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Istituto Superiore per la Protezione e la Ricerca Ambientale

**SERVIZIO GEOLOGICO D'ITALIA**

Organo Cartografico dello Stato (legge n°68 del 2. 2. 1960)

# MEMORIE

DESCRITTIVE DELLA

# CARTA GEOLOGICA D'ITALIA

VOLUME LXXXVII

Geomorphology and Cultural Heritage  
*Geomorfologia e beni culturali*



*In copertina:* immagini relative al volume

*Realizzazione iconografica:* Maria Luisa VATOVEC



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## Geomorphology and Cultural Heritage

### *Geomorfologia e beni culturali*

*di*

ARROYO P., BENEDETTI S., BINI M., BOZZONI M., BRANDOLINI P., CAETANO ALVES M.I.,  
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*Allestimento digitale: Maria Luisa VATOVEC, Alessia MARINELLI*

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*Stampa: Tipolitografia CSR - Roma*

This volume collects original articles related to the oral and poster presentations given at the following sessions and symposium: Topical Symposium T17.01 “Geomorphological sites in a cultural integrated landscape” of the 32nd International Geological Congress (32IGC) (Florence, Italy, 2004); sessions S16 “Geomorphology and natural-cultural heritage” and WG4 “Geomorphological Sites: research, assessment and improvement” of the Sixth International Conference on Geomorphology (Zaragoza, Spain, 2005); session T30 “Geomorphological heritage: assessment, appraisal and safeguard” of the Quinto Forum Italiano di Scienze della Terra, GeoItalia 2005 (Spoleto, Italy, 2005).

The Topical Symposium “*Geomorphological sites in a cultural integrated landscape*”, chaired by Mario Panizza (University of Modena e Reggio Emilia, Italy) and Emmanuel Reynard (University of Lausanne, Switzerland) aimed to study the relationships between the geomorphology and the culture. 25 abstracts were proposed and the session was attended by about 60-80 persons.

During the Sixth International Conference on Geomorphology held in Spain in September 2005, two different session had deal with the Geomorphological Heritage. The sessions S16 “*Geomorphology and natural-cultural heritage*” chaired by Lluís Pallí (University of Girona, Spain) and Mario Panizza (University of Modena e Reggio Emilia, Italy) and focused on two specific subjects: 1 - Geomorphology considered as a component of the cultural heritage (in a broad sense) of a territory, that is, by the same standards as works of art, historical or architectural monuments, scientific and biological assets etc., 2 - The relationships between some cultural components (in a strict sense) of a territory (archaeological, historical, architectural assets etc.) and the geomorphological context in which they are inserted (resources, risks, impacts etc.). 32 abstracts were proposed and the session was attended by over 100 persons.

The session WG4 “*Geomorphological Sites: research, assessment and improvement*”, chaired by Emmanuel Reynard (University of Lausanne, Switzerland) and Paola Coratza (University of Modena e Reggio Emilia, Italy) had deal with all subjects related to the scientific study of Geomorphosites. One of the main objectives was to bring together people working in different aspects of Geomorphosites, including assessment, mapping, protection as well as geotourism and education. 26 abstracts were proposed and the session was attended by about 60-80 persons.

The session T30 “*Geomorphological heritage: assessment, appraisal and safeguard*”, chaired by Olivia Nesci (University of Urbino, Italy) and Mario Panizza (University of Modena e Reggio Emilia, Italy) had intend to assess the state-of-the art of the investigations on the topic of “geomorphosites”, connecting and defining the course of research, also by outlining future perspectives. The main subjects had deal with assessment, appraisal and safeguard of geomorphosites. 14 abstracts were proposed and the session was attended by about 30-40 persons.

Paola CORATZA (\*), Olivia NESCI (\*\*), Lluís PALLÍ (\*\*\*),  
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Il volume contiene una selezione delle comunicazioni orali e dei poster presentati a: Firenze nell'agosto 2004, nel Topical Symposium T17.01 "Geomorphological sites in a cultural integrated landscape" del 32esimo Convegno Internazionale di Geologia (32IGC); Saragozza nel settembre 2005, nelle sessioni S16 "Geomorphology and natural-cultural heritage" e WG4 "Geomorphological Sites: research, assessment and improvement" della Sesta Conferenza Internazionale dei Geomorfologi; Spoleto nel settembre 2005 nella sessione T30 Patrimonio geomorfologico: valutazione, valorizzazione, e salvaguardia del Quinto Forum Italiano di Scienze della Terra, Geoitalia 2005, della Federazione Italiana di Scienze della Terra (FIST).

Il Topical Symposium *Geomorphological sites in a cultural integrated landscape*, presieduto da Mario Panizza (Università di Modena e Reggio Emilia, Italia) e Emmanuel Reynard (Università di Lausanne, Svizzera) aveva l'obiettivo di studiare le relazioni tra geomorfologia e cultura. Sono stati presentati 25 abstract e alla sessione hanno partecipato circa 60-80 persone.

