

DETAILED REPORT OF CONTRACTOR FOR THIRD PROGRESS MEETING.  
NEWCASTLE, NOVEMBER 2001.

PERIOD: MAY – OCTOBER 2001

Assistant Contractor: Instituto Geológico y Minero de España (IGME)

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**Summary of main work carried out during the reporting period (May – October 2001)**

- Geomorphologic cartography at 1/25.000 scale finished. 188 debrisflows have been mapped.
- Digitising the geological cartography at 1/25.000 scale.
- Visit to the field (Benasque Valley) with the Padova team in September to ultimate the selection of one of the proposed catchments and planing to get the necessary data to run their model. Sahún catchment has been selected.
- Detailed topographic study on Sahún fan in order to get cross sections and the longitudinal profile of the stream through the fan.
- Survey to the Sahún village inhabitants about episodes triggered after heavy rain or snowfall.
- Studying the developed by Padova partners, MODDS (Muskingum One Dimensional Debrisflow Simulation) requirements.

## **Section 1: Objectives of the Reporting Period**

- Finishing the geomorphologic cartography and the memory describing the study area. The cartography has already been finished.
- Regional analysis of debrisflows and rockfalls applying the Milan and IPE methodology, in order to obtain probabilistic maps of these phenomena in our study area.
- Selection of one catchment with alluvial fan to make more detailed studies and apply the Padova team model.

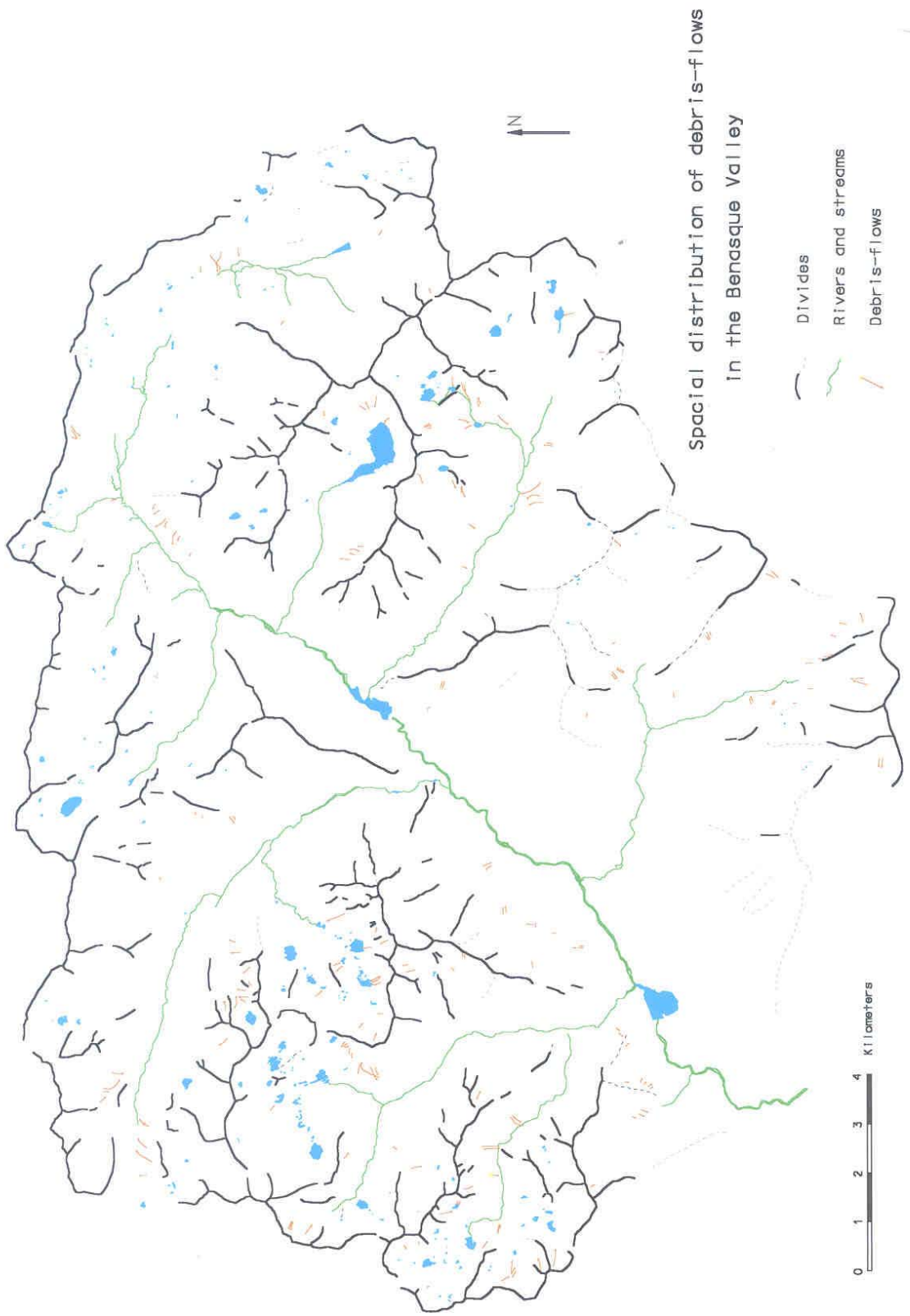
## **Section 2: Scientific/Technical Progress Made in Different Work**

