

EXCIMAP

GUIDE OF GOOD PRACTICES OF FLOOD MAPPING IN EUROPE

Roberto Loat¹, Frédérique Martini²

In November 2002, after the dramatic floods that had recently occurred in Europe, the Water Directors of the European Union (EU), Norway, Switzerland and Candidate Countries agreed to take an initiative on flood prediction, prevention and mitigation.

Knowing about the hazards, including all relevant aspects, such as type of flooding (static, dynamic), probability, intensity (flooding depth, flow velocity) and extent of impact is a prerequisite. Therefore, flood hazard maps have to be established.

WHAT IS EXCIMAP?

EXCIMAP is a European exchange circle on flood mapping. The aim of this European exchange circle is to gather the existing experiences and know-how in Europe and to improve flood mapping practices. Such a circle facilitates the exchange between European countries, helps to build a common work base, and improves comprehension and communication on the subject in Europe. The goal of the guide is to give an overview of the existing good practices in Europe.

EXCIMAP was launched in January 2006. Today, EXCIMAP consists of nearly 40 representatives from 24 European countries or organizations. They all contribute to produce the guide.

THE EUROPEAN DIRECTIVE ON FLOOD RISK MANAGEMENT

The European directive on the assessment and management of flood risks is under development. The proposed directive aims to reduce the adverse consequences on human health, the environment, cultural heritage and economic activity associated with floods in the Community. The directive sets out the requirement for the member states to develop three kinds of products:

- Preliminary flood risk assessment: the aim of this step is to evaluate the level of flood risk in all regions and to select those regions where flood mapping and flood risk management plans have to be established.
- Flood mapping comprising flood hazard maps and flood risk maps: the flood hazard maps should cover the geographical areas which could be flooded according to different scenarios; the flood risk maps shall show the potential adverse consequences associated with floods under those scenarios.
- Flood risk management plans: on the basis of the previous maps, the flood risk management plans shall indicate the objectives of the flood risk management in the concerned areas, and the measures that aim to achieve these objectives.

¹ EXCIMAP Project Co-Leader, Federal Office for the Environment FOEN, Hazard Prevention Division, CH-3003 Bern, Switzerland (Tel.: +41-31-324-16-57; Fax: +41-31-324-78-66; email: roberto.loat@bafu.admin.ch)

² EXCIMAP Project Leader, Ministry of ecology and sustainable development, 20 avenue de Ségur - 75302 Paris SP 07, France (Tel : +33 1 42 19 12 38; Fax : +33 1 42 19 12 35; email: frederique.martini@ecologie.gouv.fr)

According to this directive member states shall then produce flood maps according to some minimum recommendations.

EXCIMAP, as an informal circle set up for facilitating exchanges between experts, aims to produce a guide presenting the good practices (available in Europe) when carrying out flood mapping. While the directive gives a minimum basis required for flood mapping, EXCIMAP's guide addresses more details and steps of flood mapping.

WHY THIS GUIDE?

The guide is developed by EXCIMAP in order to:

- (i) guide and support member states in understanding the requirements for flood mapping as set out in article 6 of the proposed Floods Directive
- (ii) suggest methods and approaches that are available for flood mapping.

The guide refers to the experiences of member states gained through the number flood mapping projects and work programmes that have taken place across Europe. Many countries have specific experiences and expertise which is captured in this guide to assist others.

Moreover the guide is useful for local authorities and other specific stakeholders (e.g. insurances) to assist them in understanding flood risks and preparing for flooding, and to decide what mapping has to be done to meet their needs.

WHO WILL USE THIS GUIDE?

The main users of this guide will be member state's authorities in charge of flood mapping, at any level of competence, according to the subsidiarity chain, and any stage of the process, from production to dissemination and use.

Interested users as well might be public authorities of third countries, with which the EU develop cooperation in the area of natural hazards risk management policies.

As prevention policy involves many stakeholders, readers of this guide might be interested components of the civil society, such as NGO's, private sector with a particular interest for risk management, experts and advisors, insurances and real estate business sectors, but also every utility networks and critical infrastructure operators as well as every individual industrial and commercial sector.

CONCLUSIONS

The flood risk within each member state needs to be identified and assessed – this is known as flood risk assessment. Once the risks are known decisions can be made about the nature and scale of the necessary responses in order to manage and mitigate the risk. There are many responses appropriate to manage flood risks to enable member states to avoid, reduce, transfer, share, or accept the risk. Flood risk mapping plays a very important role in this process of flood risk management.

Keywords:

Floods, hazard maps, risk maps, guidelines, European Community, international cooperation