



Bulletin

International association for landscape ecology

STATIONED BASED LANDSCAPE ECOLOGICAL RESEARCH IN SIBERIA

A LONG FIELD WORK TRADITION IN SERIOUS FINANCIAL TROUBLES

In the second part of twentieth century geographers became aware of the lack of factual information for the further development of physical geography theory. To that time there were few "white spots" on the Earth, so that exploration of landscapes lost its appeal. It was therefore clear that physical geographers should move from simple landscape description to the understanding of landscape properties in detail and their underlying processes of formation. A new direction in physical geography, therefore developed called structural-dynamic landscape study (Sochava, 1967), which involved the setting up of a network of geographical stations.

The first Siberian geographical station was organized at the biological station of the East-Siberian Branch of the USSR Academy of Sciences in Onon-Argun steppe (South-East Zabaikalie), which later was converted into the newly organized Institute of geography of Siberia and the Far East (currently the Institute of Geography of Russian Academy of Sciences Siberian Branch). In 1958-1960 integrated programmes of research in steppe landscapes took place in a locality, named Alkuchanski Govin. From 1961 the main observations were

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IALE CONGRESS 95 TOULOUSE

PRE-CONGRESS MEETINGS

On Sunday 27th August in the morning there will be an opportunity to arrange special meetings. Three initiatives can already be mentioned:

1. Landscape ecological planning and ecological networks

A session on landscape planning and ecological networks will be arranged to coordinate 3 independent initiatives within the field:

- The IALE Working Group: Landscape ecological planning has been engaged with the theme (see L. Miklos: Landscape ecological planning, IALE Bulletin vol. 9 no. 4 december 1991 p. 6-9).
- Edward Cook and Hubert van Lier from the International Studygroup on Multiple Use of Land (ISOMUL) has edited a new Book from Elsevier: Landscape planning and ecological networks. (see page 4)
- A special issue of the Dutch journal *Landschap* on 'The plans for ecological networks in Europe' is planned to be finished in August.

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2. Landscape system analysis in environmental management

A meeting in the IALE Working group "Landscape system analysis in environmental management" will be chaired by Michael Moss (Canada) and Andrzej Richling (Poland). 5 Subgroups, that was formed at the Working group meeting in Warsaw October 1993 are intended to present state-of-the-art-papers at the meeting (see IALE Bulletin Vol. 12 no. 1/2, June 1994).

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3. Geographical Information System (GIS)

Also the IALE GIS working group chaired by Dick van der Zee (The Netherlands) will have a meeting on Sunday morning. A report on the work of the group was presented in the last issue of IALE Bulletin.

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If you want to present a paper at one of these meetings, you can indicate it on the abstract form for the congress in the section "special request".

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carried out in the surroundings of Kharanor railroad station in Zabaikalie and remained there until 1980. Although the Kharanorski station was organized initially for the study of biological complexes, geographical researches were carried out from the beginning and were subsequently expanded. The principal research task, carried out under the leadership of the outstanding geographer academician V. B. Sochava, was the integrated study of phisico-geographical steppe systems. The main aims were to describe the rhytms of natural phenomena, to develop the classification of natural formations and to reveal their structural-dynamic features (Alkuchanski Govin, 1964). The experience of the first years research showed the necessity of uniting specialists of different branches of complex physical geography and adjoining disciplines for the holistic study the of the natural environment. The theoretical foundation for such joint research work used the concepts of landscape studying and in particular that concerning geosystems, formulated by V. B. Sochava (1963, 1978).

The approach to integrated quantitative assessment of natural regimes in the studying of the geographic environment involved the subunit organization method, which was developed in the Institute of Geography of Siberia and the Far East. It is based upon the concept that geographic facies (elementary subunits of the geographic environment) as organized systems and gives assessments of the principal links within geosystems. The data for such studies is collected in the field along polygon-transects in factorial rows, that are typical of the urotshistshe /stow which are subunits of the geographic environment consisting of simple units. At the same time and in the same sites, different observations were made (Sochava et al., 1967). In steppe landscapes, special attention was given to elementary geosystems, where yearly observations were conducted for a number of landscape-geophysical, landscape-geochemical and biogeocoenosal indices. The results of this research were published in a number of monographs (Topology of steppe geosystems, 1970; Studying of steppe geosystems

through time, 1976; Snytko, 1978; The matter in steppe geosystems, 1984; and others).

