



**C**ritical  
**A**ssessment of available  
**R**adar  
**P**recipitation  
**E**stimation techniques and  
  
**D**evelopment of  
**I**nnovative approaches for  
**E**nvironmental  
**M**anagement

Contract N° EVG1-CT-2001-0045  
6<sup>th</sup> Project Meeting

Helsinki  
June 24, 2004

## DRAFT AGENDA



## Information for Participants

**For all of the following point please refers to the instruction of the workshop available at:**  
[http://expo.fmi.fi/Expo/Flood\\_Workshop\\_2004/](http://expo.fmi.fi/Expo/Flood_Workshop_2004/)

IMPORTANT: THE PARTICIPANTS MUST RESERVE THEMSELVES THE HOTEL ACCOMMODATION AT THE UNITAS HOTEL HOSTING THE WORKSHOP NOT LATER THAN 7 JUNE, <http://www.unitaskk.fi>

**Meeting place:**

**How to get here:**

**Accommodation:**

**Connection to / from airport:**

**Useful links:**

**Facilities at the meeting point:**



14:00 – 15:00	WP 10 OPTIMAL USE OF RADAR, NWP AND RAINGAUGE DATA IN PRECIPITATION FORECASTS FOR IMPROVING FLOOD FORECASTS IN URBAN AND RURAL CATCHMENTS	PROGEA SMHI NUID ARPA-SMR
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15:00 – 15:30	WP11 – END-USERS' LEVEL-OF SERVICE REQUIREMENTS	NUID ARPA – SMR SMHI FMI UBARCELONA
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15:30 – 16:00	WP 1- Project Management	ARPA – SMR All CARPE DIEM partners
	Closure of the meeting	

## Topics to be discussed in accordance with the project plan.

MILESTONE			
Code	Time	Name	Features
M5	+30	Assessment of improvement in flood forecasting	<ul style="list-style-type: none"> <li>◆ Sensitivity studies</li> <li>◆ Impact of Doppler wind on the 4DVAR</li> <li>◆ Test of VSRF system</li> </ul>

WP	Topic	List of project deliverables from the beginning up to now	Partners involved
WP 1 PROJECT MANAGEMENT	Administrative matters Financial situation Preparation of 30 months report Final workshop Discussion about a follow-up proposal Organisation of final meeting – school HESS Special Issue	Set-up of Technical Steering Committee Report of the kick-off Meeting 1st TSC report 2nd TSC report	Project coordinator All CARPE DIEM Partners

<p>WP 2 DOPPLER WINDS</p>	<p>Report containing 2-dimensional Doppler wind field retrievals for a number of events.</p> <p>Improved techniques for clear air retrievals of wind and boundary layer information</p> <p>Overview on the three-Doppler wind retrieval</p>	<p>Super-observation dataset</p> <p>Maps of the partner 1 region detailing those areas accessible to dual-Doppler analyses, and any accessible to three Doppler radars.</p> <p>Multiple Doppler dataset</p> <p>Analysis of Multiple Doppler wind field</p> <p>Extraction of clear-air wind</p>	<p>4, 6, 1,3</p>
<p>WP 3 – DATA ASSIMILATION</p>	<p>Implementation of the observation operators for radar radial winds in 4D-Var</p> <p>Implementation of continuous assimilation based on nudging</p> <p>Status of activities on the inter-comparison experiment</p> <p>Assessment of impact of radar wind in assimilation</p>	<p>Software modules for 4-dimensional assimilation</p> <p>Impact studies of radar radial winds on limited area NWP and an assessment of suitability of radar radial wind measurements for use in operational NWP</p>	<p>4, 5, 7</p>
<p>WP 4 – ASSESSMENT OF NWP MODEL UNCERTAINTY INCLUDING MODELS ERRORS</p>	<p>Software modules for ML/SKF approach</p> <p>Software modules for KF/IIP approach</p> <p>Status of the activities</p>	<p>Software modules for ML/SKF approach</p> <p>Software modules for KF/IIP</p>	<p>2, 4, 7</p>
<p>WP 5 – ASSESSMENT OF IMPROVEMENTS IN NWP</p>	<p>MAP cases - Analysis of severe weather situations</p> <p>Implementation of the VSRF system</p> <p>Test on VSRF system</p>	<p>Analysis of severe weather situations</p> <p>Set-up of VSRF procedure</p> <p>Verification of the forecasted field coming from the VSRF procedure</p>	<p>1, 8</p>