### **Packages According to the Planned Time Schedule**

Mainly through some important project meetings (Zaragoza and Padova), we have known some characteristics of the methodologies followed by other principals contractors (University of Newcastle (CO1), University of Milan-Bicocca (CR2), University of Padova (CR4) and their necessities to develop the models that will applied the end-users.

As potential end-user we are interested in contributing to try to apply some regional model to our study area for predicting debris flows and also rock falls and some local models for applying the University of Padova's one.

WP1: 188 debrisflows have been mapped, most of them located on screes and debris cones. The memory of the cartography is being carried out, describing the processes and deposits in the study area.

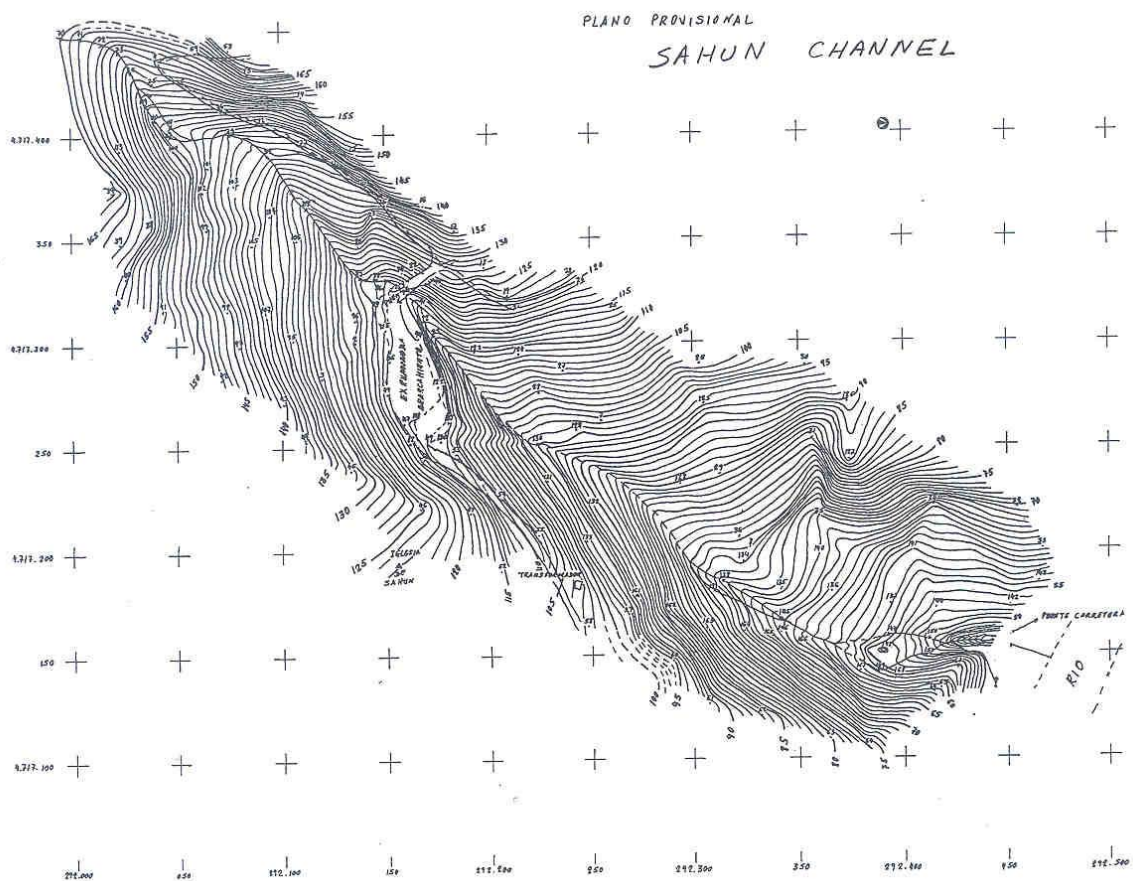


Spatial distribution of debris-flows  
in the Benasque Valley

- Divides
- Rivers and streams
- Debris-flows

WP2: To carry out the statistical analysis of debrisflows, the IPE team has provided us vegetation and land use maps of our study area. Also we want to discuss the requirements to apply the regional analysis of rockfalls developed by Milan team.

WP3: With the Padova team we have visited the Benasque field and chosen a small basin with alluvial fan in the Benasque Valley (Sahún catchment) to apply their MODDS. A detailed topographic study has been done to obtain the first required inputs.



WP5: Some corrections have been done in the DAMOCLES web site.

GANTT CHART						
	May	June	July	August	Sept	Oct
WP1	—————			—————	—————	—————
WP2	—————				—————	—————
WP3		—————			—————	—————
WP5	—————				—————	—————

MEMBER OF IGME TEAM	Dedication in month*			
	Year 1		Year 2 (may-oct 2001)	
	Planned Dedication	Real Dedication	Planned Dedication	Real Dedication
Santiago Ríos	1,35	3,05	0,39	1,35
Antonio Barnolas	0,8	0,30	0,23	
Enrique Acosta	-	8	-	6

\* I have not the planned details for each work

IGME EXPENDITURE IN EUROS	Year 1		Year 2 (may-oct 2001)	
	Planned	Real	Planned	Real
Personal Costs	8.291		2.591	1.542
Overhead Costs	11.443		3.576	2.182
Travel and Subsistence costs	5.602		2.800	1.691
