

SUBJECTS RELATIVE TO AN INTEGRATED STUDY OF ATHOS PENINSULA (GREECE)

Patmios E. Professor, Lasaridou M. Surveyor
Laboratory of Photogrammetry-Remote Sensing
Dept. of Civil Engineers Polytechnic School
Aristotle University of Thessaloniki GREECE

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ABSTRACT

At first a relevant analysis of the term Integrated Systems takes place.

Useful information about the area of Athos Peninsula follow.

The above are connected to set out relevant proposals.

Particular reference is done to the importance of the area as significant historic (monastic) center.

Characteristic examples are given.

1. INTRODUCTION

An integrated study of an area may have multiple considerations.

The purpose of the study determines mainly the components of integration (general directions to be studied).

The methods that will be used are influenced by the scientific and technologic status (timely, locally).

In all cases methods of Photogrammetry and Remote Sensing become very useful means to face the relative subjects.

Systems of integrated studies may be developed by various scientific centers (universities, research centers), Services, Organizations etc.

Except from the general principles, every particularity that concerns the area must be seriously in mind each time.

The area we study, concerns Athos Peninsula in North Greece.

It presents increasing interesting simultaneously from the aspects of natural and mainly cultural-monastic environment.

Because of its great interesting, Athos peninsula continues to be the object of various studies for different aims.

Our relevant interesting for the area from the aspect of Photogrammetric and Remote Sensing applications was presented formerly (3).

To continue this effort we present in this paper in short the basic principles and aspects from which now we study the subject.

Relevant explanatory examples will be shown during presentation.

2. STUDY OF NATURAL ENVIRONMENT

The study is based in the beginning on Photointerpretation. Airphotographs in various scales and time takings are being used.

Every other material is considered: maps topogra-

phic, geologic etc.

The subjects that are examined are: relief, rocks, land use and processes.

The photogrammetric methods are being used to produce necessary documents: graphical (alignment, contours, sections etc.), digital, rectification and orthophotography, but also other more particular such as Digital Terrain models (5) etc.

3. STUDY OF CULTURAL ENVIRONMENT

Athos peninsula includes a great number of monasteries of various kinds. The greater and the more significant of them, with their names and the year of establishment, and their altitude are the following:

Monastery	Establishment	Altitude(m)
Megisti Lavra	961	160
Vatopedi	1744	50
Iviron	1799	20
Chiliandari	1197	50
Dionysiou	(1380-1385)	80
Koutloumousiou	End of 11th century	320
Pantocratoros	1363	50
Xeropotamou	Older from Megisti Lavra	180
Zographou	1280	160
Docheiariou	Beginning of 11th century	50
Karakallou	1068-1070	200
Philotheou	End of 10th century	300
Simopetra	14th century	340
St. Paul's	-	60
Stavronikita	16th century	20
Xenophontos	-	50
Gregoriou	14th century	100
Esphigmenou	Beginning of 11th century	10
Panteleimon	12th century	150
Kostamonitou	11th century	220

Most of the above monasteries are found by the coast.

It is necessary to study mainly the following subjects:

the wide environment of the monastery (relief, rocks, vegetation, processes)

the architecture of the monastery (churches, residence and auxiliary areas etc.)

Several works of art as paintings (on walls, on icons, on books etc), sculptures and other relics.

The general course of facing anticipates:

Photointerpretation study and

Photogrammetric study
general
in detail

For this reason airphotographs and terrestrial takings are being used.

4. CONCLUSIONS DISCUSSION

We outlined the frame in which we work.

The aspects that were mentioned are many-sided.

However, we aim mainly at specific areas and at selected subjects-purposes as following:

Development of suitable for the area digital terrain models.

Evaluation of the results of the study as data for the organisation of suitable Geoinformation Systems.

Combination of data of airphotographs and of satellite images.

Examination and application of the possibilities of relatively newer, low-cost instruments.

The effort is being gradually done as pilot project on the axis of contribution to the development and preservation of Agion Oros (Athos Peninsula), and to more suitable programming of the many-sided relevant efforts.

REFERENCES

1. Basiliadis D., 1979, "Athos: the holy mountain" Athens.
2. The American Society of Photogrammetry, 1960, "Manual of Photographic Interpretation".
3. Patmios E., Tsakiri-Strati M., Georgoula O., Lasaridou M., 1982, "Photogrammetric Methodology to littoral Studies, Photointerpretation in Athos Peninsula, Greece", Fifth International Symposium on Computer-Assisted Cartography and ISPRS Commission IV, Virginia 22-28 of August 1982.
4. Patmios E., Halkias Th., Lasaridou M., 1986, "Photogrammetry and Photointerpretation on the study and preservation of the cultural inheritance" ISPRS Commission V Symposium Real-Time Photogrammetry- A new Challenge, Ottawa, Canada, June 16-19.
5. Patmios E., 1992, "Contribution to the DTM's Study (DTM on drainage Studies)", XVII Congress of ISPRS, Commission IV, Washington D.C, USA.