<p>WP 6 – ANOMALOUS PROPAGATION</p>	<p>Advancing in ANAPROP modelling. Assimilation of radar products in real-time while processing simulation. Display tool to compare prediction and observation. Integration of application to provide image products</p>	<p>PC-based application producing predicted images of terrain or sea clutter caused by anaprop effects based on mesoscale NWP model products Real-time application combining the first application with radar data assimilation, and display diagnostics</p>	<p>6, 7</p>
<p>WP 7 – ADVANCED SURFACE RADAR-BASED RAINFALL ESTIMATE APPLYING NWP MODEL DATA</p>	<p>VPR Correction in a radar Network Status of activities Verification on the improvement in radar derived surface precipitation using OP correction. Implementation of the program, which enables direct comparison of observed VRPs and simultaneous 1D columns of the NWP model variables at the same point</p>	<p>Diagnosis of hydrometeor liquid water fraction in 3D radar volumes, based on NWP model fields 3D diagnosis of overhanging precipitation based on NWP model fields Improvement of radar derived surface precipitation using integrated OP correction from a radar network and from a NWP model</p>	<p>5</p>
<p>WP 8 – USE OF POLARIMETRIC RADAR DATA FOR IMPROVE THE RADAR RAIN ESTIMATE</p>	<p>Use <math>\Phi_{DP}</math> to establish uncertainty in rainfall estimates due to variations in Z-R for different spatial and temporal scales of model input Status of activities Status of deliverable 8.2</p>	<p>Critical review of present state of the art multi-polarisation rainfall estimation techniques Climatology of variations in Z-R at different spatial and temporal scales of model input obtained by <math>\Phi_{DP}</math> method</p>	<p>6, 4</p>

<p>WP 9 – ASSESSMENT OF THE BIAS, SPATIAL PATTERN AND TEMPORAL VARIABILITY OF ERRORS IN THE DIFFERENT SOURCES OF AREAL PRECIPITATION ESTIMATES</p>	<p>Status of activities</p> <p>Comparison of precipitation estimates with mesoscale analysis, stochastic model and Kriging</p> <p>Delivery of a report on precipitation estimate assessment</p> <p>Delivery of a report on flood estimation and forecasting assessment</p>	<p>Comparison of precipitation estimates with mesoscale analysis and stochastic model.</p> <p>Comparison of flood estimates and forecasts using the semi-distributed model in the Swedish catchment</p> <p>Comparison of flood estimates and forecasts using the simpler lumped models in the Irish catchment</p> <p>Comparison of flood estimates and forecasts using the more complex distributed model in the Irish catchment</p>	<p>4, 2, 8, 9</p>
<p>WP 10 – OPTIMAL USE OF RADAR, NWP AND RAINGAUGE DATA IN PRECIPITATION FORECASTS FOR IMPROVING FLOOD FORECASTS IN URBAN AND RURAL CATCHMENTS</p>	<p>Methodology for optimal use of radar, NWP and raingauge data</p> <p>Status of activities</p>	<p>Methodology for optimal use of radar, NWP and raingauge data</p>	<p>9, 1, 2, 4</p>
<p>WP 11 – END-USERS' LEVEL-OF SERVICE REQUIREMENTS</p>	<p>End users requirements</p> <p>Updating of End-Users assessment</p> <p>Outcomes from the project workshop</p>	<p>Basic End-Users requirements</p> <p>End-Users Assessment document</p>	<p>9, 1, 4, 5, 7</p>
<p>WP 12 – PROJECT RESULTS DISSEMINATION</p>	<p>WEB</p> <p>Dissemination status</p> <p>Plan for publications</p>	<p>Web site</p> <p>Workshops</p>	<p>All CARPE DIEM Partners</p>