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PROTECTION OF GEOLOGICAL HERITAGE IN THE ITALIAN LANDSCAPE

ABSTRACT: RAGO G. & MEZZETTI T., *Protection of geological heritage in the Italian landscape*. (IT ISSN 0391-9838, 2008).

The Italian Environment Protection and Technical Services Agency (APAT) is the Italian body responsible for the protection of the environment and for the collection and management of environmental data, and it develops activities on Geosites, Geoparks and Geominerary parks.

APAT is setting up a working group within Italian administrations to validate geosites and to insert them in the *National Geosites Atlas*, and is developing up «Guidelines for protection, management and valorisation of mines and geominerary parks in a cultural, didactic and tourism key». As for international activities APAT, as a government agency, supports Italian geoparks within EGN (European geoparks Network) through activities designed to sustain the European geoparks network.

KEY WORDS: National Geosites Atlas, Land planning, Geopark Management, Mine and Geominerary Park Conservation, Italy.

THE AGENCY

The Italian Environment Protection and Technical Services Agency (APAT), established by art. 38 of Leg. Decree n. 300 of 30.7.1999, carries out scientific and technical activities in the national interest to protect the environment with particular interest concerning Geosites, Geoparks and Mines. It was created by merging the National Environment Protection Agency (ANPA) with the National Technical Services Department (DSTN) part of the Premier Cabinet Office, according to the regulatory provisions of the Pres. Decree 207, 8.8.2002. The Geological Survey of Italy is also part of APAT. Moreover, the Agency hosts the Secretariat of the Italian National Committee for the International Year of Planet Earth (IYPE), of which the UNESCO's Italian National Committee is also member.

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(***) While this paper was in press, «APAT» was changed in «ISPRA» (Institute for environmental protection and research).

APAT's activities (***)

Nature Protection Department - Natural protected areas and land planning Unit carries out activities and studies in the field of protection, development of geological heritage and in particular:

- national Geosites atlas
- geoparks and international co-operation
- mines and geominerary parks.

The Unit supports the project «Carta della Natura», introduced by L.394/1991 with the aim to protect natural areas, through a specific database and map to determine a habitat map.

The value of geological heritage is recognized by the international legal framework:

- Convention concerning the Protection of the World Cultural and Natural Heritage - 1972 Paris
- European Landscape Convention - 2000 Firenze.

And national laws:

- Italian Constitution art. 9
- L. 42/2004 «Codice dei Beni Culturali e del Paesaggio», a *compendium* of national legislation which includes landscape protection
- L.14/2006 - Ratification of European Landscape Convention
- L. 394/1991 concerning Natural Protected Areas.

FROM THE GEOSITES CENSUS TO THE NATIONAL GEOSITES ATLAS - WHAT IS A GEOSITE?

Geosites are areas of the territory with geo-morphological interest and naturalistic value. Each geosite is unique and non-renewable by natural processes, and for this reason it is an important witness to the history of the world (Wimbledon & alii, 1995).

Due to their morphological, physical, climatic and structural characteristics some sites and territories become peculiar and for these reasons they need to be protected and developed to prevent the loss of natural heritage.

Only a well-documented and dedicated activity of identification, cataloguing, assessment and publication of results can ensure conservation and protection of Geosites. Our Unit is carrying out these tasks with «*The National Geosites' Census*».

What has been done?

During the «2nd International Symposium ProGEO on the conservation of our geological heritage» (Roma, 1996) the National Technical Services (DSTN) was identified as the best candidate to promote geological heritage.

The year 2000 saw the launch of the project «Conservazione del patrimonio geologico italiano» and the National Geosites' Census performed by the National Technical Service (D'Andrea, 2000; D'Andrea & Angelelli, 2001).

The main achievements have been:

- national coordination of both data and meta-data of geological interest;
- national coordination for development of geological heritage;
- support to public administrations.

In 2002, in partnership with the University of Genoa's Polis Department, work began on a first form (fact sheet) for the Geosites census and a Geosites database. Some 400 forms were inserted in the database (Brancucci & D'Andrea, 2002).

During 2003, the Polis Department upgraded the Geosites' database, and drafted an early geological sites map of Italy.

Then in 2004, the «Early Geological Sites Cartography» was presented at the 32nd International Geological Congress in Florence (Brancucci & *alii*, 2004).

In 2005, APAT issued a report «Patrimonio geologico e geodiversità» (D'Andrea & *alii*, 2005) which can be downloaded at:

http://www.apat.gov.it/site/it-IT/APAT/Pubblicazioni/Rapporti/Documento/rapporti_2005_51.html

What are we currently doing? - «The National Geosites' Census»

The project, which began in 2000, aims to produce a national Geosites census, which would become a tool for extensive geological knowledge, land planning and environmentally sustainable protection.

