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Geomorphological Sites

Research, assessment and improvement

A Working Group of the International Association of Geomorphologists

Final Report 2001 – 2005

Introduction

The working group *Geomorphological Sites: research, assessment and improvement* was created in September 2001 at the 5th International Conference of Geomorphology held in Tokyo.

The activities developed in these four years have allowed the creation of a research community on geomorphosites. This networking was especially done through the organization of workshops and symposia in international conferences, and by using the IAG website. The origin of the WG was centered in Italy and Switzerland. At the moment the working group has a more international extension. Members come from 18 countries in Europe, North Africa, Asia, Australia and South America, even if some parts of the World, especially UK and North America, are still poorly involved in our activities.

This report presents the activities of the working group during the period 2001-2005.

Objectives

The WG was created on the basis of three social needs:

- **A need for more conservation.** The problem with geomorphological landforms is that they often do not benefit from legal protection like biological sites, wetlands or cultural heritage. There is therefore a need for more conservation of geomorphological sites and especially for adequate tools for assessing their value.

- **A need for more education.** Experience shows that the population's knowledge about geomorphological processes and landforms is relatively poor. In most countries, geomorphology is not part of the curriculum in the obligatory schools. Moreover, the transmission of geomorphological information by the media is very often vague, even distorted. There is, therefore, a need for more education of the population about geomorphological processes and landforms.
- **A need for more tourist appraisal.** With cultural aspects, civilization's heritage elements and leisure infrastructures, natural elements are among the main factors for the attraction of tourist sites. Geomorphology is rarely considered as major tourist material. There is, therefore, a need for widespread awareness of geomorphology as a key factor of *tourist attraction*. There is also a need for more research on the correlative influence of tourist activities and geomorphological landforms and processes

The working group has developed research in the **four following fields**:

- Knowledge and assessment of geomorphological sites;
- Conservation and legal status of geomorphological sites;
- Education about geomorphological sites;
- Tourist attraction of geomorphological sites.

Activities

The WG's activities were organised in five main domains:

- Creation of a network of interested people and diffusion of information through the Internet (e-mails to members, IAG website);
- Organisation of workshops and topical sessions in various international and national conferences;
- Participation to university courses on geomorphosites;
- Publications (books, papers) on geomorphosite issues;
- Information: publication of annual reports and scientific reports (published on IAG website), posters and flyers.

Network

There are two types of members: corresponding members (free participation) and full members (one or two per country, designated by the co-ordinator). Currently the working group has 117 corresponding members and 22 full members from 18 countries.

Workshops and Conferences

International Workshops and Conferences

At the international level, five workshops and symposia in geomorphological conferences were organised by the WG:

- International Workshop *Geomorphological sites: research, assessment and improvement* 19-22 June 2002, Modena (Italy), organised by Sandra Piacente and Paola Coratza (University of Modena and Reggio Emilia).
- International Workshop *Geomorphological Sites: assessment and mapping*, 1-5 October 2003, Cagliari (Italy), organised by Antonio Ulzega, Felice Di Gregorio, Jo de Waële (University of Cagliari) and Valeria Panizza (University of Sassari).
- IAG Regional Conference on Geomorphology, 27.10-2.11.2003, Mexico-City (Mexico); Symposium *Geomorphological sites: vulnerability and assessment*; chair: Emmanuel Reynard (Switzerland) and Edgardo Latrubesse (Brazil).
- 32nd International Geological Conference, 20-28 August 2004, Florence (Italy); Topical session *Geomorphological sites in a cultural integrated landscape*; chair: Mario Panizza (Italy) and Emmanuel Reynard (Switzerland).
- 6th International Conference on Geomorphology, 7-11 September 2005, Zaragoza, Spain; Symposium *Geomorphological sites: research, assessment and mapping*; chair:

Emmanuel Reynard (Switzerland) and Paola Coratza (Italy).



Poster session, Int. Workshop in Modena, 2002.

Conferences at a national level

The WG has been involved in various conferences organised by some members of the WG:

- 6th National Meeting on Geomorphology, Valladolid, 19-22 September 2002, organised by the Spanish Society of Geomorphologists (SEG). E. Serrano chaired the symposium *Natural Heritage and Geomorphology*.
- 2nd Swiss Geosciences Meeting, Lausanne, 19-20 November 2004. The WG co-organised with several Swiss scientific societies a session on *Geotopes and Geoparks* (chair: E. Reynard).



A view of the Salse di Nirano geomorphological site visited during the workshop organised by the University of Modena and Reggio Emilia in 2002.



A. Ulzega and V. Panizza during the field trip after the workshop organised by the Universities of Cagliari and Sassari in 2003.

