IV International Symposium on Gully Erosion
Pamplona (Spain), 17-19 September, 2007

Programme
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Sunday, 16 September, 2007

19:00 Reception for attendees, icebreaking. Hotel Maisonave.

Monday, 17 September, 2007

8:00-8:45 Enrolment.

8:45-9:30 Opening session and welcoming ceremony.
• His Excellency the President of the Government of Navarre Mr. Miguel Sanz, or any person delegated by him.
• Mr. Julio Lafuente López, the Lord Chancellor of the Public University of Navarre.
• The Lady Mayoress of Pamplona, Ms. Yolanda Barcina or the person delegated by her.
• Dr. Javier Casalí Sarasibar, Dr. Rafael Giménez, chairs of the Scientific and Organizing Committees. Public University of Navarre, Dept. of Projects and Rural Engineering.

9:30-10:15 Guest speaker: Jean Poesen
Physical and Regional Geography Research Group, K.U. Leuven, Belgium. Developments in gully erosion research and their implications for controlling soil loss and sediment yield
10:15-11:15 **Session 1.** Chair person: Mathias J. M. Römkens
United States Department of Agriculture - Agricultural Research Service- National Sedimentation Laboratory, Oxford (MS), USA.

Markovitch, H., Svoray, T.
Ben Gurion University, Israel.
*Gully development in agricultural fields: insights from catchment scale analysis*

Rodzik, J., Furtak, T., Zglobicki, W.
University of Maria Curie-Sklodowska, Poland.
*Influence of snowmelt and heavy rainfalls on water and sediment yield from loess gully catchment (Lublin upland – Poland)*

Vanwalleghem, T., Giráldez, J. V., Jiménez-Hornero, F. J., Laguna, A.
University of Córdoba, Spain.
*A general sediment transport model for linear incisions*

11:15-11:45 **Coffee break / Hanging of posters (1)**

11:45-12:30 **Guest speaker:** Alan D. Howard
Department of Environmental Sciences, University of Virginia, USA.
*Gullies on Mars: The debate about formative processes*

12:30-13:50 **Session 2.** Chair person: Chi-hua Huang
United States Department of Agriculture-Agricultural Research Service-National Soil Erosion Research Laboratory, Purdue University, West Lafayette (IN), USA.

Leyland, J., Darby, S.E.
University of Southampton, UK.
*Long Term evolution of incised coastal channels on the isle of Wight, UK: insights from numerical modelling*

Wilson, G. V.¹, Fox, G. A.², Chu-Agor, M. L.²
¹USDA-ARS National Sedimentation Laboratory, USA.
²Oklahoma State University, USA.
*Seepage erosion impacts on edge-of-field gully erosion*

University of Lleida, Spain.
*Does vegetation cover suppose gully erosion stabilization?*

Dotterweich M., Jared David, M.
University of Koblenz-Landau, Germany.
*Prehistoric and modern impacts on gully formation on the loess hills of northern Mississippi, USA*
13:50-14:00 Hanging of posters (2)

14:00-15:30 Lunch in the Public University of Navarre’s dining rooms

15:30-16:15 Guest speaker: Mike Kirkby
University of Leeds, UK.

16:15-17:15 **Session 3.** Chair person: Yong Li
Chinese Academy of Agricultural Sciences, Beijing, China.

Ries, J.B.¹, Marzolff, I.², Seeger, M.¹
¹University of Trier, Germany.
²Johann Wolfgang Goethe University, Germany.

*Gully erosion in semi-arid landscapes - monitoring of processes and development*

Mathys, N.¹, Klotz S.¹, Esteves M.², Grésillon, J. M.³
¹Cemagref Grenoble, Unité de Recherche Erosion Torrentielle, Neige et Avalanches, France.
²LTHE, Laboratoire d’Etude des Transferts en Hydrologie et Environnement, France.
³Cemagref Lyon, Unité de recherche Hydrologie-Hydraulique, France.

*Erosion processes at the gully scale: observations, quantification and interpretation of field data from the Draix laboratory*

Federal University of Rio de Janeiro and Maranhão, Brazil

*Urban gullies in São Luis City, Maranhão State, Brazil.*

17:15-17:45 Coffee break / Hanging of posters (3)

17:45-18:30 Brief oral presentation of posters (I). *From poster 1 to 20*

18:30-19:15 Discussion on posters (I)

20:30 Reception for attendees. City Hall of Pamplona

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**Tuesday, 18 September, 2007**

9:00-9:45 Guest speaker: Carlos V. Alonso
United States Department of Agriculture-Agricultural Research Service-National Sedimentation Laboratory, Oxford (MS), USA.

