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FOREWORD

The Jagiellonian University's Institute of Geography Research Field Centre at Łazy began operations in 1986. It was set up with three aims in mind.

The first aim was connected with academic instruction. Modern training of geographers requires not only good theoretical preparation but also practical knowledge of research methods and evaluation of the natural environment in the field. A second aim is scientific familiarization with the geographical area in which the Centre is situated. The third one is the development of research methods to facilitate the acquisition of this knowledge.

Łazy Research Field Centre's location is very interesting from the geographical viewpoint. The Centre is located at the border between two great geographical units: the Carpathian Mountains and - in their immediate foreland - the Sandomierz Basin (Fig. 1). As a consequence of such a location, within a short distance there are clear changes in both the natural environment and in the way man utilizes the land. The

Fig. 1. Location of the Research Field Centre in Łazy.
Ryc. 1. Położenie Stacji Naukowej w Łazach.

area of research is located not far from important industrial centres in Silesia and Cracow to the west, and Tarnów and Tarnobrzeg industries to the east and north-east. This part of the Carpathian Foothills is above all an agricultural area. Important questions which should therefore be asked are:

- Is this particular part of the Carpathian Foothills subject to the influence of pollution emitted by the aforementioned industrial areas - and if so, to what extent?
 - What are the environmental conditions of spread of this pollution?
 - To what degree do local environmental factors affect the lodging and accumulation of the pollution, and how much do they neutralize or evade it?
 - What is the role of farming activity in shaping the environment and its vulnerability or resistance to the existing threats?
- and finally,
- What is the present condition of the environment?

In this volume the reader will find papers in which are to be found some answers to the questions posed above.

Changes in the natural environment of the Carpathian Foothills have a varied character and affect not only the last period of intensive economic activity. They reach far back in time. These issues are addressed by M. Pietrzak, who carried out a synthetic overview of the role of man in the mani-centuried transformation of the area of the Carpathian Foothills between the rivers Raba and Uszwica.

In the work by B. Izmałłow we find information about conditions impinging on pollution carried through the atmosphere. These conditions depend both on the direction and speed of winds and on the landscape - the layout of valleys and ridges and the exposure of hillsides and slopes.

The issues examined by B. Izmałłow bring us indirectly to study of the deposition of substances of various origins, together with the precipitation falling on the area under research. This is addressed in the papers by W. Chełmicki and M. Klimek, and by M. Żelazny, in which the authors try to show if it is possible to document a relationship between vectors of air masses and the extent of pollution and - related to this - the acidity of rainfall.

The paper by S. Skiba, M. Drewnik, M. Klimek and R. Szmuc briefly characterise soilcover and its ability to function as a buffer in the face of incoming contamination, such as heavy metals.

Spatial variations in radioactive fallout caused by the collection of Caesium-137 in the soil are looked at in the paper by W. Chełmicki, K. Krzemień and M. Klimek. In turn the paper by K. Krzemień and K. Sobiecki is devoted to the dynamics of river transport of dissolved and suspended matter.

This volume also contains papers looking at threats to ground water. The effect of many years of exploitation of the saltmines at Łężkowice on the Raba is saline water migrating through bedrock to the alluvium of the Raba valley and beyond - to the river itself - even till today. This problem is addressed by G.M. Hall. In their turn, J. Ellis and J. Dottridge write about signs of contamination ground water by nitrates. This problem will without doubt grow with the intensification of agriculture in the Foothills.

Phot. 1. Typical foothill landscape near Łazy.

Fot. 1. Typowy krajobraz podgórski koło Łazów.

Environmental changes are also affecting plant cover. A. Stachurska examined changes taking place in the foothill forests.

The contents of this volume give an overview of the range of research carried out at Łazy Research Field Centre and results gained thereof. Most of the several dozen papers resulting from work at Łazy were published hithertofore in Polish. I hope that publishing our results in English will encourage academics and students from other countries to undertake combined research with us. A definite start to that process was the master's work undertaken at Łazy Centre by the students from University College London in 1996-97. Summaries of two out of four such works (G.M. Hall's and J. Ellis') are contained within. In due course we will offer a further collection of papers based on research carried out at Łazy, and prepared both by staff and students of the Jagiellonian University and by representatives of other institutions.

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