

Maria Nedeaľcov (2012), *Resursele agroclimatice în contextul schimbărilor de climă* (Agroclimatic resources and climate change), Institute of Ecology and Geography, Academy of Sciences of the Republic of Moldova, Chişinău, 306 p., 5 chaps., 18 subchap., 82 figs., 47 tabs., 314 references, conclusions and practical recommendations, summary in Romanian, Russian and English.

Maria Nedeaľcov is one of the outstanding personalities of the Institute of Ecology and Geography in Chişinău. The close collaboration between the late Tatiana Constantinov, a Member of the Academy and director of the Institute of Geography in the Republic of Moldova, and renowned geographer and climatologist with preoccupations for agroclimatology and a very good specialist in this science.

Her preoccupations were of great theoretical, methodological and practical relevance, moreover so, as the climate of her country raises numerous problems for agricultural crops. Lying at a cross-roads, the Republic of Moldova experiences the passage of hot tropical masses of air in summer, obviously entailing numerous meteo-climatic risks (mainly soil moisture deficit, dryness and drought) and of cold polar or arctic air in winter with severe meteo-climatic phenomena in that season (high occurrence frequency and duration of frost-freeze and very low temperatures are a major risk for crops).

Since nowadays climatic variability has been increasing and extreme climatic phenomena are more and more frequent, Nedeaľcov's studies are of great topicality. Thus, the sustainable development of agriculture is of consequence for assessing a country's agroclimatic potential within the context of possible climate changes.

The author's over two-decades-long experience of field and lab research carried out with interest and passion led her to valuable conclusions regarding the agroclimatic potential in the Republic of Moldova, where productions are affected by the ever higher incidence of climate risk phenomena.

Maria Nedeaľcov was the first researcher in the specialist literature to elaborate a new methodology for evaluating and regionalising agroclimatic potential in the conditions of climate warming, based on complex heat indices (minimum temperature with 10% assurance, duration of freeze and freeze-free intervals, the sum of >10°C active temperatures and the number of days with >5°C temperatures), humidity indexes (annual quantities of precipitation, the sum of annual precipitation in the warm and the cold seasons, Seleaninov's water-temperature coefficient and snow depth) instead of generalised agroclimatic indexes (only temperature and precipitation) which do not accurately reflect the degree of agroclimatic favourability in the new climate change conditions.

So, the author provides the theoretical and practical bases to assess agroclimatic resources and study the intensity of climate risk phenomena, such as aridisation, freezing etc., as well as climatic favourability for various crops, especially fruit, climate warming in her country requires adapting crops to the new conditions and finding new frost-resistant varieties.

The new methodology proposed by the author referring to the regionalisation of the agroclimatic potential is based on GIS – scaling of climatic favourability (from 1 to 4) of heat and humidity sources using the previously-mentioned complex indexes to appraise agricultural lands, an extremely useful approach applicable at national, regional and local levels. Maria Nedeaľcov's merit is also to have worked out the first freeze and drought regionalisation maps, having in view both local geographical factors (position, altitude, slope aspect, slope declivity and fragmentation grade) and climatic factors by resorting to a wide range of risk intensity indexes regarding the most hazardous situations: freezing frosts in early autumn and late spring with temperatures of -5°C, the lowest temperatures that allow to estimate crops unpairment level; the probability for hazardous freezing (-5°C) to occur every 10 years and vulnerability grades, e.g. frost-sensitive vine varieties, up to critical unpairment temperatures of ≤-17°C, relatively frost-resistant varieties up to ≤-22°C and varieties resistant at temperature of -25°C.

The superposition of climatic thematic layers over the digital elevation model of the region led to estimating frost and drought vulnerability grade in various units.

The authors's researches show that ever severer climate warming will make the southern zone, with active temperatures of >10°C, to slightly shift to the north, hence lower freezing risk for some thermophilic plants, such as late vine varieties, some fruit-trees and mild for maize and sun-flower.

