

## **Report on activities of the EFG expert group on natural hazards**

Reporting period: May to December 2006

Coordinator: Herald Ligtenberg

This expert group has been very active over the past four to five years and have established successful results with the European Commission (several units at DG Environment and DG Research). Three experts are directly involved in EC working groups to draft guidelines for a directive on flooding. Most active of these EC working groups is EXCIMAP, dealing with risk mapping. The second meeting took place in September (Turku, Finland). EFG was represented by Victor Jetten, remote sensing specialist and related to flooding issues from the international institute for aerospace survey and earth sciences, the Netherlands. A report on this second meeting is provided below, including the official EXCIMAP report on the meeting. The current draft report can be provided on request (46 pages).

We have communicated with people in DG Research on the establishment of a European Technology Platform on natural hazards. In progress.

As presented in Porto, plans in the group exist to collect statistical data to get a better insight in cost-benefit of spending more money on research and preventive measures. DG Research and DG Environment have emphasized their interest in this type of information. Preliminary sources have been indicated. However, it requires quite a lot of work and we could consider establishing a special project, financed by EU? Opportunities have to be investigated.

Summary report on EXCIMAP meeting:

A European directive on the assessment and management of flood risks is under development (COM(2006)15). This proposed directive sets out the requirement for the Member states to develop three kinds of products:

- A 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 on which to undertake flood mapping and flood risk management plans.
- Flood mapping/ 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 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.

According to this directive, Member states shall then produce flood mapping according to some minimum recommendations.

The workshop in Turku proceeded to address comments on the draft guide and many discussions were held on the principles of floods and flood mapping, and disaster management plans in the various participating countries. One of the conclusions was that in view of the very different climates and circumstances in Europe (Scandinavian vs mid Europe vs Mediterranean), the flooding problems to be addressed are very different and the guide has to reflect on this. Also the level of data and information available in the countries is different. Discussions were held in work groups on the nature of the data, the various practices, the purpose of flood maps, etc.. There was limited time to discuss all details and it was agreed that further comments would be added to the draft individually.

The EFG has emphasized ground water floods (problem in UK and several other countries) as well as the crucial importance of understanding the subsurface with respect to locating potential higher risk areas (palaeo-fluvial deposits), when building flood defense systems,

etc.. At the moment, several of the expert group are involved in providing feedback/comments on the draft report. Preliminary comments have been sent. Another EXCIMAP meeting is scheduled 14-15 December 2006.

## EXCIMAP

### Second workshop

**The 7<sup>th</sup> and the 8<sup>th</sup> of September 2006**

Turku University Department of Geography  
Building T5 – Luonnontieteidentalo I (Natural science building I)  
4<sup>th</sup> floor  
20014, University of Turku

**Turku, Finland**

“Guide of good practices for flood mapping in Europe”

***Report – September 2006***

The second writing session of EXCIMAP was held 7-8 September 2006 in Turku, Finland, thanks to the reception of the University of Turku and the Finnish Environment Institute. The outcomes of this workshop are presented in the following.

### Historic

EXCIMAP was launched in January 2006 with the final objective to draft a guide of good practices for flood mapping. To this end, EXCIMAP had its first writing session 22-23 June 2006 in Bern, Switzerland. The outcomes of this 1<sup>st</sup> workshop allowed to draft a version V1.0 of the guide of good practices. Afterwards the guide V1.0 served as an input for the second writing session of EXCIMAP.

The objectives of this second writing session were:

- to consolidate the existing parts of the guide V1.0;
- to complement the remaining parts of the guide V1.0 and to prepare a V2.0 of the guide (in 3 thematic subgroups)
- to plan the future work program and the schedule.

29 participants attended the meeting. See the list of participants in Annex.

### Flood management in Finland

As an introduction to the session, Minna Hanski, from the Finnish Ministry of agriculture and forestry, gave a presentation of the flood management issues in Finland.

As a conclusion, she highlighted the reasons why flood mapping is important :

- because of the increasing of pressure for building in flood areas
- for getting a better information for land use planning,
- to help the rescue authority and the general public understand flood forecasting thanks to a combination of flood forecast and flood maps
- for flood risk management planning.

## Writing session main conclusions

### The guide V1.0

The participants reviewed the guide V1.0 worked out after the 1<sup>st</sup> writing session.

It was decided to keep the summary as it is, provided that issues about transboundary rivers and those about the financing process of the mapping process are addressed in the guide also.

In addition, it was decided to add a reference to the “Guide of good practices on flood prevention, protection and mitigation”, agreed by the European water directors in June 2003. This Guide gives some elements about the flood mapping, useful to refer to in the framework of EXCIMAP.

The participants decided :

- to reduce the “Preamble” part (proposal from Ireland - Mark Adamson, and England&Wales - David Murphy)
- to add a paragraph about who will use the guide: government, regions and other stakeholder (proposal from CEA - Roland Nussbaum).

Also, a paragraph stating more precisely that the guide is not a directive but a collection of experiences will be added (proposal from Finland – Mikko Huokuna), and also a part telling that organisation and financing are important, including quality aspects (proposal from France – Nicolas-Gérard Camphuis).

Concerning “Part A”, it was decided that :

- the paragraph dealing with what causes floods and what are sources of floods should be complemented : this is a task for the SG1 (see below)
- works already carried out on urban floods should be mentioned in the guide (proposal from EFG - Victor Jetten)
- information about erosion should be added in the guide (proposal from Sweden - Barbo Näslund-Landenmark).