*Ephemeral gully erosion research: processes and modeling*
9:45-10:45 **Session 4.** Chair person: Gerard Govers  
K.U. Leuven, Belgium.

Brooks, A. P., Shellberg, J. G., Spencer, J., Knight, J.  
Griffith University, Australia.  
*Alluvial gully erosion: a landscape denudation process in northern Australia*

Gordon, L.¹, Bennett, S.¹, Wells, R.², Alonso, C.²  
¹University at Buffalo, USA.  
²USDA-ARS National Sedimentation Laboratory, USA.  
*Ephemeral gully headcut development and migration in stratified soils*

Campo, M. A., Álvarez-Mozos, J., Casalí, J., Giménez, R.  
Public University of Navarre, Spain.  
*Gully headcut dynamics in The Bardenas Reales area (Navarre, Spain)*

10:45-11:15 Coffee break

11:15-11:55 **Session 5.** Chair person: José A. Martínez-Casasnovas  
University of Lleida, Spain.

Govers, G.¹, Giménez, R.², Van Oost, K.¹  
¹K.U. Leuven, Belgium.  
²Public University of Navarre, Spain.  
*Implications of recent experimental findings for rill erosion modeling*

Römkens, M. J. M., Prasad, S. N.  
National Sedimentation Laboratory, USA.  
The University of Mississippi, USA.  
*Seepage flow in aquifers with open and closed boundaries*

11:55-12:40 Brief oral presentation of posters (II). *From poster 21 to 40*

12:40-13:30 Discussion on posters (II)

13:30-15:30 Lunch in the Public University of Navarre’s dining rooms

15:30-16:15 Guest speaker: Rafael L. Bras  
Massachusetts Institute of Technology, Cambridge (MA), USA.  
*From Uplift to Trees: Progress in Modeling Landscape Evolution*
16:15-17:55 **Session 6.** Chair person: Juan V. Giráldez
University of Córdoba; Spanish National Research Council (CSIC), Spain.

Pelacani, S., Märker, M., Rodolfi, G.
University of Florence, Italy.
*Assessment of gully erosion using photogrammetric techniques. A case study of upper Mbuluzi river, Swaziland*

Sadeghi, S. H. R., Rangavar, A. S., Bashari, M., Abbasi, A. A.
University of Tarbiat Modares, Iran.
*Waterfall erosion as a main factor in ephemeral gully initiation in a part of northeastern Iran*

Li, Y., Poesen, J., Liu, L. M., Zhang, Q. W., He, F. H., Li, R.
Institute of Agro-Environment and Sustainable Development, China.
*Gully erosion in mountain area of SW-China, assessed using $^{137}$Cs and $^{210}$PBEX tracers and GPS survey*

Gordon, L. M.¹, Bennett, S. J.¹, Alonso, C. V.², Bingner, R. L.²
¹University at Buffalo, USA.
²USDA-ARS National Sedimentation Laboratory, USA.
*Ephemeral gullies: to till or not to till?*

Masri., Z,¹, Turkelboom, F,¹, De Pauw, E,¹, Muhammad, A. M.², Sheikho. A,², Dalton, P,¹
¹The International Center for Agricultural Research in the Dry Areas (ICARDA), Syria.
²Afrin Extension, Directorate of Agriculture, Ministry of Agriculture (MAAR), Syria.
*Regional assessment of gully systems in a hilly olive-orchard dominated landscape*

20:30 Concert by the Pamplona Chamber Choir. Gala dinner.
Hotel Los Tres Reyes

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**Wednesday, 19 September, 2007**

9:00-18:00 **Field trip:** to visit mainly the Natural Park of *Las Bardenas Reales de Navarra*, Biosphere Reserve.
A visit to this very special area with unique characteristics, a fine, valuable place, which also constitutes one of the most appropriate sites in the world for the study of the erosion phenomenon, particularly of gully erosion. Lunch will be at the *Parador Nacional* in the historical town of Olite.
1. Bennett, S. J.\textsuperscript{1}, Alonso, C. V.\textsuperscript{2}
\textsuperscript{1}University at Buffalo, USA.
\textsuperscript{2}U.S. Department of Agriculture-Agricultural Research Service National Sedimentation Laboratory, USA.

*Turbulent flow within headcut scour holes in rills and gullies*

2. Bingner, R. L.\textsuperscript{1}, Theurer, F. D.\textsuperscript{2}, Gordon, L. M.\textsuperscript{3}, Bennett, S. J.\textsuperscript{3}, Parker, C.\textsuperscript{4}, Thorne, C.\textsuperscript{4}, Alonso, C. V.\textsuperscript{1}
\textsuperscript{1}USDA-ARS National Sedimentation Laboratory, USA.
\textsuperscript{2}USDA-NRCS, USA.
\textsuperscript{3}University at Buffalo, USA.
\textsuperscript{4}University of Nottingham, USA.

