial target from our point of view is the development of a strategy to communicate flood risks by strengthening stakeholder engagement.

**AER: What experience does your region have in tackling natural disasters?**

**ML:** The last major flood event on the Rhine river dates back to the late 1800s, when dykes broke and an area was flooded with 240,000 inhabitants affected and an approximate loss of €3bn. Part of the current strategy in tackling natural disasters is the implementation of disaster control exercises on a regular basis.

**AER: Are there any best practice examples you would like to highlight?**

**ML:** The first flood risk management plan in Hessen was drawn up in the Fulda basin. An important issue during implementation was communication with stakeholders. This example constitutes the Hessian contribution to the stakeholders' linking framework. |



**Dr Nikolaos Tsotsolis** is the general director of land planning and environmental policy at the Decentralised Administration of Macedonia and Thrace

**AER: What do you hope the Flinkman project will achieve?**

**NT:** Flinkman is aimed at developing a framework to improve stakeholder engagement throughout the safety chain.

**AER: What experience does your region have in dealing with disasters?**

**NT:** Our region is considered an area of frequent seismic activity. We have also suffered from flash floods over the last decade. Major transboundary rivers flow through the region, making water management an important issue.

**AER: What role do the regions have to play in emergency planning?**

**NT:** Regional civil protection authorities are well trained and experienced in tackling natural disasters, but mainly at response stage. Civil protection authorities invoke and support the active participation of voluntary organisations in confronting natural disasters. Therefore, they frequently organise exercises to test capacity and cooperation levels, something which is considered crucial during a disaster. |



**Professor George Zalidis** is responsible for science policy at the Balkan Environment Centre

**AER: Why is this project interesting for you?**

**GZ:** Flinkman's approach is in line with our objectives. Our aim is to provide decision makers from south-east Europe with reliable data and tools for the planning and implementation of environmental management activities. We also work on flood prevention and on mitigation of risk. We hope that our role in developing Flinkman's communication tools will facilitate the exchange between stakeholders of knowledge and experience on flood risk management.

**AER: What does your role involve on a practical level?**

**GZ:** Our approach is based on sharing data and good practice for improving decision-making on environmental issues. We hope that establishing an information exchange network will widen the impacts of the project outside the partnership to the key actors involved in flood management in south-east Europe. |

# On the ground

Let's take a look at best practice examples of disaster management: Timis in Romania, Catalunya in Spain and the Portuguese Açores



Timis County (RO)

© Nelu Crăciun



El Pedraforca, Catalunya (E)

© Eduard Maluquer



Island of São Miguel, Açores (P)

© Laragheast

## Timis

Spanning almost 9000 km<sup>2</sup>, Timis, located in the Banat area, is the largest county in Romania. It is particularly vulnerable to flooding, being surrounded by the Carpati mountains, Mures river, Tisa river and Danube river, among others.

Following severe flooding in 2005, the county created new mechanisms to cope with the uncertain environment. These included setting up a regional and cross-border centre for prevention and intervention in case of a disaster and providing training for specialists and volunteers. The county also developed a mapping system observing past flooding, risk mapping and assets mapping.

The Service Application For Emergency Response (Safer) project was developed to deal with emergency situations in the immediate aftermath of a disaster. Safer, a collaborative project developed within the EU's FP7 programme, focuses on risk assessment and mapping to help prepare for and prevent crises.

Timis' GMES flood risk analysis services also support the implementation of the EU's floods directive (*see page six*) by providing details on flood risk management plans across EU countries and regions. The project uses earth observation data to harmonise and compare mapping results, with the overall objective of consolidating and validating a plain flood risk management service from mapping to modelling, including damage assessment. |

## Catalunya

Catalunya, in the northeastern corner of the Iberian peninsula, has been confronted with a wide range of natural disasters over the years. Flash flooding along the coastline and from mountain rivers, deadly forest fires and severe droughts have meant the region has had to design innovative emergency planning measures.

While it is the state government that provides planning guidelines, it is the regional governments themselves that are responsible for the actual planning. Indeed, all municipalities with very high, high and medium risk are required to have an emergency plan. These plans include risk mapping, organisation and response. They combine hazard assessment, identifying areas likely to be flooded, as well as potential victims and levels of damage to roads and housing.

