GIS Application in Tourism
Case study "Poarta Raiului "Area

Assistant Lecturer PhD. student eng. GEORGE EMANUEL VOICU
Assoc. Prof. PhD. LEVENTE DIMEN
Assoc. Prof. PhD. eng. IOAN IENCIU
Assistant Lecturer PhD. student eng. LUCIANA OPREA
Assistant Lecturer PhD. student eng. TUDOR BORSAN

Issues of Romanian Tourism

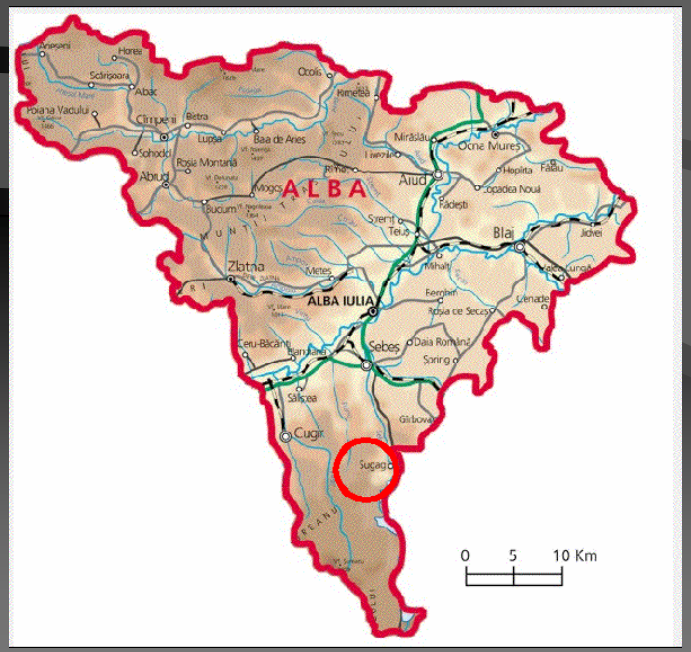
- tendency of increasing number of local consumers for tourism products ;

- progress in upgrading the tourism infrastructure which creates prerequisites for continued upward trend of tourist traffic ;

- travel agencies, owners of hotels, hostels and villas have made these changes to create a more welcoming environment for tourists ;

Geographical Location of Study Area

- the interesed area is located in the south part of Alba county , near Sugag ;
- the access in the area is made on the following routes : Şugag - Tău - Gura Prigoanei- Luncile Prigoanei- Poarta Raiului or Cugir – Canciu - Luncile Prigoanei- Poarta Raiului ;



The Importance of Sebes Valley Area for Tourism

- rural tourism and agrotourism;
- tourism resorts and recreation ;
- climbing, caving;
- tourism for hunting and fishing;

The Legal Framework

- **Law nr. 526/2003 approving the National Program of development on mountain tourism "SUPER-SCHI in Carpathian ";**

- **Government Decision nr. 511/2001 regarding some measures of organization in recreational activities in tourist resorts ;**

- **Government Decision nr. 31/1996 for the approval of Methodology documentation of the territorial planning , resorts and technical documentation on constructions in tourism ;**

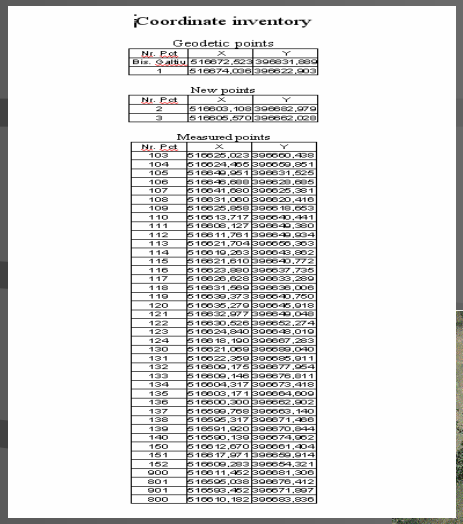
- **Government Decision nr. 1122/2002related to the conditions and procedure for certification of resorts;**

GIS Role in the Modernization of the Future Tourist Complex "Poarta Raiului"

- correct data register by the achievement of digital maps tourist;
- introduction of these maps into digital atlases ;
- decision support of the management staff on issues related to mountain routes;
- statistical evidence on the inventory of land and buildings for tourism;