*AnnAGNPS ephemeral gully erosion simulation technology*

3. Conesa-García, C.\textsuperscript{1}, García-Lorenzo, R.\textsuperscript{2}
\textsuperscript{1}University of Murcia, Spain.
\textsuperscript{2}Autonomous Community of Murcia Region. Environmental Integration and Information Service, Spain.

*Scouring-sedimentation balance for gully reaches affected by check dams in Mediterranean environments*

4. Conesa-García, C.\textsuperscript{1}, Pérez Cutillas, P.\textsuperscript{2}, García-Lorenzo, R.\textsuperscript{2}
\textsuperscript{1}University of Murcia, Spain.
\textsuperscript{2}Autonomous Community of Murcia Region. Environmental Integration and Information Service, Spain.

*Relation between the location of check dams and adjacent vegetation cover in ephemeral gullies (southeast Spain)*

5. Chocron, M., Laronne, J. B., Alexandrov, Y.
Ben Gurion University, Israel.

*Runoff and sediment supply from small gullied and ungullied basins in a semi-arid grazed environment*

6. De Baets, S., Poesen, J., Knapen, A.
K.U. Leuven, Belgium.

*Impact of root architecture, soil and flow characteristics on the erosion-reducing potential of roots during concentrated flow*
7 Del Río, I., Fernández, O., Imaz, M. J., Enrique, A., Bescansa, P.  
Public University of Navarre, Spain.  
_Improving the structural stability of cropped soils in Olite (Navarre) using conservation tillage to reduce water erosion_

8 Della Seta, M., Del Monte, M. Fredi, P., Lupia Palmieri, E.  
Degli Studi di Roma University, Italy.  
_Gully erosion in central Italy: denudation rate estimation and morpho-evolution of Calanchi and Biancane badlands_

9 Desir, G., Marín, C.  
University of Zaragoza, Spain.  
_Effects of slope processes and management in gullying_

10 Dóniz, J., Romero, C.  
University of La Laguna, Spain.  
_Gully erosion on cinder cones of Tenerife (Canary Islands, Spain)_

11 Echeverría, M. T., Ibarra, P., Pérez-Cabello, F.  
University of Zaragoza, Spain.  
_Agricultural land use, piping and gullies activity in the Huelva lower valley (Saragossa, Spain)_

12 Giménez, R., Casalí, J., Campo, M. A.  
Public University of Navarre, Spain.  
_Hydrological effects of the sediments deposited off a hillslope affected by rill erosion: project outlines and preliminary results_

13 Gómez, Á., Schnabel, S., Felícísimo, A.  
University of Extremadura, Spain.  
_Modelling the occurrence of gullies in semi-arid areas of south-west Spain_

14 Huang, C.¹, Nouwakpo, K.², Frankenberger, J. R.¹  
¹USDA-ARS National Soil Erosion Research Lab, USA.  
²Purdue University, USA.  
_Proposed methodology to quantify ephemeral gully erosion_

15 Knapen, A., Poesen, J., De Baets, S.  
K.U. Leuven, Belgium.  
_Concentrated flow erodibility of loess-derived topsoils: the impact of rainfall-induced consolidation and sealing._
16 Lucía, A.¹, Sanz, M. A.¹, Vicente, F.², Martín, C.¹, Martín, J. F.¹, Bodoque, J. M.¹, Pedraza, J.¹, López, N.¹
¹Complutense University of Madrid, Spain.
²SEK University, Spain.

A proposal to study gully erosion on silica sand and arkose slopes in central Spain

17 Lutter, F. S.¹, Almond, P. C.², Florineth, F.¹
¹University of Natural Resources and Applied Life Sciences, Austria.
²Lincoln University, Soil and Physical Sciences Group, Agriculture and Life, New Zealand

A comparison of anthropogenic and long-term soil erosion on banks peninsula using $^{137}$Cs and kawakawa tephra

18 Marzolff, I¹, Giménez, R.², Seeger, M.³, Campo, M. A.², Ries, J. B.³, Casalí, J.², Álvarez-Mozos, J.²
¹University Frankfurt am Main, Germany.
²Public University of Navarre, Pamplona, Spain.
³University of Trier, Germany.

Photogrammetrical and field measurement of gullies with contrasting morphology

19 Martínez-Casasnovas, J. A.
University of Lleida, Spain.

Sidewall erosion control strategies in gullies of the Penedès – Anoia vineyard region (NE Spain)

20 Martínez-Casasnovas, J. A.
University of Lleida, Spain.

When did gully erosion start to be accelerated in the Penedès – Anoia vineyard region (NE Spain)?

