

ASSESSMENT OF GEOMORPHOLOGICAL SITES FOR RECREATIONAL PURPOSES

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INTRODUCTION

Attractiveness of relief, diversity and rareness were always the basic features of overall recreational attractiveness of a territory. Relief determines technological peculiarities of land use (means of transport, location and territory zoning, safety for recreational system and people involved in recreational activity). Regions with high geomorphic diversity served as model for first recreation and tourism researches [2]. First seats of recreational activities emerged in highland regions and coastal areas. The above features often favoured sustainability of touristic system. Unique relief forms are commonly referred to natural sites. They differ from the others in structure or have some morphological and morphometric characteristics not found in other forms of the earth's surface. Such monuments form the main natural functional kernel for a recreation system which is created and exists around them.

The functions of geomorphological sites in recreation can be divided into **socio-cultural** and **economic**. Socio-cultural function is the principal function of recreation. It responds to the cultural or spiritual needs of people such as the knowledge in the broader sense, knowledge of the world and their place in it. The economic function is to create consumer demand for goods and services, and sometimes an entire economy sector.

Natural sites are particularly vulnerable to dangerous occurrence of endogenous and exogenous processes as guarantee of environmental stability is an essential condition for a proper system functioning. This requires a comprehensive study of relief dynamics, monitoring and forecasting its evolution in protected areas.

METHODOLOGICAL APPROACH

There are two general domains of relief and recreation mutual influence: recreational and geomorphic (RG) **risks** and RG **attractiveness**.

In the context of recreational and geomorphic research risk is a measure of the probability and severity of an adverse effect to life, health, property, or the environment. This effect could be caused by recreational use of a territory or natural geomorphological processes. Thereby the interaction between geomorphological basis and recreational activity could be represented as a special field of risk. The tension of this field could be measured by value of risk which corresponds to consequences weight.

Attractiveness of relief should be determined by a complex parameter, composed of particular relief properties (uniqueness, diversity, aesthetic appeal).

Field of attractiveness and field of risk together form some kind of coordinate system. The value of relief capacity for having positive influence on a person (physical, psychological etc.) can be placed in it.

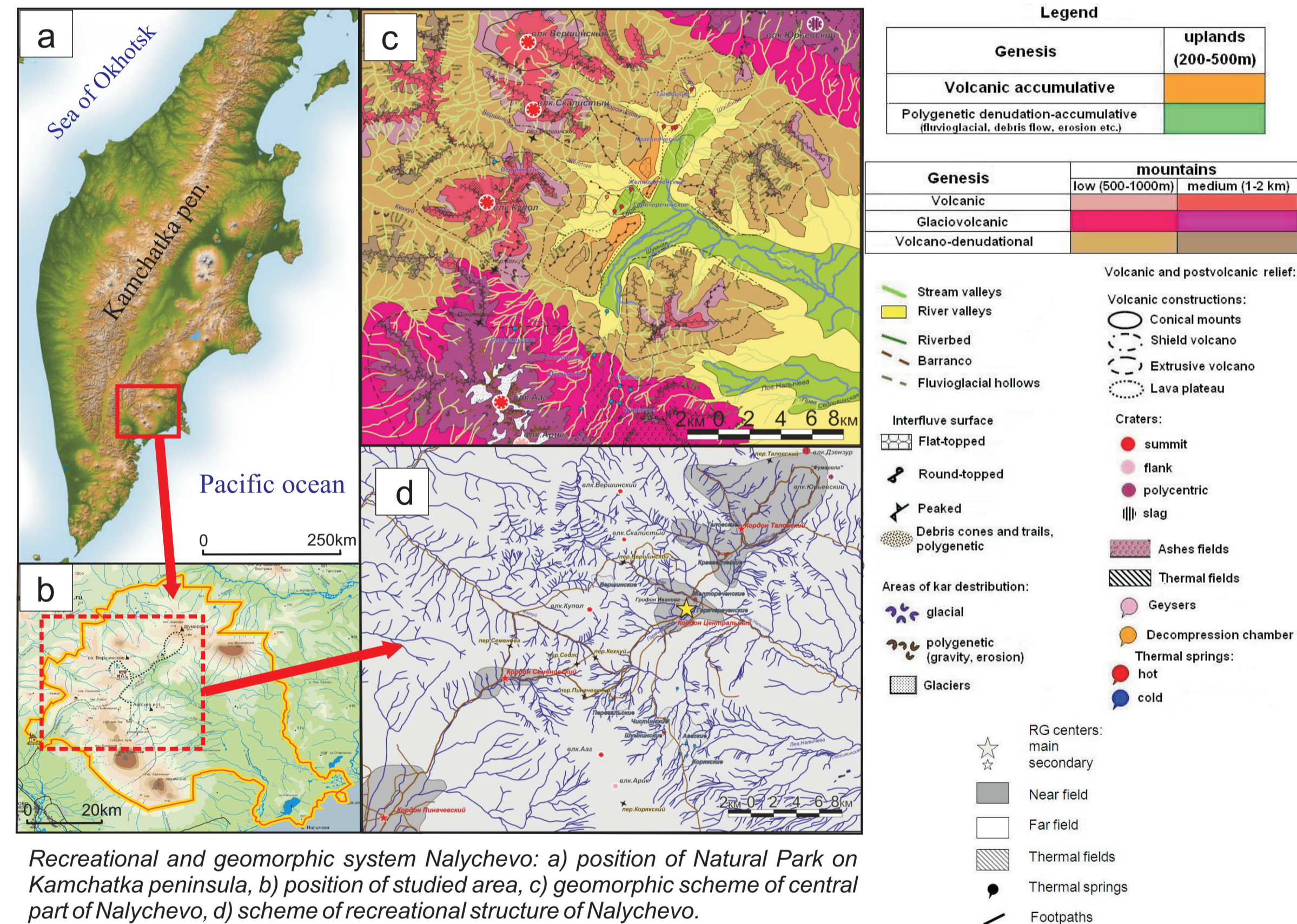
Estimation of attractiveness and risk value must be carried out by means of **composite indexes** which include particular rates of relief features (rareness, diversity, aesthetical attractiveness etc.) [1].