And also:

- the guide should use the word “manage” instead of “protect”
- the paragraph “g- historic flood” should be either moved or untitled “historic data base” or “lessons learned from historic data” or “historic flood analysis” (with an emphasis on historic data collection)
- a paragraph “e- transboundary maps” should be added.

“Part B” should be complemented as follows :

- paragraph “a- input data”: addition of other types of sources and some elements about quality of input data (proposal from EFG - Victor Jetten)
- paragraph B4 “uncertainty” : some elements should be added (proposal from Finland - Petteri Alho and Jukka Käyhkö).

The group decided that examples of some current national practices illustrating the elements contained in the guide should be presented in the Annex of the guide rather than presenting the practices of “an ideal and fictional country”.

### The three thematic subgroups outcomes

The participants were shared in three thematic subgroups each one aiming at studying some themes more in details, and at drafting the relevant parts of the guide.

The 3 subgroups reached the following results.

Subgroup1 : “Evaluation of the flood process and the associated danger”

The SG1 addressed 3 main topics.

- types of flood; their detection and their consequences

8 types of flood were identified and studied by the SG1. Their list will circulate among the participants of the workshop for comments. This outcome will contribute to the part A2 of the guide.

- uncertainty relative to hydrology or expected changes (e.g. climate change, land use change)

the outcomes will feed the part B3

- historic data

It was noted by the participants that one should distinguish data that could be used today for becoming historic data (supposing they are well calibrated and well known), and that data that can't be used today and need verification. Nicolas-Gérard Camphuis will provide some words to explain the idea.

The outcomes will feed the part A3g.

#### Subgroup2: "Evaluation of the risk"

The SG2 addressed 3 main topics.

- evaluation of the risks

The SG2 identified some difficulties with definitions from the flood Directive: "Flood plain area" should be replaced by "flood-prone areas", and "risk" in the directive designates an indication of the flood risk but doesn't designate actual flood risk. David Murphy will provide further explanations on these issues.

Also the SG2 acknowledged that some countries have problems to evaluate the number of inhabitants as mentioned in the flood Directive.

That given, the SG2 proposed that the guide focuses on how to proceed if the information doesn't exist? To this end the SG2's members will write down how they cope with these problems in their countries.

- cost benefit analysis

The SG2 found of interest to present some existing methods of cost benefit analysis in the guide. David Murphy (England&Wales) and Robert Slomp (The Netherlands) will provide some elements on the methods used in their countries.

- flood mapping process

While studying the flood mapping process, the SG2 identified the need to further explain how to take potential defences failures into account when mapping the floods.

David Murphy (England&Wales) will circulate a proposal for restructuring paragraphs B1 and B2.

Eventually, the SG2 listed 10 actions to undertake by the team to complement the report; and a draft will be circulated afterwards to all the participants.

#### Subgroup3: "Implementation of flood maps"

The SG3 addressed 3 main topics.

- Dissemination and use of different flood maps

The SG3 referred to two types of users: the public (including general public that ought to be made aware of the risk and the decision-makers that need help/advice to take their decisions), and the professional users (referring to the INSPIRE Directive).

SG3 stated also that the means of disseminating the maps and the use of different flood maps are specific to each country and each strategy. It was of the opinion of the SG2 that the different national strategies for dissemination should be showed in the Annex of the guide (Internet links towards case studies).

In this regard, the question of the legal status of a public information provided on the Internet arose.

- uncertainty (of data measurements and forecasts)

The SG3 was of the opinion that this type of uncertainty shouldn't be communicated to the public, because that is hard to explain and that may lead to a bad understanding of the information.

- Acceptable level of risk

This is very a sensitive problem which should remain under the Member states responsibilities. The participants decided that the guide should only mention this issue exists (not only in the flood domain, but also for other types of risks) and should be investigated further "somewhere" by "a relevant body". Nevertheless, currently The Netherlands and Switzerland have got their methods for an evaluation of an acceptable level of risk. They could be explained in the guide.

### Follow-up actions

Consolidated reports will be provided by the 3 subgroups within 2 weeks after the workshop. They will serve as inputs for a new version of the guide which will then circulate during fall-time for comments.

### Future work programme

The second version V2.0 of the draft guide will be elaborated from the second workshop outcomes and from the comments made during the following circulation of the document among the EXCIMAP members.

A third writing session will be hold 14-15 December 2006 in The Hague (The Netherlands) with the aim to elaborate even more the document in view of publishing it during the 1<sup>st</sup> semester of 2007.

Jos van Alphen offered to collect the existing types of flood maps as an input for the guide.

A final workshop may be hold in March 2007 if needed, in particular to discuss on a future mandate for EXCIMAP. Provisional dates and location : 6-7 March 2007 in Brussels (to confirm).

### Other topics of interest

The participants were of the opinion that Southern European countries (Spain, Italy, Greece) should be more involved in the EXCIMAP works. To this end, anybody getting a contact in one of these countries should try to convince him/her to take part to EXCIMAP.

Finally, the participants listed some new issues to address possibly in EXCIMAP:

- link between flood management and the Water framework directive
- how to present the information on a map? the members of EXCIMAP could seek to identify the proper specialists who could participate to the next workshop to address this question.