Priangarski taiga field station was set up not far from railroad station Chunoyar in Boguchanski district of Krasnoyarsk region in 1963. Detailed studies of taiga geosystems were the main tasks here. After field reconnaissance of the territory and studies of landscape structure at the regional and local levels, investigations were carried out into the interrelations of vegetation, animal population, soil and microclimate. Site location and land use were the principal directions of research. Spatio-temporal analysis of the annual development of landscape processes provided the opportunity to understand the ecological control of geosystems and landscape ecology problems (Southern taiga of Priangarie, 1969; Krauklis, 1979; Geosystems dynamics and developing of Priangarski taiga, 1985; and others).

The spatial differences of geosystems functioning with observations on temporal dynamics of biotic and abiotic factors were studied in the middle taiga of Western Siberia (Tugrski station), in the southern taiga of Priirtishie (Priirtishski station), in the piedmont taiga of Western Sayan (Lenski station) and of Khamar-Daban (Baikalski station), also in the steppes of Southern-Minusinsk hollow (Novonikolaevski station). A large volume of field data was collected. Analysis and structural-dynamic interpretation of these data gave the opportunity to come to assess the ecological-geographic and associated environmental changes under the influence of economic activity enabled prediction of the consequences of human social impact on nature (Southern taiga of Priirtishie, 1975; Natural regimes of Minusinsk hollow steppes, 1976; Natural regimes of Western Siberia middle taiga, 1977; Geosystems of Western Sayan piedmont, 1979; Structure and functioning of southern taiga geosystems of Priirtishie, 1982; and others).

In the 1980s research were carried out into the best ways of limiting the effects of human society on the environment by geographers of Siberia. The construction of Kansk-Achinsk fuel-energetic complex led to the initiation of research work based on the limiting ecological

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Deadline Bulletin Volume 13.2: 15th March 1995

factors in the first stages coal strip mines, of the thermoelectric power station and of urbanization. The study of natural regimes at Nazarovski subtaiga and at Berezovski forest-steppe stations in Nazarovo hollow were accompanied by the study of technogenic factors and by determination of loading norms in geosystems (The man and environment at the first stage of the KAFEC development, 1988, Snytko, Semanov, Martynov, 1987; Volkova, Davydova, 1987; Semenov, 1991).

One of the important problems of modern geography in Siberia is to increase the knowledge of natural conditions and resources of unicom water reservoir - the Baikal lake- and adjoining territories. Observations was carried out into the Baikal shore geosystems. Buguldeiski station has a comparatively short history, although it plays an important role in reseach work concerned with the links between natural processes and economic activity, as well as setting up the Pribaikalie national park and other protected territories (Nature management and environment protection in the basin of Baikal, 1990).

Unfortunately, the intricate economic situation in Russia has a negative influence in the development of geographic research. The financial position has led to the closure of a number of stations. The stations at Priangarski taiga, Lenski mountain taiga, Berezowski forest-steppe, Novonikolaevski steppe and Buguldeyski lake, are compelled to work in accordance with a reduced programme due to financial restrictions. Siberian geographers hope that the world community, including IALE, will support unicom stations network, which has the ability to solve important scientific problems in the field of the environment. To assist this task, help is needed in developing contacts with international funds and with private sponsors.

Valerian Snytko, Yuri Semenov, Eugeni Suvorov

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IALE IRELAND

A new regional representative for IALE in Ireland has been announced:

Grace O'Donovan, Plant Science Dept., University College Cork, Ireland, Fax +353 21 27 44 20

CONTRIBUTIONS INVITED

We encourage submission of articles to the Bulletin concerning the activities of landscape ecologists and landscape ecological organization. Topics include announcements of conferences, symposia and workshops, books, society publications, honors, research accomplishments, annual goals and achievements. Remember, that IALE Bulletin from 1995 will be inserted in the Journal Landscape Ecology!