Sources of the Data Integrated into GIS Environment

- plans and maps ;
- table files;
- measurements ;
- ortophoto-plans ;
- tourist guides;
- publications ;
- internet ;



Coordinate inventory

Geodetic points

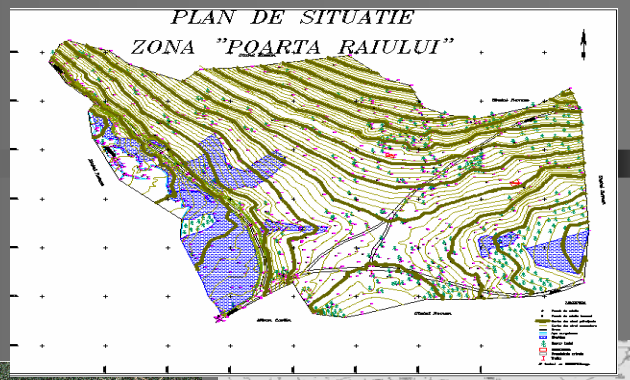
Nr. Pct	X	Y
Bis. Galbu	516672,623	396831,889
1	516674,036	396822,803

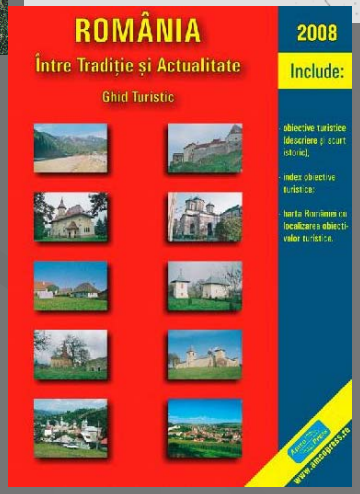
New points

Nr. Pct	X	Y
2	516609,108	396682,979
3	516606,570	396662,029

Measured points

Nr. Pct	X	Y
103	516626,023	396660,438
104	516624,455	396659,951
105	516649,951	396631,625
106	516646,668	396628,685
107	516641,660	396625,381
108	516631,069	396620,416
109	516625,859	396618,653
110	516613,717	396640,441
111	516606,127	396642,380
112	516611,761	396649,934
113	516621,704	396656,363
114	516619,263	396643,902
115	516621,610	396640,772
116	516623,889	396637,735
117	516626,628	396633,289
118	516631,569	396636,006
119	516639,373	396640,750
120	516635,279	396645,918
121	516632,977	396648,048
122	516630,626	396652,274
123	516624,840	396648,019
124	516618,190	396667,283
130	516621,069	396683,040
131	516632,359	396695,911
132	516609,175	396677,954
133	516609,146	396676,811
134	516604,317	396673,418
135	516603,171	396669,609
136	516600,300	396662,902
137	516599,766	396663,140
138	516596,317	396671,406
139	516591,920	396670,844
140	516590,139	396674,952
150	516612,679	396661,404
151	516617,971	396659,914
152	516609,283	396654,321
900	516611,462	396681,306
801	516595,038	396676,412
901	516593,462	396671,897
800	516610,182	396683,836

