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NATIONAL REPORT 2004-2005
SPAIN

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1. Forest and hydrological restoration activities

Central Government and Autonomous Regions work together to carry out forest and hydrological restoration actions in watersheds in order to control hydrological erosion processes.

The following activities were undertaken along the years 2004-2005:

Reforestations

Financed by the Ministry of Environment and achieved by the Autonomous Region Technical Services an area of 4.217 ha has been reforested with species of the most ecological value according to the climate, topography and land conditions.

Fig.1. Reforestation with Populus alba, 11 years old. País Vasco.

Fig.2. Reforestation with Prunus avium, 9 years old. La Rioja.

Correction works

They have been carried out in torrents as preventive and active measures against bedload transport to avoid its accumulation in water courses and reservoirs. Correction works have consisted on the construction of 24.205 m^3 of terraces and check dams of hydraulic and gavion masonries.

Forest areas improvement treatments

In order to preserve and to improve the state of the forest areas and their protective functions, these treatments have been applied in a 4.452 ha area.

The main part of the mentioned interventions have been co-financed by common funds, in compliance to the forestry articles of the Regulation 1257/99 (CE) in force in 2004-2005, from the FEOGA Guidance Section, within the framework of the corresponding Guarantee Section Programs.

The table below shows the distribution by Autonomous Region of the described investments:

INVESTMENTS 2004-2005	
AUTONOMOUS REGION	**INVESTMENT AMOUNT€**
Andalucía	6.858.727
Aragón	1.912.970
Asturias	1.484.313
Baleares	869.396
Canarias	481.342
Cantabria	612.613
Castilla-La Mancha	3.477.704
Castilla y León	5.035.006
Cataluña	4.778.801
Extremadura	1.908.918
Galicia	2.281.716
Madrid	746.696
Murcia	2.206.014
La Rioja	514.914
Valencia	2.758.085
TOTAL……	35.927.215

These investments have been differently assigned to the three kinds of intervention mentioned depending on the necessities of each Autonomous Region:

INTERVENTIONS 2004-2005			
AUTONOMOUS REGION	**REFORESTATIONS (ha.)**	**FOREST AREA TREATMENTS (ha.)**	**HYDRAULIC WORKS (m^3)**
Andalucía	540	1.019	9250
Aragón	403	0	0
Asturias	286	55	0
Baleares	0	3	3200
Canarias	19	0	666
Cantabria	113	0	0
Castilla-La Mancha	524	1.036	1415
Castilla y León	747	686	0
Cataluña	0	1.038	0
Extremadura	605	0	33
Galicia	455	128	0
Madrid	0	165	0
Murcia	0	153	6842
La Rioja	0	157	0
Valencia	525	12	2799
TOTAL	4.217	4.452	24205

Most of the investment of the years 2004-2005 has been co-financed by the FEOGA Guidance Section, with reinburshements between 50% and 75%, depending on the regions, within the framework of the Guarantee Section Programs corresponding to the period 2000-2006 (Chapter VIII of the Regulation 1257/99 CE).

Fig 3. Gavion masonry stabilisation dam.

Besides these ordinary investments, special legislation was approved in 2005 (RDL 11/2005, RD 949/2005 and RD 1123/2005) to allow emergency actions to prevent and to restore damages caused by forest fires.

The investments for the emergency actions were geographically distributed as shown in the table below:

LOCATION	EMERGENCY ACTIONS	INVESTMENT (€)
Guadalajara	Fire damages restoration	3.980.000
Gerona	id	309.000
Cáceres	id	3.980.000
Orense	id	560.000
Pontevedra	id	950.000
TOTAL Ecological and environmental restoration of fire damaged areas		9.779.000
Murcia	Biomass use cancellation	500.000
Madrid	id	500.000
TOTAL Wood fuel elimination		1.000.000
Confederación Hidrográfica Norte	Forest Fires Prevention	904.800
Confederación Hidrográfica Guadalquivir	id	1.175.955
TOTAL		2.080.755
TOTAL EMERGENCY INTERVENTIONS		12.859.755

Economical Assistance for Public Forest Areas

Funds have been set aside as economical assistance for the sustainable management of forest areas, setting mountain areas and the high part of watersheds as priority areas with the aim of preserving and strengthening the protective, social and ecological functions these zones fulfil.