<b>Total Expenditure</b>	15.336	28.999	8.967	5.415

### Section 3: Milestones and Deliverables Obtained

### Section 4: Deviations from the Work Plan and/or Time Schedule and Their Impact on the Project

Our main target is to become end-user of the deliverables of the Project. For that we are interested in applying the methodologies for estimating regional hazards of rapid slope failures mainly debris flows and rock-falls. For doing that our coordination with IPE and Milan teams is very convenient and we think that there will not be interference with the general course of the Project.

The same is about the local model of the Padova team.

### Section 5: Coordination of Information Between Partners and Communication Activities

The main coordination has been done with the Padova team and with the IPE team.

Organised meetings, conference attendance, joint fieldwork, cooperation with other projects...

**Section 6: Difficulties Encountered at Management and Coordination Level and Proposed/Applied Solutions**

No difficulties in management and coordination has been found.

**Section 7: Plan and Objectives for the Next Period**

1. Finishing the Memory describing the processes and deposits in the study area. Survey to the inhabitants of Benasque valley about main processes occurred.
2. Digitising the cartographic information of geology, vegetation, land use and others, and adaptation at 1:25.000 scale
3. Detail description, according to the forms of the Project, of the debris flows characteristics.
4. Statistic analysis of debrisflows according to the Milan and IPE partners methodology in order to get probabilistic maps of debrisflows.
5. Statistic analysis of rockfalls according to the Milan partners methodology in order to get probabilistic maps of debrisflows.
6. Trying to run the MODDS in Sahún catchment.

	1 <sup>er</sup> cuatrimestre	2 <sup>o</sup> cuatrimestre	3 <sup>o</sup> cuatrimestre	4 <sup>o</sup> cuatrimestre
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6		██████████	██████████	██████████

## **Section 8: Publications**

No publications has been made

## **Section 9: References**