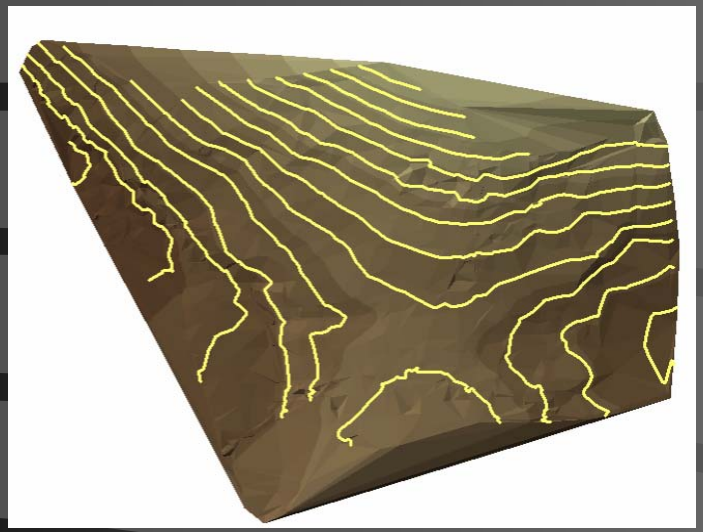




Integration of Graphical and Non Graphical Data into GIS Project

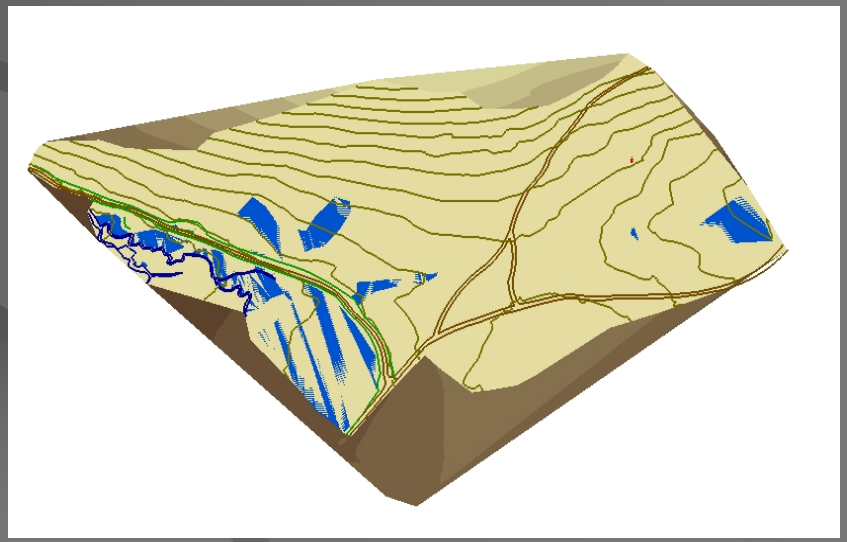
- selection of layers regarding the content of the maps;
- design database;
- design and adding descriptive elements;
- achievement links;

Development of Digital Models



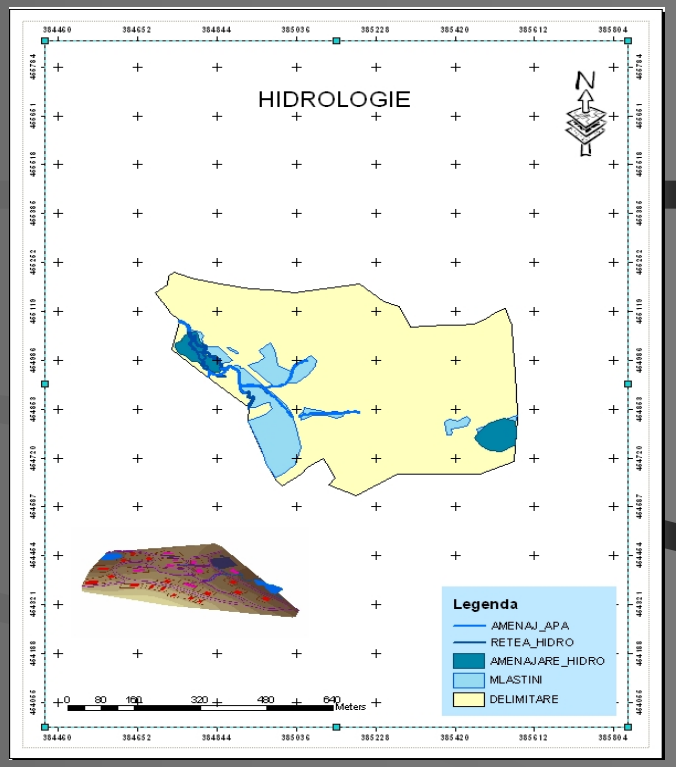
- **2D model**

- **3D model**



Establish Thematic Maps

- displaying cartographical representations ;
- highlighting the characteristics of lands ;
- providing informations regarding the entities modeled;
- selecting or highlighting entities after various criteria;



Conclusions and Proposals

- using GPS equipment for the purpose of collecting GIS data ;
- capability of GIS to access / integrate graphical alpha-numeric existing data ;
- making GIS information available for several departments through local networks/intranet or internet;
- development of digital maps for all tourist areas in Romania and placing them in an international online atlas for e-marketing activities;

Thank You for Your Attention!