



## Aims and Introduction

The school is aimed to provide an advanced training on the multi-disciplinary components that have to be considered in the prevention and management of hydrogeological risk forced by meteorological conditions.

The school will be organised over a three years period in order to address all the different topics related to the hydrogeological risk prevention and management.

In each school session a particular aspect of the complex chain we are analysing will be presented and discussed:

- Session one  
Meteorological aspects
- Session two –  
Hydrological and geological aspects
- Session three  
Risk management and prevention

This school is co-organised by CARPE DIEM, a RTD project funded under the 5th FP, and RISK AWARE, an INTERREG CADSES project.



## Topics - Session one – Rainfall estimation and forecast.

This session will focus on the different aspects of precipitation estimation and precipitation forecast.

The relative skill of the different “sources” of rainfall data will be analysed and discussed in order to understand potentials and limits of the measurement tools used and of the techniques described. Fundamentals of numerical modelling at different time scales, as well as all different aspects that contribute to the rain forecast will be analysed.

An overview of hydrological modelling aspects and their interaction with the rainfall input field will be discussed.

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning					
Afternoon					
Session Title	Topics covered		Lectures		
Introduction – general aspects	Overview rain measurement. EU policy risk prevention management. Management of hydrogeological risks.		<b>P.P.Alberoni</b> – ARPA SIM <b>EU DG Research</b> <b>Italian National Civil Protection Department</b>		
Remote sensing estimation of precipitation – radar	Radarmeteorology. Radar based precipitation products.		<b>D. Zrnica</b> – NSSL <b>J. Koistinen</b> – FMI		
Remote sensing estimation of precipitation – satellite	Satellite meteorology. Satellite rainfall estimate.		<b>V. Levizzani</b> – ISAC CNR		
Nowcasting of precipitation	Nowcasting of precipitation, aspect and methodologies.		<b>U. Germann</b> - MeteoSwiss		
Hydrological and geological risk – application aspects	Hydrological modelling. Geological aspects of risk prevention and management.		<b>P. Burlando</b> – ETH <b>F. Guzzetti</b> – IRPI CNR		
Numerical Weather Prediction	NWP – basis Data assimilation		<b>Per Kallberg</b> – SMHI <b>M. Lindskog</b> – SMHI <b>B. Codina</b> – Univ. Barcellona		