Durante la Sesta Conferenza Internazionale dei Geomorfologi tenutasi in Spagna nel settembre 2005, si sono svolte due differenti sessioni con tema principale il Patrimonio Geomorfologico. La sessione S16 *Geomorphology and natural-cultural heritage*, presieduta da Lluís Pallí (Università di Girona, Spagna) e Mario Panizza (Università di Modena e Reggio Emilia, Italia), si è incentrata su due specifici temi: 1 – la Geomorfologia considerata come componente del patrimonio culturale (in senso lato) di un territorio, alla pari dei beni storici, artistici, architettonici, biologici etc., 2 – le relazioni tra le componenti del patrimonio culturale (in senso stretto) di un territorio (beni archeologici, storici, architettonici etc.) e il contesto geomorfologico nel quale sono inseriti (risorse, rischi, impatti etc.). Sono stati presentati 32 abstract e alla sessione hanno partecipato oltre 100 persone.

Nella sessione WG4 *Geomorphological Sites: research, assessment and improvement*, presieduta da Emmanuel Reynard (Università di Lausanne, Svizzera) e Paola Coratza (Università di Modena e Reggio Emilia, Italia) sono stati affrontati i temi relativi agli studi scientifici dei Geomorfositi, includendo la valutazione, la cartografia, la protezione così come il geoturismo e la didattica. Sono stati presentati 26 abstract e alla sessione hanno partecipato circa 60-80 persone.

Durante la sessione T30 *Geomorphological heritage: assessment, appraisal and safeguard*, presieduta da Olivia Nesci (Università di Urbino, Italia) e Mario Panizza (Università di Modena e Reggio Emilia, Italia) è stato definito lo stato dell'arte delle ricerche sul tema dei Geomorfositi, definendo le ricerche in corso e prospettando future linee di ricerca. Sono stati presentati 14 abstract e alla sessione hanno partecipato circa 30-40 persone.

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The volume comprises some contributions concerning the relationships between geomorphology and the cultural elements of a specific territory. These relationships can be considered schematically according to two reciprocally-integrated viewpoints (PANIZZA & PIACENTE, 2003):

- *geomorphology* is then meant as a *component of a territory's cultural heritage* (in a broad sense), like works of art, historical monuments, scientific assets etc.

- the *relationships between some cultural components* (in a strict sense) of a territory (archaeological, historical, architectonic etc. heritage) and the *geomorphological context* in which they are inserted.

As a result of these statements, a need was felt to propose a definition of *Cultural Geomorphology* (PANIZZA & PIACENTE, 2003): *the discipline that studies the geomorphological component of a territory, which embodies both a cultural feature of the landscape and its interactions with cultural heritage of the archaeological, historical, architectonic etc. type*. In this volume are collected articles related to the first viewpoint, in particular some geomorphosites, and to the second viewpoint, with regard to geoarchaeology.

As regards the geomorphology as a component of a cultural heritage, the definition of *geomorphosite* is as follows (PANIZZA, 2001; PANIZZA & PIACENTE, 2003, REYNARD, 2005): *"a landform with particular and significant geomorphological attributes, which qualify it as a component of a territory's cultural heritage"*. The attributes that can confer value on a landform, making it an actual geomorphosite, are: scientific, cultural, socioeconomic, scenic. The duties of Geomorphology in assessing the various attributes should be connected mainly to the scientific aspects: as a model of geomorphological evolution, e.g., a river meander; as an object of educational exemplarity, such as a littoral *tombolo*; as paleogeomorphological evidence, such as a Pleistocene relict glacial cirque. A landform can also possess an ecological value, e.g., an exclusive habitat of certain vegetal or animal species such as a tidal marsh.

As regards the relationships between geomorphology and other cultural components, five phases may be identified (PANIZZA & PIACENTE, 2000). The first phase consists of the physical setting of the territory where the cultural asset (in a strict sense) is located; subsequently the geomorphological causes which conditioned the location of a given cultural asset should be considered; in the third phase the possibility should be assessed if a given cultural site being affected by geomorphological hazards and consequently subject to risk; in the fourth phase, the fruition of cultural assets will have to be considered, that might have a negative effect on the natural environment and environmental impact must be taken into account; in the fifth phase one should consider that the correct management of a cultural asset cannot be separated from the knowledge of its with the surrounding environment.

This cultural approach of Geomorphology concerns the dialogue and cultural integration between humanistic and scientific disciplines. Generally speaking, an effort should be made to give an answer to the ever-felt need for "neo-humanistic" culture, that is for the integration of culture.

The concept of *Cultural Geomorphology* can be extended to all the fields of Earth Sciences and can therefore introduce the concept of *Cultural Geology*.

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