

# Methodology of landscape research

Editor:

Viacheslav Andreychouk

Sosnowiec 2008

# **Editorial Board:**

Viacheslav Andreychouk, Andrzej T. Jankowski, Urszula Myga-Piątek, Krystyna Pawłowska, Florian Plit, Joanna Plit, Maria Z. Pulinowa, Krzysztof Wojciechowski

### Reviewer's Board:

Viacheslav Andreychouk, Alexander Kovalyov, Joanna Plit, Valerian A. Snytko, Tadeusz Szczypek

Publication financed by the Ministry of Science and Higher Education, Poland

Dissertations Commission of Cultural Landscape No. 9 Prace Komisji Krajobrazu Kulturowego nr 9

Layout: Patrycja Dzikowska

Cover Design: Katarzyna LEŚNIOK

Copyright © 2008 by Commission of Cultural Landscape of Polish Geographical Society All rights reserved

## **Publisher:**

Commission of Cultural Landscape of Polish Geographical Society ul. Będzińska 60, 41 – 200 Sosnowiec, Poland

ISSN 1896-1460 ISBN 978-83-61695-01-1

Printed by Jacek Skalmierski's Computer Labolatory, Gliwice

# Contents

PREFACE	4
Viacheslav Andreychouk THE EVOLUTION OF GEOGRAPHICAL ENVIRONMENT AND CONTEMPORARY GEOGRAPHY	5
Alexander Kovalyov THE GEOWORLD AND ITS REFLECTION IN THE DAYTIME SURFACE STRUCTURE	38
Aleksander Böhm BETWEEN THE THEORY AND PRACTICE OF LANDSCAPE FORMATION	63
Urszula Myga – Piątek BETWEEN TRADITION AND MODERNITY OF THE CULTURAL LANDSCAPE RESEARCH. DISCUSSION ON METHODOLOGY	75
Florian Plit THE DETERMINANTS OF THE LANDSCAPE OF EUROPEAN CIVILISATION	92
Alexey S. Viktorov METHODS OF THE MATHEMATICAL MORPHOLOGY OF LANDSCAPE	104
Péter Csorba INDICATORS OF LANDSCAPE FUNCTIONING, WHICH MARK THE MATERIAL AND ENERGY BUDGETS IN LANDSCAPES	128
Snytko Valerian A., Semenov Yurii M. THE STUDY OF GEOSYSTEM STRUCTURE, DEVELOPMENT AND FUNCTIONING IN SIBERIA	141
Anatoliy Melnyk ECOLOGICAL ANALYSIS OF LANDSCAPES	151
Pavel Zhoomar, Aliaksandr Karpichenka, Mikalai Chartko THE GEOCHEMISRY OF TECHNOGENIC LANDSCAPES: THEORY AND PRACTICE	170
Katerina Pozachenyuk CRISES AND PROSPECTS OF DEVELOPMENT OF LANDSCAPEOLOGY IN THE COUNTRIES OF POST-SOVIET AREA	191
Joanna Plit COMPUTER AS THE INSTRUMENT OF MANIPULATION (IN THE INTERPRETATION OF THE STATE AND THE EVOLUTION OF LANDSCAPE)	217

### **PREFACE**

The geographic environment, along with landscapes that build it up, is the space for human life and activities. Ever since the beginning, man has been connected with the environment and depended on it in many aspects. These aspects are the subject of research of geography. This is the source of great significance of geographic and landscape research for man. At present, the situation is even more sharpened by a wide range of environmental problems, provoked mainly by human activities. This is why methodological geographic studies have essential meaning in the current situation, as they make it possible for landscape studies to find their place in these conditions and for man to find own place in landscape.

The collective volume of articles *Methodology of Landscape Research* is dedicated to theoretical aspects of landscape research. Articles of the volume were prepared by an international body of authors specializing in matters related to landscape research. Among other things, they concern: methodological foundations of geography (Viacheslav Andreychouk), general theory of landscape (Alexander Kovalev), theory and practice of landscape formation (Aleksander Böhm), cultural landscapes (Urszula Myga-Piątek) and their civilizational determiners (Florian Plit), ecological aspects of landscape research (Anatoliy Melnyk), the sense and meaning of technogenous landscapes (Pavel Zhoomar, Aliaksandr Karpichenka, Mikalaj Chartko), structural-functional and geochemical aspects of landscapes (Walerian Snytko, Yuriy Semenov), indicative properties of landscapes (Péter Csorba), analyses of condition and prospects of landscape research (Katerina Pozacheniuk), methods of mathematical analyses of landscape structure (Aleksej Viktorov) and matters related to modern computer-based tools of landscape research (Joanna Plit).

The scope of subject matter of the articles is in strict reference to methodological aspects, which are particularly important for development of every science. It includes the basic aspects of its condition, objectives and directions of development, that is its future. In particular articles of this collective volume, the authors look for the answers to the following questions: what is contemporary geography, what is land-scape, what are its peculiar properties and ways of perception, what role does man play in it, which direction is landscape changing in, or how should geographers react to this. Some of the articles also include answers to questions like how contemporary landscape should be studied and what is the function of the most modern research methods in its comprehension. All this is highly important for the geographic science at a given stage of its development both in theoretical and the practical aspects.

Editor