These fundings were helpful in outlining areas of climatic optimum and climatic risk for fruit-trees, vine crops and some agricultural plants, with a view to achieving sustainable development in agriculture. The author had already made these maps available for the local authorities and profile research institutions.

To sum up, we wish to stress once again the great many original theoretical, methodological and practical contributions made to agroclimatology by the communications delivered in foreign languages winning Maria Nedeaľcov natural and international notoriety and the title of Doctor Habilitatus of Geography/Climatology – Agroclimatology after having written this volume.

In specialist studies, this work is a model of agroclimatic approach, a practical working-tool in organising agricultural lands, and a landmark for future profile researches.

Octavia Bogdan

Thede Kahl, Larisa Schippel (eds.), *Leben in der Wirtschaftskrise – Ein Dauerzustand?*, in the series Forum: Rumänien, 12, Frank & Timme, Berlin, Germany, 2011, 236p., ISBN 978-3-86596-395-6

Since 2003, every year in Vienna a meeting called *Forum: România* takes place, at the core of which lie debates on Romanian topics, humanist regional studies on Romania. This forum on Romanian research, also materialized in a series of publications called *Forum: Rumänien*, is meant to help in a better understanding of mentalities and cultures and in facilitating political relations.

The event of its 8<sup>th</sup> edition, in 2010, was devoted to the topic of the *crisis*. More precisely, the need was sensed of adding to the widely available economical analysis of the crisis other researches from the point of view of the human and cultural sciences.

This volume gathers a series of studies brought about by the 2010 edition of the *Forum: România* and undertaken by researchers in the fields of sociology, history, literature sciences, economical geography, law, political sciences and educational sciences. The book provides, therefore, a multidisciplinary view on the different effects of the economical crisis and the particularities of its manifestations in the Romanian environment.

Already in the introduction, the editors Thede Kahl and Larisa Schippel draw the attention to the very concept of *crisis*, which is defined, in the context of social transformations, as exceptional situations of social nature. Such a definition renders the use of the notion very difficult when referring to Romania where economical problems are long lasting ones. On the other hand, the crisis hit in 2008, i.e. in a moment when Romania had just been recording some progresses, which justifies an inquiry into the various effects of the crisis.

The contributions in this volume aim to investigate on the role of long-term and constant causes favoring the predisposition of a society to being affected by crisis, as well as on the effects of the new inclusion of Romania into international structures. At the question, if, besides the causes of the global and European economic crisis, there were also other, internal causes acting on the long-term and demonstrating their effects at present, three main categories of causes are distinguished by A. Sterbling in case of Romania: i) the deficiency in achieving democracy after 1990; ii) the profound moral crisis as an inheritance of the late Ceaușescu regime and iii) the institutional deformation as a consequence of particularistic orientation of actions and partial modernization. Investigated crisis manifestations range in time from the recent post-communist period to the former communist period and even to older historical times. Aspects of the crisis in Romania are discussed in relation to: the role of Romanian intellectuals on the political thinking, the real estate transactions, the directions of cinema after 1989, the public space and urban life, education and universities, the evolution of the New Right in areas occupied by Hungarians, cultural institutions, the Constanța harbor etc.

The editors of this book have a large research experience in East-European studies. Thede Kahl studied geography, Byzantine studies and Slavistics in Münster, Köln and Hamburg and has done research in all the countries of East and South-East Europe. He currently works as Professor for South Slavic studies at the Friedrich-Schiller University of Jena. Larisa Schippel studied both in Berlin and Bucharest Romanian and Russian translational studies. At present she holds a Professor position at the Centre for Translation Studies of the University of Vienna teaching transcultural communication. The authors of the various papers are coming either from Romania or from Germany or Austria, but most of them have studied in both Romania and a German country. They have backgrounds in various domains of humanistic sciences, with a special focus on Romania, the Balkan region or Eastern Europe.

Most of the texts are published in German, representing either original versions or translations, but there are also some chapters available in Romanian or English, which make the book easily accessible for a wide range of readers.