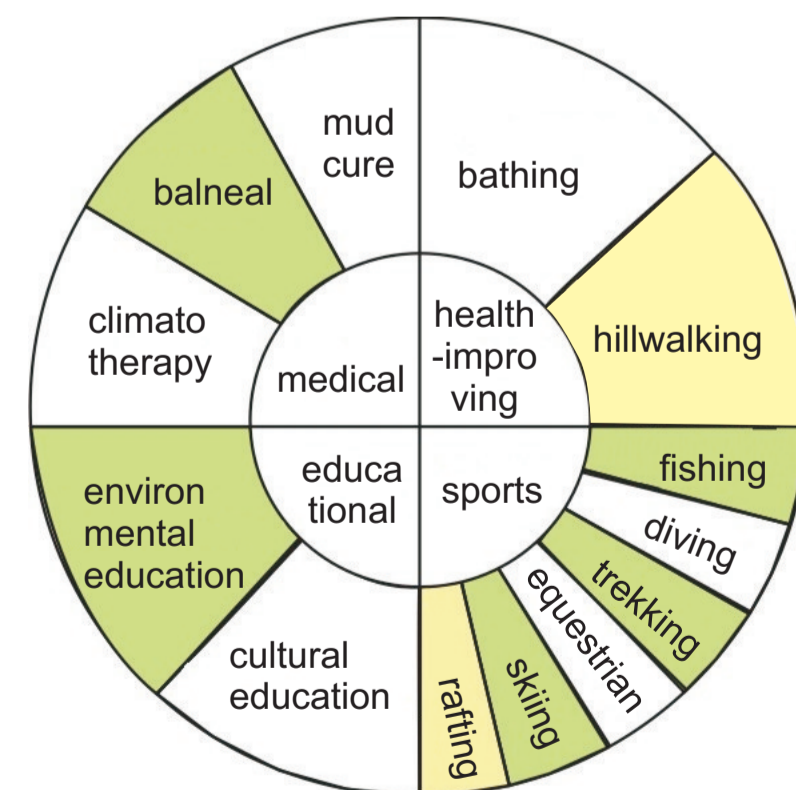
Fields of relations between relief and elements of recreational system (Modified from Bredikhin, 2010).

The quantity which indicates a complex functional suitability of an area for recreational purposes should be called "**recreational and geomorphic potential**" (RGP).

