



FLASH FLOODS
AND PLUVIAL
FLOODING



ISPRA

Istituto Superiore per la Protezione
e la Ricerca Ambientale



REGIONE AUTONOMA
DELLA SARDEGNA



MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE

Working Group F Thematic Workshop

CRUE ERA-NET: International Flood Research Results



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Introduction

- ERA-NET: European Research Area Network
 - Public Research Institutes (mainly governmental) and research funders
 - Set up research agenda
 - Network activities by EU money
 - Common research funding initiatives
 - Finance of research projects by partners
- CRUE = Flooding ERA-NET
 - FP6 (end date 31/10/2009) >> now CRUE Flooding Network
 - 2^o Research funding initiative (2009-2011)



1st Research Funding Initiative

- 7 projects: FLOODERA, RISKCATCH, Room for the River, EWASE, Pro_Floodplain, Simulation of Risk, SUCA
- Risk assessment and risk management: effectiveness and efficiency of non-structural flood risk management measures (NSM)
 - Multidisciplinary approach
 - beyond traditional engineering
 - Consider range of regulatory, social and economic approaches
 - Including LU, insurance spread risk, improved information in maps and involvement of citizens
 - Focus also on environmental and social implications of flooding



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1st Research Funding Initiative

- Projects:
 - NSM “land use/spatial planning”
 - NSM “flood warning”
 - NSM “perception/evolution of risk”
- Recommendations and implications for different target groups
 - Policy makers
 - Practitioners/operational services
 - Researchers



1st Funding Initiative

- Recommendations and implications related to socio-economic aspects and/or FF
 - Policy makers
 - Socio-economic changes are generally not taken into account (where CC is more and more)
 - Robustness under different conditions (including socio-economic changes)
 - Multi-dimensional approaches , whole cycle of risk management and suitable for the type of flood



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1st Funding Initiative

- Recommendations and implications related to socio-economic aspects and/or FF
 - practitioners
 - LUP typically designed for river/coastal flooding to be considered for all types of flooding, including small urban basins
 - Increase the use of SUDS
 - Effectiveness / efficiency



1st Funding Initiative

- Recommendations and implications related to socio-economic aspects and/or FF
 - researchers
 - We have to go further beyond economic direct damage, but additional research about uncertainty in this damage (e.g. Damage functions is still needed)
 - Cost and benefits for the whole life of measures (real costs, real benefits)
 - Dynamic modelling on local scale
 - Infiltration: importance of differences on a local scale? (when do we only have noise left?)
 - Non monetary criteria as sustainability, robustness, flexibility (adaptability) need more attention, in combination with efficiency and effectiveness
 - Urban run off: the standard values of models are not applicable



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Research Agenda: Strengthening EU Research for FRM (Vision 2015)

- increase in urban and pluvial flooding is experienced: increasing demand for land = loss of land for *flood damage mitigation*
- extensive modification of natural landscape is often amplifying the impacts of extreme weather events on communities and the environment
- Settlements are extending more and more into historically known hazard zones for flooding.
- Increases in wealth and population in floodplains puts more property and possessions at risk from floods, and increases individual and societal vulnerability to flooding. Beside the direct and indirect costs, which have to be covered by individuals and society, the challenge of coping with the secondary effects (short- and long-term impacts of a disaster on the overall economy and socio-economic conditions) will be one of the most important tasks in upcoming years in order to avoid significant impacts on long-term human and economic development.



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Research Agenda: Strengthening EU Research for FRM (Vision 2015)

- Objectives
 - further integrate the European Research Area to support the implementation of policies on FRM;
 - develop evidence and innovation required to underpin sustainable FRM across Europe, reducing the potential for duplication of research effort;
 - improve the integration of knowledge and to develop further the systematic exchange (horizontal and vertical) of information and good practice on flood management research.



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Research Agenda: Strengthening EU Research for FRM (Vision 2015)

- Relevant strategic actions
 - Developing resilience and adapting to increasing flood risks: climate change and new development
 - Flood Resilient Communities
 - Meeting multiple demands on flood prevention and protection and their sustainable management
 - Scientific, legal and technical issues
 - Public awareness
 - Different social, environmental and economic scenarios
 - Addressing public knowledge of flood risk and enhancing awareness, perception and communications
 - “living with flood risk” culture



2nd Funding Initiative

- Based on open questions in 1st Funding Initiative and the Research Agenda
- “Flood resilient communities – managing the consequences of flooding” = more than only economic damage:
 - improvement of risk awareness and increased public participation;
 - effects of improved risk communication;
 - communicating the residual risk and uncertainties;
 - interaction of different actors;
 - tools and improvements for flood event management
 - interaction of local scale and basin scale; and
 - facilitation of recovery.



2nd Funding Initiative

- More funding partners than for 1st Funding Initiative, higher total budget
- 7 projects:
 - FREEMAN (Flood Resilience Enhancement and MANagement: a pilot study in Flanders, Germany and Italy);
 - UR-FLOOD (Understanding Uncertainty and Risk in communicating about FLOODs);
 - DIANE-CM (Decentralised Integrated Analysis and Enhancement of Awareness through Collaborative Modelling and Management of Flood Risk);
 - IMRA (Integrative flood risk governance approach for improvement of risk awareness and increased public participation);
 - RISK MAP (Improving Flood Risk Maps as a Means to Foster Public Participation and Raising Flood Risk Awareness: Toward Flood Resilient Communities);
 - SUFRI (sustainable Strategies of Urban Flood Risk management with non-structural measures to cope with the residual risk); and
 - FIM FRAME (Flood Incident Management - A FRAMEwork for improvement).



2nd Funding Initiative

- Projects: cooperation of (minimum 3) research teams
- *Coordination Scientific* project CORE-CRUE
 - Overarching themes
 - Prepare next CRUE Snapshot: Resilience
 - bring together recent literature
 - Not about definitions, but workable concepts
- Synthesis document of 7 projects prepared (beginning 2012), can be presented WG F spring 2012
- Missed fact sheets at the table: www.crue-eranet.net , together with posters and presentations of the projects and the project websites