21 Martínez-Graña, A. M.¹, Goy, J. L.¹, Zazo, C.²
¹University of Salamanca, Spain.
²CSIC, Spain.

Analysis of water erosion using GIS and remote sensing for the management of protected natural environments in the south of the province of Salamanca (Spain)

22 Mehdipour A.¹, Soufi, M.², Baniasadi, M.¹
¹Kerman Research Center for Agriculture & Natural Resources, Iran.
²Fars Research Center for Agriculture & Natural Resources, Iran.

Gully development and topographic threshold, case study: Kerman Province, southeast of I.R. Iran
Instituto Pirenaico de Ecología (CSIC), Spain.
*Hydrological and sediment dynamics within a small catchment with bad-land areas*

University of Zaragoza, Spain.
*Activity of gullies during the Holocene in the Ebro valley*

Reubens, B.¹, Poesen, J.¹, Nyssen, J.¹, Zenebe, A.², Deckers, J.², Muys, B.¹
¹K.U. Leuven, Belgium.
²Land Resources Management and Environmental Protection Department, Mekelle University, Mekelle, Ethiopia.
*Integrated control of gully erosion by means of woody vegetation in Tigray, Ethiopia. Focus on seedling establishment and treatment*

Ries, J. B.¹, Marzolff, I.², Seeger, M.¹
¹University of Trier, Germany.
²Johann Wolfgang Goethe University, Germany.
*Gully erosion in semi-arid landscapes - monitoring of processes and development*

Romero Díaz, A., Marín Sanleandro, P., Sánchez Soriano, A.
University of Murcia, Spain.
*Surfaces of gullies generated by piping process in abandoned fields (south-east of Spain)*

Romero Díaz, A., Martínez Lloris, M., Alonso Sarriá, F., Belmonte Serra-to, F.
University of Murcia, Spain.
*The importance of the presence of gullies in the production of sediments in semiarid areas (Murcia, south-east of Spain)*

Sadeghi, S. H. R.¹, Noormohammadi, F.¹, Soufi, M.²
¹Tarbiat Modares University, Iran.
²Fars Research Centre for Agricultural and natural Resources, Iran.
*Estimating sediment yield from gully erosion using easily measurable morphometric characteristics in Darehshahr region, south of I.R. Iran.*
30 Schnabel, S.¹, Gómez Gutiérrez, A.¹, Sanjósé Blasco, J. J.²
University of Extremadura, Spain.
Discharge and gully erosion in a small rangeland catchment

31 Smets, T., Poesen, J., Knapen, A.
K.U. Leuven, Belgium.
Effectiveness of palm and bamboo geotextiles in reducing concentrated flow erosion

32 Soms, J.
University of Daugavpils, Latvia.
Morphology and controlling factors of landslide cirque gullies: a case study from the Sprogu gravas nature monument (se Latvia)

33 Soufi, M.
Fras Research Center for Agriculture and Natural Resources, Iran.
Causes of gully erosion in arid ecosystem: case study southern part of I.R. Iran

34 Stankoviansky, M.¹, Létal, A.², Damankošová, Z.¹
¹Comenius University in Bratislava, Slovakia.
²Palacký University in Olomouc, Czech Republic.
Comparison of historical evolution of gully networks on both Slovak and Moravian forelands of the white Carpathians

35 Valcárcel, M.¹, Paz, A.², Vidal, E.²
¹University of Santiago de Compostela, Spain.
²University of A Coruña, Spain.
Some examples of ephemeral gully erosion in an Atlantic area of nw Spain

36 Viero, A.C.¹, Castro, N. M. R.², Risso, A.², Goldenfun, J.A.²
¹Serviço Geológico do Brasil, Brasil.
²Federal University do Rio Grande do Sul, Brasil.
Gully erosion risk zoning: proposal of a methodology and case study

37 Wells, R.¹, Alonso, C. A.¹, Bennett, S. J.².
¹USDA-ARS National Sedimentation Laboratory, USA.
²University at Buffalo, USA.
Influence of soil structure, pore-water pressure, and tailwater height on headcut migration in upland concentrated flows
38 Wilson, G. V.
USDA-ARS National Sedimentation Laboratory, Oxford, MS, USA.
*The role of preferential flow through soil-pipes in ephemeral gully erosion*

39 Zglobicki W., Baran-Zglobicka B., Gawrysiak L.
University of Maria-Curie Sklodowska, Lublin, Poland.
*Historical gully erosion with loess areas of SE Poland – Natural conditions and human impact*

40 Zubov A. R., Zubova L. G.
East-Ukrainian National University named after Volodymyr Dal. Ukraine.
*Soil erosion on the bottom of hollows in steppe zone of Ukraine*