The total amount of the economical assistance reached 18.922.040 € in the years 2004-2005 and was distributed in the different Autonomous Regions as shows the table below:

ECONOMICAL ASSISTANCE FOR PUBLIC FOREST AREAS MANAGEMENT 2004-2005	
AUTONOMOUS REGION	EXPENSE €
Andalucía	2.035.620
Aragón	1.420.000
Asturias	1.043.860
Baleares	247.940
Canarias	810.360
Cantabria	1.033.380
Castilla-La Mancha	2.723.960
Castilla y León	3.768.980
Cataluña	1.166.560
Extremadura	2.067.300
Galicia	232.140
Madrid	701.260
Murcia	0
La Rioja	1.341.420
Valencia	329.260
TOTAL……..	18.922.040

2. Cartography, Monitoring and Planning works

During the 2004-2005 period the following initiatives were undertaken:

Digital Soil Map

The production of the Digital Soil Map started in 2005, within the framework of the project LUCDEME, attaching high importance to a thorough knowledge of the main natural resource implicated in desertification processes.

29 cartographic sheets have been digitalised, at scale 1: 100.000, out of the 142 edited in graphic format since 1981 (14% of the national territory), covering so the whole region of Almeria.

The digital map of every sheet has been published in a CD containing, besides, the vectorial layers files allowing to be used in a GIS, a report with the description of every cartographic unit, complete data about a selection of the edaphic profiles sampled for the production of the map and pictures of the profiles and of the unit.

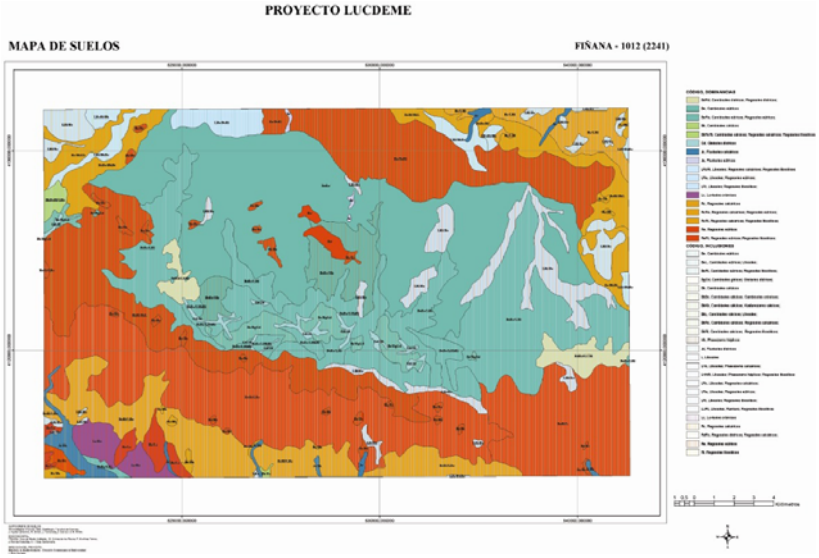


Fig.4. Digital Soil Map Cartographic sheet.

Fig. 5. Edaphic profile

Furthermore, the different cartographic sheets have been assembled in order to obtain the representation of the whole region as well as a general report about land in Almeria.

The Annex IV of the United Nations Convention to Combat the Desertification, specific for the North Mediterranean Area, together with the development of the European Strategy for Land Protection, reinforce the importance of this cartography. Therefore, the publication in digital format of all the existent sheets is planned with their corresponding regional map which, in turn, will be assembled to obtain a continuous digital cartography of land.

Soil Erosion National Inventory

Completing the previous Soil Erosion State Maps, the inventory intends to detect, quantify and represent cartographically, in digital and graphic format, the main erosion processes of land in our country as well as their evolution along the years. These objectives require three kinds of cartography activities: a representation of land segmentation in homogeneous systems, a compilation of field measurements and a subsequent processing and integration of both informations.

In accordance with the schedule planned, field works of 17 regions are already finished and 13 out of them have been published: Madrid, Murcia and Lugo in 2003; Asturias, Baleares, La Coruña, La Rioja and Navarra in 2004 and Cantabria, Gerona, Orense, Pontevedra and Tarragona in 2005.

Works corresponding to the whole country will be carried out continuously and periodically every 10 years at a scale of 1: 50.000 which will allow the constant updating of the cartography as well as of the field data. Besides, it will make possible comparison along the years.

This purpose has led to the achievement in 2005 of the works corresponding to Badajoz, Barcelona, Cáceres and Lérida, the publication of which is planned for 2006.

National Action Program to Combat Desertification (NAPD)

In compliance with the article 5 of the United Nations Convention to Combat the Desertification, the Work Program Document of the National Action Program to Combat Desertification was concluded in October 2004. The Document was submitted to the Secretariat of the UNCCD for its analysis and elaboration of remarks concerning, specially, the respect of the principles and contents of the Convention. The result of the revision of the Document by the Executive Secretary of the UNCCD was "once the NPCD analysed, he declares with pleasure there is nothing to add to this integrated and complete tool to combat desertification in Spain".