Participation to scientific conferences

The WG's president and secretary participated to several national and international conferences:

- 6th National Meeting on Geomorphology, Valladolid, 19-22 September 2002, organised by the Spanish Society of Geomorphologists (SEG). The opening lecture titled *Geomorphology applied to Cultural heritage* was delivered by Mario Panizza, IAG President and WG's member.
- International Conference *Geotope – wie schützen, wie nutzen* 19-24 May 2003, Bad Ragaz (Switzerland). E. Reynard presented a poster on the activities of the WG.
- International Conference on *Dimension Stones*, Prague, 14-17 June 2004, organised by Richard Prikryl (WG member). E. Reynard was invited to give a conference on geoconservation issues related to dimension stone use. He presented the case of erratic blocks' conservation in Switzerland. B. Smith (University of Belfast), also member of the WG, was the second invited speaker of the conference.
- *Conferenza Geologia e Turismo*, Bologna, 23-24 September 2004. Several members of the WG participated to the conference. E. Reynard presented a communication on Geosites issues in Switzerland.
- 4th Symposium *ProGeo on Conservation of the Geological Heritage*, Braga, Portugal, 13-16 September 2005. The symposium is organised by WG's member José Brilha. P. Coratza and E. Reynard will present a paper on *Assessing, mapping and protecting geomorphosites. A Working Group of the International Association of Geomorphologists (IAG)*.



Field work during the postgraduate seminar organised by the University of Lausanne, 2003.

University Courses

The WG participated to the organisation of several university courses:

- Postgraduate Seminar *Geomorphological Landscapes*, University of Lausanne, 10-14 February and 25-29 August 2003. The seminar was co-sponsored by the WG. Several members (M. Panizza, P. Coratza, P. Jordan, M. Geyer, M. Monbaron, M. Marthaler, R. Lugon, E. Reynard) were involved in the organisation.
- Master *Système territoriaux, développement durable, aide à la décision*, Université de Savoie, Chambéry, France (resp. F. Hobléa), 2004-2005. E. Reynard was invited to give a lesson titled "Géomorphosites: analyser, protéger, valoriser".
- Post-graduation Course *Geological Heritage and Geoconservation*, University of Minho, Braga, Portugal (resp. J. Brilha), 2005-2006. E. Reynard is invited to give 10 hours of seminar in the module « Inventorying and Characterisation of Geological Heritage ».

Publications

Coratza P., Marchetti M. (2002). *Workshop Geomorphological Sites: research, assessment and improvement*, Proceedings, Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze della Terra, 118 pp.

Serrano E. et al. (2002). *Recent studies on Geomorphology: Heritage, Mountain and Territorial Dynamics*, Valladolid, Department of Geography of the University of Cantabria, 574 pp.

Reynard E. et al. (2003). *Géomorphologie et tourisme*, Lausanne, Institut de Géographie, Travaux et Recherches n° 24, (in French, to order on the website: www.unil.ch/igul), 216 pp.

Piacente S., Poli G. (2003). *La Memoria della Terra, la Terra della Memoria*, Bologna, L'Inchiostroblu, 159 pp.

Reynard E. (2003). Geosites, in: Goudie A.S. (ed.). *Encyclopedia of Geomorphology*, London, Routledge, p. 440.

Panizza V. (2003). *Workshop Geomorphological Sites: assessment and mapping*, Proceedings, Università degli Studi di Cagliari, Dipartimento di Scienze della Terra, 111 pp.

Alcantara-Ayala I. et al. (2003). *Regional Conference on Geomorphology, Mexico-City 2003*, Abstracts Volume (session: Geomorphological Sites), 168 pp.

Prikryl R. (2004). Ed. *Dimension Stone 2004. New perspectives for a traditional building material*, Leiden, Balkema, 327 pp.

Reynard E., Pralong J.P. (2004). Eds. *Paysages géomorphologiques*, Lausanne, Institut de Géographie, Travaux et Recherches n° 27, (in French, to order on the website: www.unil.ch/igul), 256 pp.

32IGC (2004). *32nd Int. Geological Congress, Florence 2004*, Abstracts Volume, (session: Geomorphological Sites).

Two special issues of the journals *Quaternario* and *Géomorphologie* are currently in preparation. They will be presented at the Geomorphological Conference in Zaragoza in September 2005.

Information

Information regarding the WG's activities was made by using various media :

- A **flyer** and a **logo** created by Milena Bertacchini, University of Modena and Reggio Emilia (2002).
- A **poster** created by E. Reynard (University of Lausanne) and A. Salissou (University of Niamey) in 2002.
- The publication of **annual and scientific reports** on the IAG website www.geomorph.org
- The publication of **thematic files** on the IAG website www.geomorph.org, available in June 2005.
- The publication of a **bibliographical list** on geomorphosites prepared by C. Fuchs, K. Pieracci and E. Reynard (University of Lausanne), available in September 2005.

Lausanne/Modena, 1st May 2005

Emmanuel REYNARD, Paola CORATZA



Coastal landscape in Sardinia, visited during the workshop organised by the universities of Cagliari and Sassari, 2003.