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Research in European Mountain Protected Areas

- Current situation and Characteristics -

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Since 1999, 57 Protected Areas and 323 research projects with 356 scientists involved have been registered in the European Mountain Pool database.

The following analysis is based on this dataset of research in European protected areas. As the dataset is far form being complete, the results presented have to be carefully examined. Nevertheless, trends in a general sense are obvious.

1. Introduction

The "European Mountain Pool" database on Research Projects

The Alpine Network of Protected Areas started the European Mountain Pool project in 1999. This project aimed to establish a database for the documentation of ongoing research in all types of European Mountain Protected Areas (National Parks, Natural/Regional Parks, Nature Reserves, Biosphere Reserves, etc.) and to provide a tool to enhance research co-operation and coordination as well as information exchange and common project planning among protected areas all over Europe.

With the help of the Swiss Academy of Sciences (SAS), the existing ProClim-Database could be used and adapted for this purpose. By using this database, all information entered was published immediately on the Web.

Financial support was given by the Swiss Federal Agency of Environment, Forests and Landscape and the French region Rhône-Alpes. Project leaders were Guido Plassmann (Alpine Network of Protected Areas) and Thomas Scheurer (Research Council of Swiss National Park).

Data collection and amount of information

In 1999, a questionnaire was sent out to all known Protected Areas in European Mountain ranges total of appr. 200 with the request to fill in needed information for the 5 most important research projects. In 2002 all project leaders were contacted again by email and requested to update their project information and all Protected Areas were asked to complete the list of ongoing research projects. Additionally, some projects were found by a Web search. We have to note, that only few protected areas provided sufficient information on research projects on their homepage. Up to May 2003, 57 Protected Areas and 323 research projects (last active in 1999) with 356 scientists involved have been registered in the database. Among the participating Protected Areas, alpine and non-alpine come to appr. 50% both (Figure 1).

2. Results

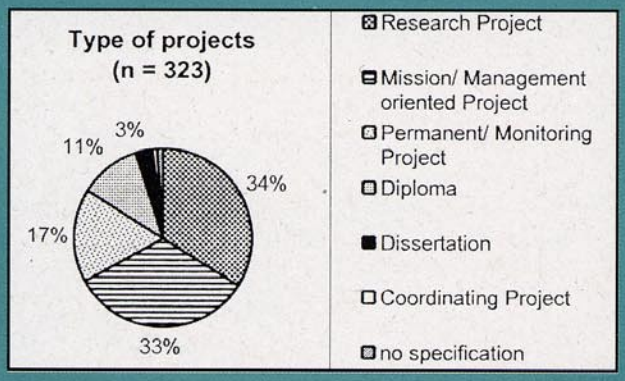
More research by national than by regional structures

Regarding the participating Protected Areas (Table), national structures (National Parks, 53%) dominate regional structures (Natural/Regional Parks, 40%). In reality, far more regional structures than national structures exist.

Obviously, National Parks initiate and attract significantly more research than regional structures.

Structure	National: National Parks	Regional: (Natural/ Regional Parks, etc.)	Other: (Biosphere Reserves, etc.)	**Total**
Europe (without Alps)	**18**	**8**	**2**	**28**
Northern Europe (United Kingdom)	4	3	2	9
Central Europe (Germany, France)	2	2	0	4
Southern Europe (Spain, Portugal, Italy)	5	2	0	7
of which in the Pyrenees	*2*			
Eastern Europe (Hungary, Slovakia)	7	1	0	8
of which in the Carpathians	*5*			
Alps	**12**	**16**	**1**	**29**
Europe (with Alps)	**30**	**24**	**3**	**57**