Monitoring and Assessment Erosion Experimental Stations Network

Fig.4. Flow gage in Morille Experimental Station (Salamanca)

The aim of the network is to coordinate and improve the use of the results obtained by the different research teams who work on the experimental study of this phenomenon since the 80's and who nowadays have 20 associated centres and more than 40 experimental stations.

The network started working in 1996 and has provided data until 2005 to create a data base about the erosion cycle, the hydrologic cycle and water quality that can be looked up at real time by any researcher or environmental manager making easier the development of preventive and management actions in areas vulnerable to desertification according to reliable information.

Plan for Priority Interventions in Forest and Hydrological Restoration, Erosion Control and Combat against Desertification

This plan, the elaboration of which concluded in 2003, has been updated in 2005 with the purpose of setting the priority watersheds to act, considering the interventions to be carried out in medium-term and establishing a hierarchy and a schedule for their execution.

The aim of the Plan is to promote, to focus and to set a hierarchy for the actions of implementation, conservation and improvement of the protective vegetal cover in areas strongly affected by erosion-desertification problems.

3. Institutional and Coordination Actions

XIII International Course for Forest and Hydrological Restoration and Erosion Control.

This course was celebrated in Spain in September 2005 together with the Ministry of Foreign Affairs. The assistants were university graduated from South America with experience or working in activities related to the combat against desertification and as managers of watershed forest and hydrological restoration and watershed management activities.

The course included theoretical classes given by specialists from Public Administration, University and Private Companies, and practical experiences in the Spanish Pirynees (Huesca), paying special attention to the International Agreement to Combat Desertification and its specific annexes for South America and Caribbean and North Mediterranean Areas.

V Interactive High Course about Combat against Desertification and Defence against Drought and Floods
and
II International Seminar about Forest as Biodiversity Reserve and Defence against Desertification and Climate Change.

These interactive courses, developed within the framework of the activities included in the Araucaria Program of the Spanish Agency for International Cooperation, have been celebrated in Cartagena de Indias (Colombia) in July and October 2005 with the main goal of providing South American technical experts the necessary knowledge and information to achieve a correct management of the desertification issue and the erosion control.

4. Torrent Arás: Sentence for the catastrophe of 1996, ten years later.

Almost ten years later, the Spanish Government must pay 11 million euros to the victims of the flood of the torrent Arás (Huesca Pirynees) that took place on the 7th august 1996.

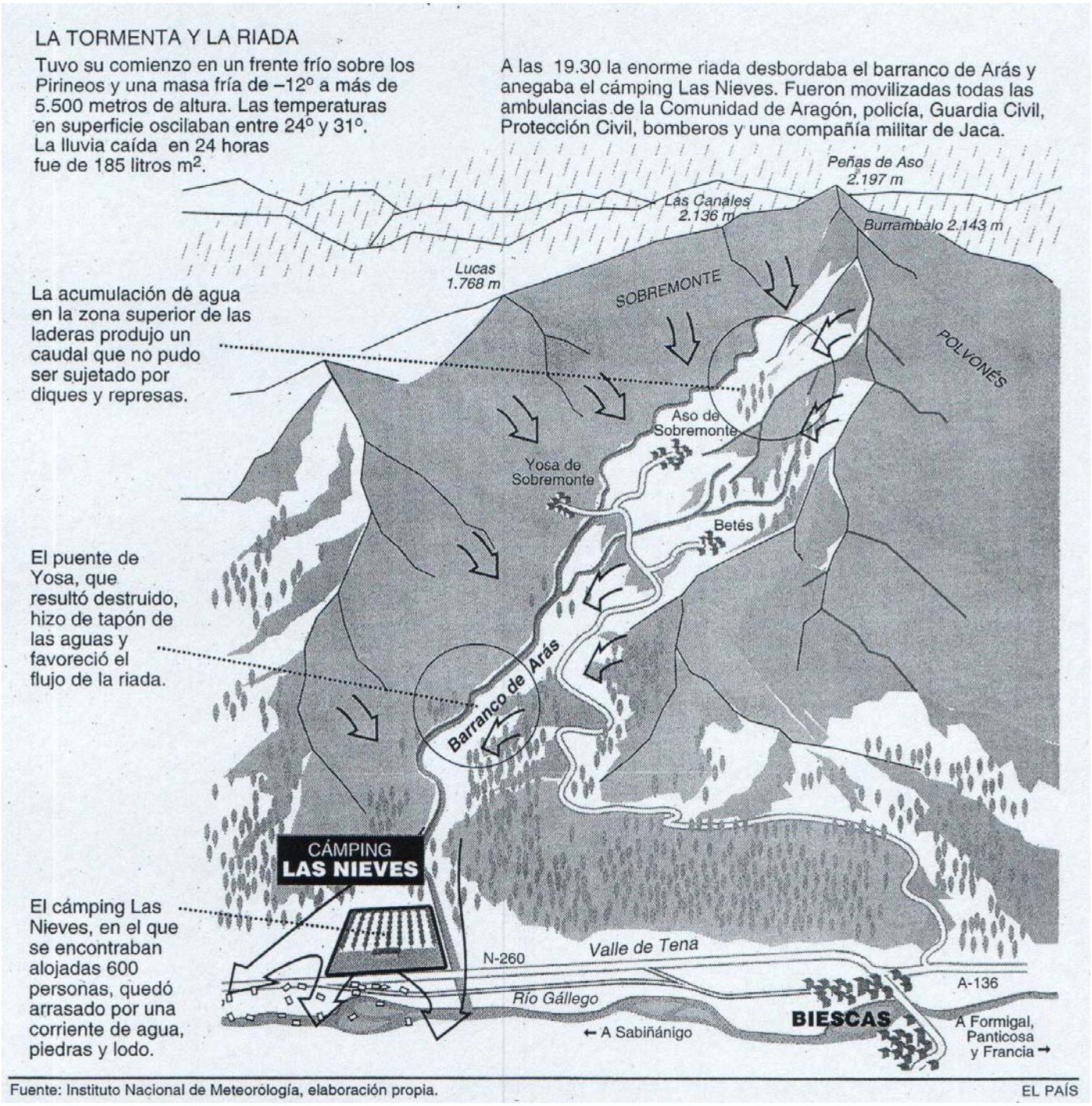
The storm registered let 185 l/m^2 in 24 hours what involved, for a 1.850 ha watershed, an estimated flow of 300-520 m^3/s of torrential lava.