The regional government works with scientific and technical advisors, such as the meteorological service of Catalunya and the Catalan Water Agency to provide insightful weather forecasts and advice on dam and river control.

The region has sought to develop an early warning system for rain thresholds, which are measured by intensity and accumulation and can help prepare for and prevent floods. The Catalan government also works with the emergency services via the emergency operation centre, and with the national government and private companies by providing logistical and practical support for affected populations. |

## Açores

The Portuguese archipelago of Açores is made up of nine volcanic islands situated in the middle of the North Atlantic Ocean between Europe and America. The islands have faced all kinds of natural disasters over the years – including earthquakes, storms, floods and volcanic eruptions. Dealing with these catastrophes has been particularly difficult given the islands' geographical location. Located about 1500 km from Lisbon and 3900 km from the east coast of North America, the archipelago cannot rely on help from the mainland when natural disasters occur. Excellent prevention measures and action plans are thus required.

Natural disasters have killed dozens of people and cost the region a massive €320m between 1997 and 2005. Flash flooding in Ribeira Quente in October 1997 induced a landslide, killing 29 people and costing €21m. Then there were the mudslides and flooding in March 2005, which left three people dead and some bodies never found, to name but a few.

As the human and economic costs of flooding are enormous, the region is working with the fire fighting and civil protection service of Açores to implement a new warning system.

A hydrologic monitoring network, seismic network and weather mapping capabilities are among the initiatives developed by the region to feed into an early warning system. It is hoped that these new measures will improve the region's preparedness to prevent and cope with natural disasters. |

# No time to waste

From flood management to civil protection, the EU has several programmes and funding mechanisms to help cope with disasters in Europe and beyond

## Disaster prevention strategy

Adopted in 2009, the EU disaster prevention strategy is geared towards cross-border emergencies that require a joint response by member states. It uses Community funding to boost coordination between member states and improve knowledge of natural and man-made disasters.

It aims to improve access to early warning systems and develop an EU-wide inventory of existing information and best practices. Another aspect, looking at reducing the risk of disasters worldwide, involves working with developing countries in producing national risk-reduction strategies.

## Civil protection assistance

Since 2001, the European civil protection mechanism has helped to facilitate cooperation in disaster response. All 27 member states participate in the mechanism (plus Croatia, Iceland, Liechtenstein and Norway), which involves pooling resources that can be made available to disaster-stricken countries around the world. The mechanism has been activated for more than 100 disasters since its creation.

## EU floods directive

With climate change set to increase the frequency and severity of flooding, the European Parliament and Council reached an agreement in 2007 on a floods directive to assess and manage risks.



The EU provides assistance programmes to cope with disasters

The directive envisages a three-stage strategy requiring member states to draw up flood risk management plans for the river basins and coastal areas at high risk of flooding. EU countries will have to produce a preliminary flood risk assessment by 2011; flood hazard maps for high risk areas by 2013; and full flood risk management plans by 2015. |

## Agenda 2011

### Flinkman Project final conference

8-9 December 2011

Thessaloniki - Macedonia and Thrace (GR)

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## Useful links:

**Flinkman project** <http://www.flinkman-project.eu/>

**AER Emergency Planning** <http://www.aer.eu/main-issues/emergency-planning.html>

**EU strategy on disaster prevention**  
[http://ec.europa.eu/news/environment/090224\\_1\\_en.htm](http://ec.europa.eu/news/environment/090224_1_en.htm)

**European Civil protection**  
[http://ec.europa.eu/echo/civil\\_protection/civil/prote/cp01\\_en.htm](http://ec.europa.eu/echo/civil_protection/civil/prote/cp01_en.htm)

**European Flood Action Programme**  
[http://ec.europa.eu/environment/water/flood\\_risk/key\\_docs.htm](http://ec.europa.eu/environment/water/flood_risk/key_docs.htm)

**EU Floods Directive** [http://ec.europa.eu/environment/water/flood\\_risk/index.htm](http://ec.europa.eu/environment/water/flood_risk/index.htm)



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