*Marta Jurchescu*

Ion Zăvoianu, Gheorghe Herișanu, Cornelia Marin, Nicolae Cruceru, Mihai Parichi, Florin Vartolomei (2011), *Relații cantitative între producția de aluviuni în suspensie și factorii de mediu/Quantitative relationships between suspended sediment yield and environmental factors*, Edit. Transversal, București, 321 p., bilingual text Romanian-English, 3 chaps., 135 figs. and colour photos, 13 tables, bibliography.

The present work, co-ordinated by Prof. I. Zăvoianu Ph.D; reflects the research activity of the Faculty of Geography Staff, "Spiru Haret" University, over the 2009-2011 period under PN II-IDEI Project 631/2008. The project, financed by CNCIS-UEFISCDI<sup>1</sup> had in view the elaboration of Models of suspended sediment yield in terms of rock, soil and land use in representative basins.

The working methodology proceeds from hierarchising Horton-Strahler's classification of the network of stream segments by calculating their length and level differences between source and confluence. The data-rows thus obtained were

<sup>1</sup> National Council of Scientific Research – Executive Agency for Higher Education, Research, Development and Innovation Funding

used to set the laws of morphometric drainage and slope models for the whole basin and its sub-basins in which water-gauge stations measure the yield of water discharge and of suspended sediment load.

Sediment discharge, indicating intensity of erosion and depleted soil quality, had been studied also by other Romanian and foreign researches, but the novelty of this work is the interdisciplinary approach to in quantifying the contribution to suspended sediment yield of each factor of the environment the drainage basins are located in. The present work, written in a modern style, based on reliable observation data provided by water-gauge stations over a 30-year period and GIS-processed, has three parts, basically chapters of some 100 pages each.

**Part One** discusses the methodology (already presented above), a novel element being the use for the first time in Romania of a smithammer in order to assess rock resistance-dependence (especially on consolidated rocks) of alluvial discharge (the lithological substrate is considered of great consequence) and the development of a new methodology for the classification of the stream network and of drainage basins.

**Part Two** enlarges upon a case-study, the well individualised, that includes Bârlad Basin, 13 sub-basins supplied with measuring devices for maximum sediment flow, particularly during flood waves.

Another element of novelty in geographical research is the determination of some morphometric variables not only of stream network and drainage basins, but also of the basin's geomorphological units. This enables a better insight into sediment flow in these units. In this way, a drainage model of stream segment slopes was created and applied to three of the basin's units: the Central Moldavian Plateau, the Tutova Hills and the Fălciu Hills.

**Part Three** deals with sediment discharge in the representative drainage basins of Romania, with highlight on the connections between average drainage basin elevation and the resistance grade of the respective geological surface formations, e.g. metamorphic, magmatic and sedimentary rocks in the Carpathians, Subcarpathians and the tableland area.

Using maps of solid sediment flow and distribution of specific average discharge previously elaborated, the authors conclude that sediment flow is not subjected to altitude-imposed vertical steps, like the other environmental factors are.

Analysing the relation between sediment discharge and some elements of the physical environment (e.g. the connection between water flows and drainage basin surfaces, between suspended sediment load and the total length of stream segments, as well as between suspended sediment load and the total number of stream segments etc.), the authors came to the conclusion that the best relations characterising suspended sediment flows are those designating the total number of stream segments which influence the formation of the sediment stock, on condition that determining generalisation relations is based on drainage systems or geomorphological units. This is necessary in order to obtain high-value determination coefficients, a priority for research in Romania and the world.

As a conclusion, the morphological elements of the stream network are directly involved in sizing sediment discharge (dependent on environmental factors: rock, vegetation, soil, land use, etc.) and can be used in predicting them. The research carried out in this direction proves the contribution of the research team co-ordinated by Professor I. Zăvoianu to the development of hydrology in Romania and on the globe.

*Octavia Bogdan*