Articles may range from a brief paragraph to approximately 1.5 pages. We encourage you to submit your contribution on E-Mail brandt@ruc.dk or on floppy-disks in any format.

Deadline for the next Bulletin: 15th of March 1995.

BOOKS OF INTEREST**ECOSYSTEM CLASSIFICATION FOR ENVIRONMENTAL MANAGEMENT**

Edited by Frans Klijn

Kluwer Academic Publishers, Dordrecht, 1994

ISBN 0-7923-2917-1

Price: Dfl. 195.00, US\$112.00, £ 76.00

The ecosystem is a central concept in modern ecology and is fundamental to sound environmental policy making. Not all ecosystems are equally susceptible to human-induced environmental change, nor do we attribute equal value to all ecosystem types. From a nature conservation point of view we are concerned about the spatial extension of ecosystems and their quality, as well as about their responsiveness and recovery potential. This requires the classification and mapping of ecosystems.

This book treats the why and how of such classification and mapping as a prerequisite to environmentally sound management aimed at sustainability and the preservation of biodiversity. Existing concepts and procedures are modified for modern applications, including susceptibility assessment, environmental quality assessment and monitoring, as well as predictive modelling for environmental impact assessments. These procedures are illustrated by applying them to current environmental problems, such as acidification, eutrophication, changing land use, or groundwater lowering.

Written by a number of renowned landscape ecologists

from several West European countries, this book discusses a wealth of theories, concepts, and methods from plant ecology, vegetation science, physical geography, and other environmental sciences composed in such a way to constitute practically applicable tools.

For scientists engaged in applied research and professionals in environmental planning. Graduate students will find it inspiring as well as a source of practical advice.

LANDSCAPE PLANNING AND ECOLOGICAL NETWORKS

Ed. by E. A. Cook and H. N. van Lier

1994 368 pages

Elsevier, Amsterdam

ISBN 0-444-82084-1

Price: Dfl. 340.00, US\$ 194,25

Both the description of the background and of the contents of ecological networks are given, as well as many examples of the use of the concept on the local and regional scale. Finally, a specific use of the concept of ecological networks for the national level (The Netherlands) and the International level (EU) is presented.

The volume is valuable to those involved in the actual planning to safeguard and/or restore natural and ecological values in the countryside and in specific green parts of urbanized areas.

DIARY

• Minneapolis, USA 22-26 April 1995 10th annual USIALE meeting: Working a world dominated by humans - theory and practice of landscape ecology. Contact: Nancy E. Grubb, University of Minnesota, 222 Nolte Centre, 315 Pillsbury Drive, Minneapolis MN 55455, Phone: (612) 625-6358

• Cologne, Germany 2-5 May 1995 International Trade Fair and Congress for the Geosciences and Geotechnology. Contact: Geotechnica Congress Agency, P.O.Box 25 02 63, D-50518 Cologne. Phone: 02 21/921 825 25. Fax: 02 21/921 825 4

• Jerusalem, Israel 25-29 June 1995 6th International Conference on Preservation of Our World in the Wake of Change. Contact: Yosef Steinberger, Dept. of life Sciences, Bar-Ilan University, Ramat-Gan 52900 Israel. Phone: (972-3) 5318571 Fax: (972-3) 771088

• Beijing, China 11-15 August 1995 9th International Conference on state of the art in ecological modelling. Contact: Dr.L.Kvang, Inst. of Zoology, 19 Zhongguancun Lu, 100080 Beijing Phone: 86-1-2555612 Fax: 86-1-2565689

• Toulouse, France 27-31 August 1995 IALE Congress 1995: The future of our landscapes. Contact: Henri Decamps, Centre d'Ecologie CNRS, 29 rue Jeanne Marvig, 31055 Toulouse Cédex, France. Fax: +33 62269999

• Reading, UK 19-20 September 1995 The 4th annual UK-IALE meeting will be held on the 19-20th of September 1995 in Reading. The theme will be: Landscape ecology - Theory and Application. Contact: Dr. G.H. Griffiths, Dept. of Geography, University of Reading, Whiteknights, Reading RG6 2AB, UK. Tel. 44-01734-318733 Fax 44-01734-755865.