



## Context, objectives and research questions

The overarching goal of the 2nd ERA-Net CRUE Research Funding Initiative project IMRA is to influence and change risk perception and real decision-making regarding flood risk by actively involving stakeholders and the public.

To reach this goal the IMRA project is testing two completely new approaches for dealing with risk perception and risk communication: the concept of social milieus for a tailor-made participation campaign (aiming at the broad public) and a new indicator based model for the assessment of stakeholder cooperation.

The whole process of assessing and managing flood risks is reorganised by following the IMRA risk governance concept for participatory flood risk management aiming at the improvement of risk awareness and increased public participation developed at the beginning of the project. It is a five-step process. These steps, however, do not necessarily have to be followed in a chronological order.

### Moreover, they are parts of an iterative process:

**Step 1:** Inventory of existing data

**Step 2:** Surveys and discussions on risk perception

**Step 3:** Assessment of the performance of existing management systems

**Step 4:** Regional stakeholder workshops

**Step 5:** Communication strategy

The IMRA risk governance concept is based on a theoretical background on participation, risk communication and stakeholder analysis, using the concept of social milieus for the definition of the target groups, as well as on monitoring indicators and measuring values.

By implementing it, existing ambiguities (differences between true flood risk and perceived risk) should be reduced. Some best practice examples will be derived from the case studies serving as references for other authorities dealing with flood risk management plans in Europe. Moreover, a practical handbook on the step-by-step implementation of the IMRA concept will be the second main result of benefit for whole Europe and further countries/authorities facing the given risk-setting.

## Case studies

Risk governance and its core element risk communication are relevant for different risk settings in general and for different river basin districts in particular. In order to prove this conceptual framework, three different river basin districts are integrated into the project as case studies, representing:

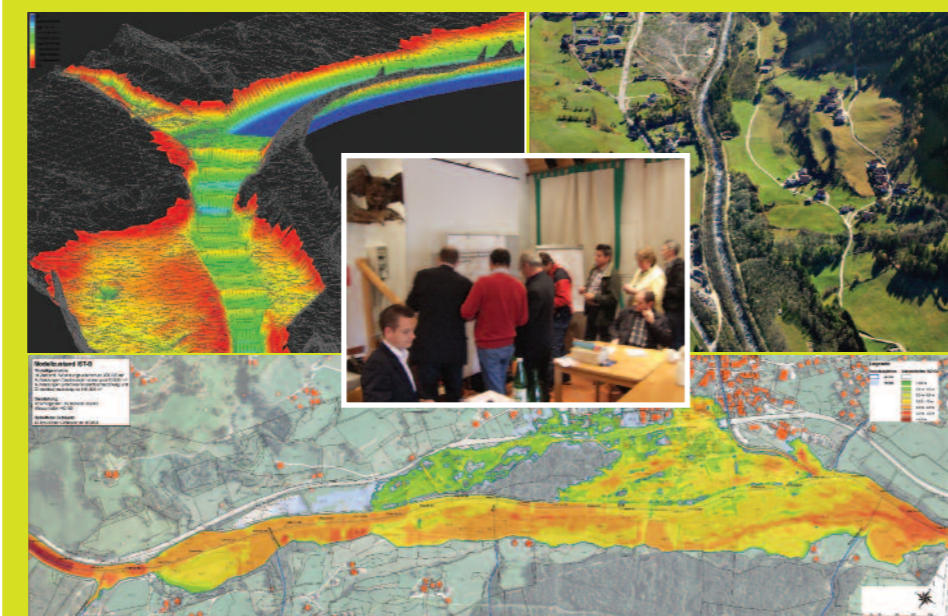
- a mid-European hilly land river basin district, densely built-up, mainly prone to winter floods and flash floods: river Wupper (Germany);
- an alpine river basin, prone to flash floods and debris flows: river Möll (Austria);
- a Mediterranean river basin, prone to torrential floods: river Chiascio, a tributary of the Tevere river (Italy).

### River Wupper, Germany

Although flood protection exists at the river Wupper and its tributaries there is still a residual flood risk in case of extreme flood events and/or failures of the protection system. There is a need to involve affected people and stakeholders in a communication process in order to create a basis for the acceptance and implementation of public and private measures for the prevention of residual flood risks. In the Wupper case study this will be carried out along two case study areas: (1) Morsbach creek - which has recently experienced a flood - in the cities of Wuppertal and Remscheid, (2) Wupper river in the city of Leichlingen where no recent experiences with flooding exist. The case study is implemented by the Wupperverband regional water association with the participation of the Institute for Spatial Planning (IRPUD) at the TU Dortmund University.



Wupperverband



### The Mölltal, River Möll, Austria

The last devastating floods of the river Möll happened 45 years ago, but a flood risk still exists. An integrated risk communication strategy is needed to raise flood risk awareness and to enhance public participation in flood risk planning as well as in prevention measures.

The case study is implemented by Umweltbundesamt GmbH (the Environment Agency Austria) and Amt der Kärntner Landesregierung, Abt. 18 Wasserwirtschaft (the Office of the provincial government of Carinthia, Dept. 18: Water Management), and its subcontractor Revital.

### River Chiascio, Italy

Italy welcomes the Directive for the management of flood risk in Europe, which will be the basic instrument for establishing the common framework to address a concerted EU action. However, the problem of hydraulic risk in Chiascio river basin was already addressed by the hydrological setting plan approved in November 2006; actually the challenge for the future is to increase awareness of local populations and share the need for virtuous behaviour by means of public participation in defining the rules of the territories prone to floods. The case study, Chiascio river basin, is implemented by Tevere river basin Authority, T6, CNR-IRPPS.



Risk map of Chiascio river taken from PAI Piano stralcio assetto idrogeologico (Tevere River basin Authority)

Each case study is represented by the responsible flood risk management authority and one or two cooperating research partner(s) with specific comprehensive knowledge about flood risks or communication skills. With this the results will be used for validating and adjusting the IMRA governance concept and directly influence the decision-making in the case study areas. Two scientific workshops will serve as linkage to the scientific community.

### The following research questions, raised by the call, will be addressed by the project:

- What is the relationship between true flood risk and the public's risk perception? What factors determine this relationship? What are the implications for Flood Risk Management (FRM) policy?
- How can public participation in flood risk management be increased through better risk communication and greater risk awareness?
- How can participation in the establishment of FRM plans be encouraged and improved as a feature of "good governance"?
- What can institutions learn from improved understanding of risk communication approaches, tools and techniques? How can this learning be applied to improve the effectiveness of communications to the public (across a range of FRM activities, e.g. mapping, planning, event management etc.)?

Moreover, due to an evaluation of the case study work, effects of improved risk communication in practice, which includes communicating residual risks, will be analysed.