Type of projects

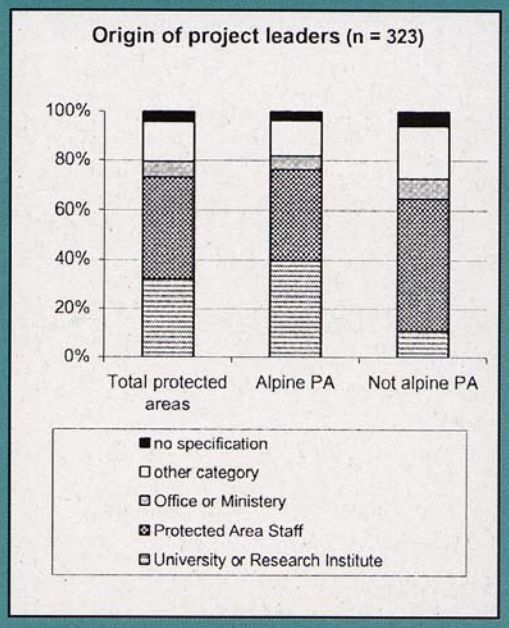


For all registered projects the type of research is classified following their orientation (7 categories; see Figure). The reason for this distinction is to identify the inherent goals that are represented through these projects. A scientific orientation is apparently dominating: 48% of the research projects are oriented to scientific projects (research projects, diploma, thesis). One third of the projects are oriented to or initiated by Park management – a relatively low amount - while one sixth are monitoring projects, a relatively high amount. Obviously, Protected Areas are preferred locations for long-term research and monitoring. It is noteworthy that coordinating projects number only 4, probably due to the fact, that mainly leaders of disciplinary projects have been contacted.

When taking a closer look at the difference between the protected areas considered located within the Alps and outside, one notices that a large majority of monitoring projects appear in the Alps, while management oriented projects are more abundant outside the Alps. The results obtained for diploma projects are particular, as they represent only projects undertaken in Switzerland.

Origin of Project leaders

One of the points of this study is to put forward the origin of leaders involved in research projects in protected areas. One notices that over 40% of project leaders are from the Protected Areas themselves, which indicates a high interest on the part of Protected Areas in the field of research. However, in the Alps, nearly 40% of the project leaders are from universities or other research institutions, a situation which is due to the traditionally very active research in the Alps and the great number of Universities in or near the Alps. On the other hand, this tendency is not verified outside the Alps where they represent only 11% of project leaders.

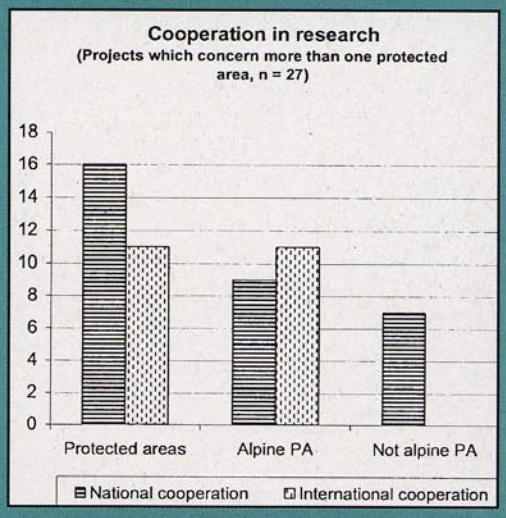


Co-operation in research

It is obvious that Protected Areas in mountain regions work on similar topics (see below). Is this opportunity for co-operation reflected in the partnership structures of the projects studied?

A total of 27 projects involve the cooperation of several Protected Areas, nationally and internationally. This forms a good base for further co-operation and exchange, which could and should certainly be expanded.

The fact that international co-operation exists only in the Alps could indicate that the Alpine region is perceived as an entity. The existence of institutions and structures linking all the Alpine countries could be an explanation for this sense of cohesion. Also, institutions such as the Alpine Network of Protected Areas facilitate and reinforce this collaboration.

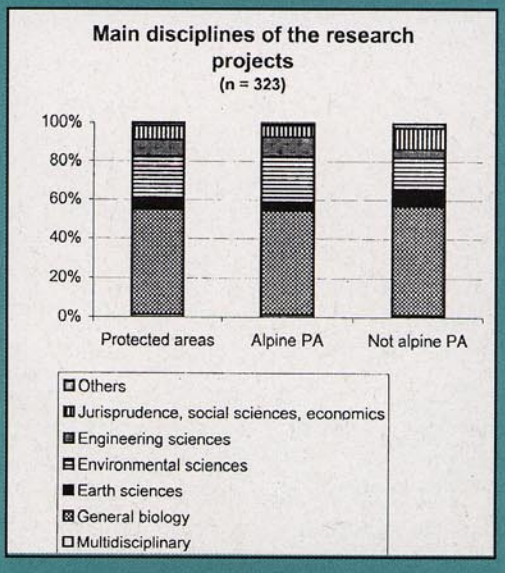


Disciplines

Among which thematic fields does one notice a concentration of projects and in which fields are research projects lacking? Natural sciences in general represent 80% of the projects and form a large majority. Within this discipline, general biology is by far the most significant. In addition, within general biology, half of the projects are related to zoology and another quarter to botany (see chart).