APPLICATIONS



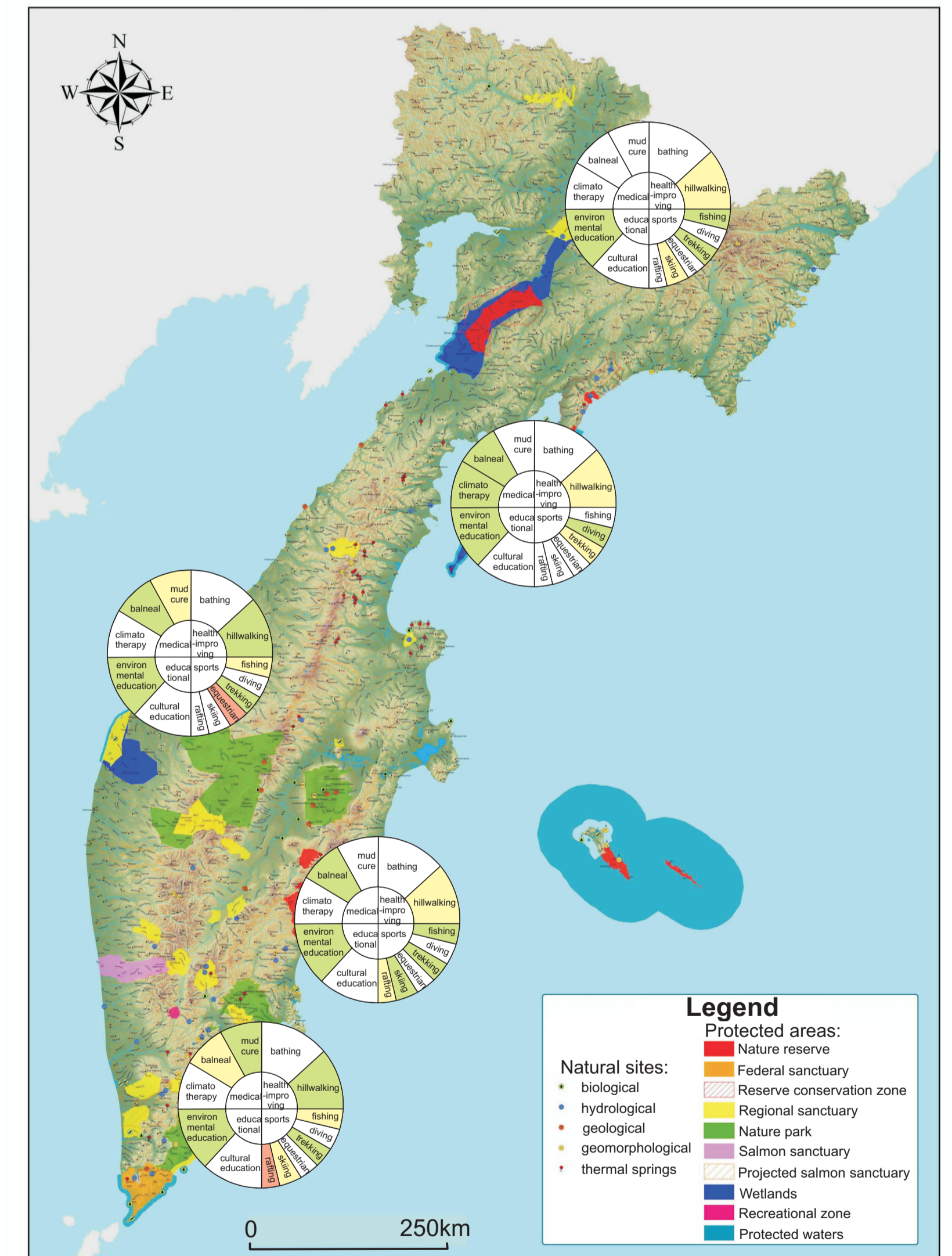
Recreational and geomorphic system Nalychevo: a) position of Natural Park on Kamchatka peninsula, b) position of studied area, c) geomorphic scheme of central part of Nalychevo, d) scheme of recreational structure of Nalychevo.



REFERENCES

- BLINOVA I. & BREDIKHIN A. (2011) Assessment of geomorphical risks and attractiveness for recreational purposes in areas with high contemporary relief dynamics. The Second World Landslide Forum - Abstract Book, 3-9 October 2011, FAO, Rome, Italy, ISPRA. (ISBN 978-88-448-0515-9), p.582
- BREDIKHIN A.V. (2010) - Recreational and geomorphic systems. Moscow-Smolensk (In Russian) (ISBN 5-93520-068-6) 328 p.

APPLICATIONS



RGP for different types of recreation activities within protected areas of Kamchatka peninsula, Russia

Such visualization allows to compare specializations and recreational and geomorphic potential of different territories. Thereby it is possible to optimize decisions on the proper tourist product choice, or on organization of recreational activity. The last confirms the necessity to assess the RGP for different parties of recreational system - the organizers and tourists. Estimation of recreation attractiveness and geomorphic risks is particularly important for prospective recreational regions. The decision-making concerning to creation a new tourist cluster depends basically on resource assessment. Various functional types of activity within a recreational and geomorphic system could have different potential. Taking into account the structure of recreational and geomorphic space is the information basis for effective functioning of existing systems and for creation new ones.