The flow destroyed all the check dams and unleashed the flooding of the entire camping of Biescas situated in the alluvial fan of the torrent, causing the death of 87 people.

The court passed sentence on the 22th December 2005 and, considering that the danger involved by the location of the camping in the fan of the torrent was clearly documented and predictable, the Government is condemned to indemnify the victims.

This accident represents one more example of the high importance of the preventive measures and more specifically of the zonification and establishment of danger areas with their associated limitation of uses.

The following diagram represents the swollen of the torrent the day of the accident in the Camping of Biescas:



Finally, we include five photographies of the same stretch of the torrent along the last century to illustrate its historic evolution:

Photo 1: Early 20th century

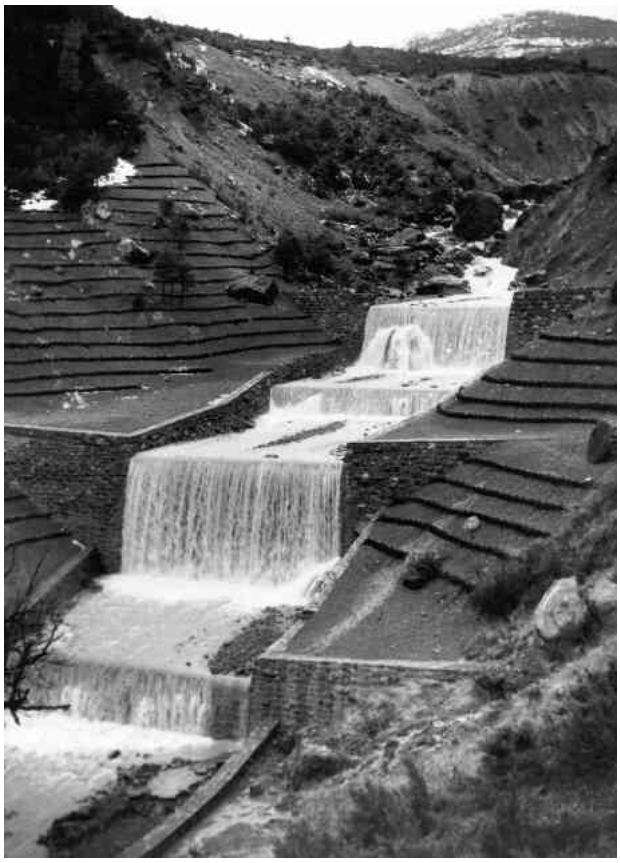


Photo 2: Mid 20th century

Photo 3: Between 1970 and 1980.

Photo 4: Image of the torrent after the swollen on august 1996.

Photo 5: Correction work achieved in the last years (picture from 2001)