Environmental sciences such as soil sciences, geomorphology, meteorology and climatology are widely represented too. Within this category, hydrology, limnology and glaciology amount to 47% of the projects.

It is interesting to note that within the engineering discipline, most projects are related to forestry, while agriculture and particularly computer sciences are hardly concerned. We suppose that a possible reason for this last fact could be that such projects are not clearly declared as computer sciences.

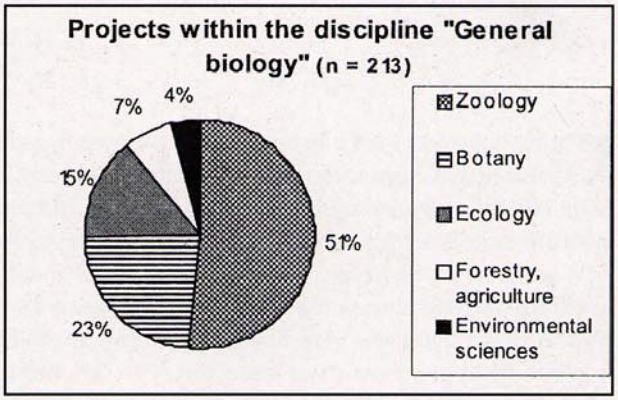


Within social sciences and economics, more than half of the projects are related to geography, while economics are hardly represented. These results might seem surprising considering that a high number of parks are concerned with regional development.

Cultural aspects are noticeably absent, with only one project in history. For instance archaeology, languages and ethnology are not considered at all, although these disciplines are a fundamental part of cultural heritage.

Although the main objective of protected areas traditionally has been to conserve nature, nowadays this objective has evolved to include the preservation of historical values as well as sustainable human activities. In this regard, a strong imbalance within the registered research disciplines is evident.

The general trends concerning project disciplines are similar within and without the Alps. These trends represent the general situation of research in protected areas. However, individual parks may have their own areas of concentration according to particular circumstances.



Research in alpine protected areas and the Alpine Convention

Since one of the goals in the context of the Alpine Convention is to develop research and research co-operation, it is interesting to distinguish the number of projects in the alpine protected areas related to each of the 8 existing protocols.

Following the results of the project disciplines evaluation, it is not surprising to note that also in this case, nature conservation is the major topic of interest, followed by spatial planning (management plans, landscape planning) and forestry. However, the small number of projects related to tourism is astonishing, since protected areas represent a tourist attraction with a high number of visitors. Accordingly, the management of tourist flows has become an important issue for many protected areas.

alpenkonvention convention alpine convenzione delle alpi alpska konvencija

3. Conclusions

The presented results give a general overview of research in European Mountain Protected Areas. Regarding research inside and outside the Alps, outstanding similarities can be found in terms of the project disciplines. At the organizational level differences are more evident, as is apparent in the project types, the institutions involved and the cooperation level. In view of future research and research co-operation among protected areas, we would like to outline the following gaps:

Firstly, international co-operation is still weak, especially outside the Alps, and should be enhanced. However, the Alpine Network of Protected Areas obviously was successful in promoting international co-operation.

Secondly, research in protected areas is predominantly disciplinary, focused on natural sciences and dominated by zoology and biology. Consequently, efforts should be undertaken, to integrate humanities and to build up coordination structures for inter- and transdisciplinary research. For zoology and botany there is obviously no connection with demands of Natura 2000.

Thirdly, regional structures (Natural/Regional Parks and Reserves) should become more active in research and therefore need specific support to promote research, above all from universities and other research institutions. However, research projects led by universities should be oriented towards research needs of protected areas.

Fourthly, most protected areas should improve their information on research on the Web. The Network could support protected areas in directly publishing on the web the projects they have registered in the database "European Mountain Pool".

Lastly, the data base "European Mountain Pool" should be completed and project information needs to be updated, in order to serve as a reliable instrument for future project planning and research co-operation. Therefore, project leaders and Park managers are invited to provide the database with complementary information.

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