The census has 3700 records in the APAT database and a map on a national and a local scale.

The project consists of the following activities:

- management, updating and upgrading of the database;
- geo-referencing on a map;
- assessment-validation of reported Geosites;
- the National Geosites Atlas.

The overlapping Geosites with natural protected areas «GIS Natura» showed that many geological sites are outside the perimeter of Protected Areas.

APAT's attention and interest is to protect and develop the National Geological Heritage, and so to consider Geosites in land planning. For this reason «The National Geosites Atlas» is an important step for future initiatives aiming at the protection and conservation in the field of land planning. The Geosites' census is the primary tool for the development of «The National Geosites Atlas».

The census is a collection of data and information. The Atlas aims to classify national interest Geosites. APAT is setting up a working group within Italian administrations to evaluate and confirm the Geosites in our database. APAT's technical secretariat gathers and catalogues Geosites forms (fact sheets), carried out by Regional Geological Surveys, by Regional and Provincial Agencies for environmental protection, by Universities, and by Research bodies. The Geosites forms (fact sheets) will then be sent to the working group for valuation and validation and subsequent inclusion in the National Geosites Atlas (Rago & *alii*, 2007).

GEPARKS AND INTERNATIONAL CO-OPERATION

A European Geopark is a territory, which includes a particular geological heritage and a sustainable territorial strategy supported by a European programme to promote development. It must have clearly defined boundaries and sufficient surface area for true territorial economic development. A European Geopark must comprise a certain number of geological sites of particular importance in terms of their scientific quality, rarity, aesthetic appeal or educational value; their interest may however also be archaeological, ecological, historical or cultural (Burlando, 2006).

What are we currently doing?

Taking into account common goals for geological heritage activities, environmental education, and promoting regional sustainable development, APAT as a government agency carries out activities designed to support Italian geoparks within European Geoparks Network:

- setting up a National Working Group of geoparks within APAT to support EGN to promote a national geoparks network and to coordinate activities such as: building an Italian geoparks database and the production of technical-scientific data on the management of geoparks;
- developing a framework of policies to ensure the protection of the geomorphological heritage within the geoparks network;
- organising training courses, seminars, traineeships and workshops on geoparks' management and success; promotion of plans to involve the educational system such as schools, universities and research bodies on matters related to protection and conservation of geological heritage through the geoparks network;

- publishing the geoparks' activities on websites and scientific literature to promote monitoring and education;
- finding possible connections between geoparks (holiday resorts, restaurants, land and sea connections, naturalistic paths) and folk and cultural events.

MINES AND GEOMINERARY PARKS

A Geominerary Park is a part of the territory which is rich in minerals and other geological elements. The Parks are established with the aim of returning the land to the people and to promote the integral features of both heritage and environment.

What are we currently doing?

APAT signed on the 20 March 2007 an agreement with Federculture (National Federation of Public Utilities, Culture, Tourism, Sports and Leisure) to set up the «Guidelines for protection, management and valorisation of mines and geominerary parks in a cultural, didactic and touristic key» (Introini & alii, 2007). Taking into account common goals for geological heritage activities, APAT and Federculture have entered into partnership with other important bodies such as: the Val di Cornia Park, Geological and Mining Park of Sardinia, Mineral Park of the Island of Elba, the Ecomuseum of the Val Germanasca Mines, Grosseto metalliferous hills technological and archaeological park, the Historical Museum of Perticara, Marche Park of the Sulphur Mines.

This initiative follows other public and private projects for the protection, conservation and development of mines, following the closure of most mining extraction schemes. All these activities have been carried out on a local rather than a national basis, without a precise cultural assessment of the heritage, and with scarce financial resources. Thanks to these initiatives, however, a complete degradation of this historical heritage has been avoided, and for these reasons it has been included in the protection foreseen by the Code of Cultural Heritage and Landscape, approved with the d.lgs. 22 gen. 2004, n. 42 (Codice dei Beni Culturali e del Paesaggio). Nevertheless, mines have not yet found their precise place as they are subject to cultural, environmental and landscape considerations. Therefore, starting from the most relevant experiences at national level, the project aims to produce a study that will highlight the specificities of this kind of heritage and the difficulties met in its management. At the end of these studies APAT, as a government agency, will be able to propose suitable changes to parliamentary bodies in order to achieve common goals.

The project will be developed on a national basis and will aim at the following goals:

- define criteria and methods to protect minerary sites;
- highlight the main technical/legal problems in order to ensure the use of minerary sites with cultural, didactic and tourism purposes;

- analyse several ways of managing and enhancing minerary sites with the objective of providing models that can be repeated in other countries.

The project will be structured via the constitution of:

- a scientific committee made up of university professors and experts;
- a technical research group made up of minerary engineers, geologists, naturalist and mine experts;
- an administration made up of Park managers and a representative from Federculture.

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