

# Aerosols of Siberia: information support of the problem

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The paper describes the system of information support of scientific projects on Earth sciences, developed at the State Public Scientific and Technical Library of the Siberian Branch of the Russian Academy of Sciences (Novosibirsk). A brief scientometrics analysis of a document flow on Aerosols of Siberia is presented.

## Introduction

The problem of control over the environmental quality dictates the need of accumulating the information about the dynamics of the environmental state at the regional level. To solve this problem, the system of monitoring of the geosphere has been developed, the results of whose functioning are the arrays of data on individual components of the environment.

The International Geosphere–Biosphere Program and the World Climate Research Program place special emphasis on the study of atmospheric aerosols. In recent years, a breakthrough has been achieved in the study of the physicochemical characteristics of aerosols, their spatiotemporal dynamics, and the role in global changes of the climate and the environment.<sup>1</sup> Consequently, it becomes necessary to systematize the available material, as well as to develop an aerosol monitoring system, document and factual databases and databanks on various aspects of this problem.

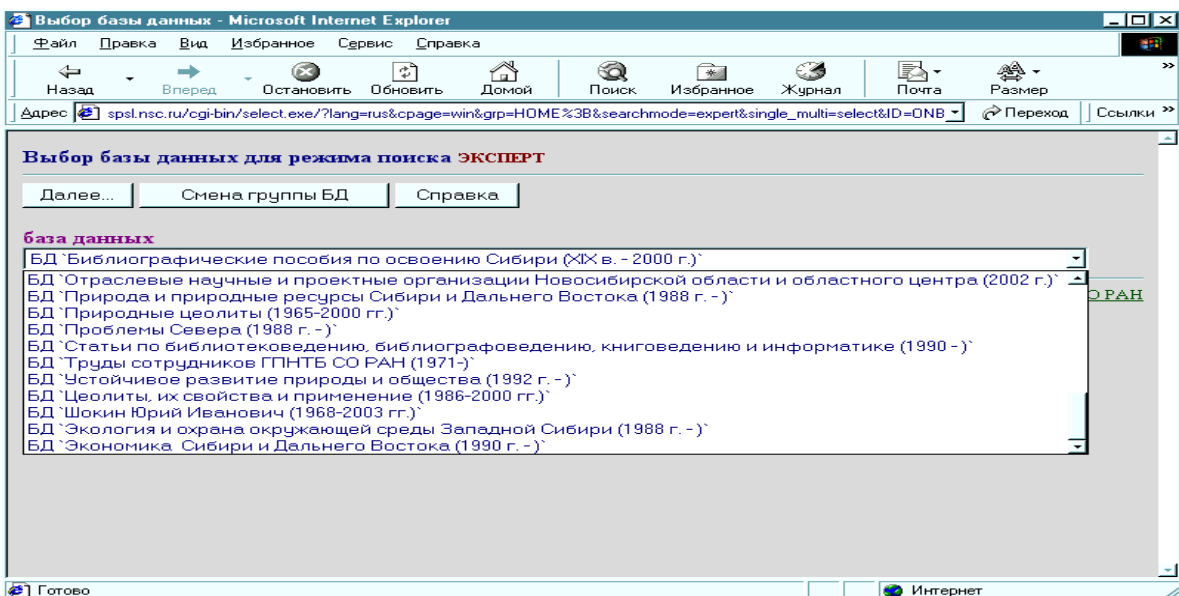
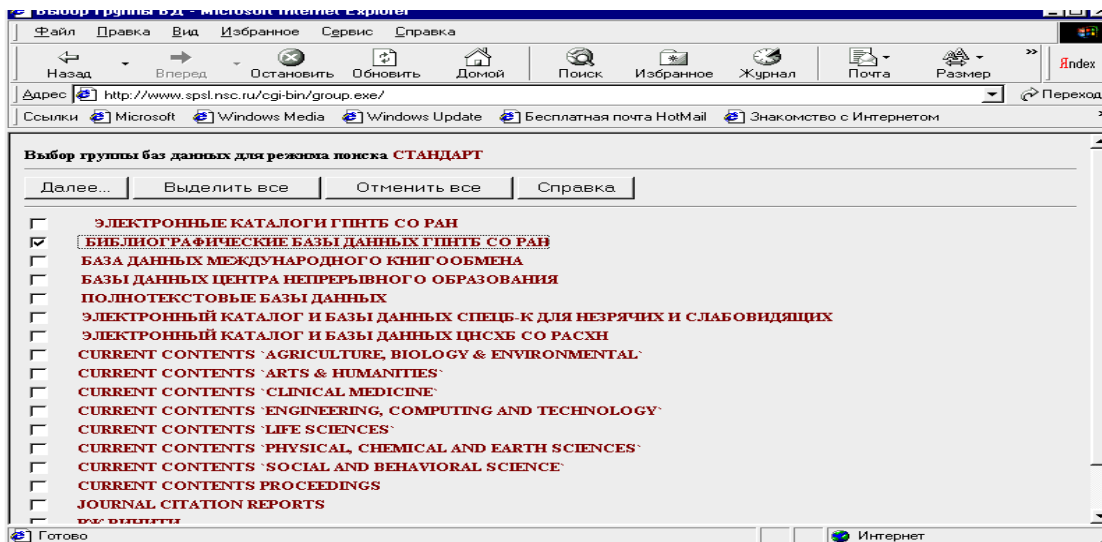
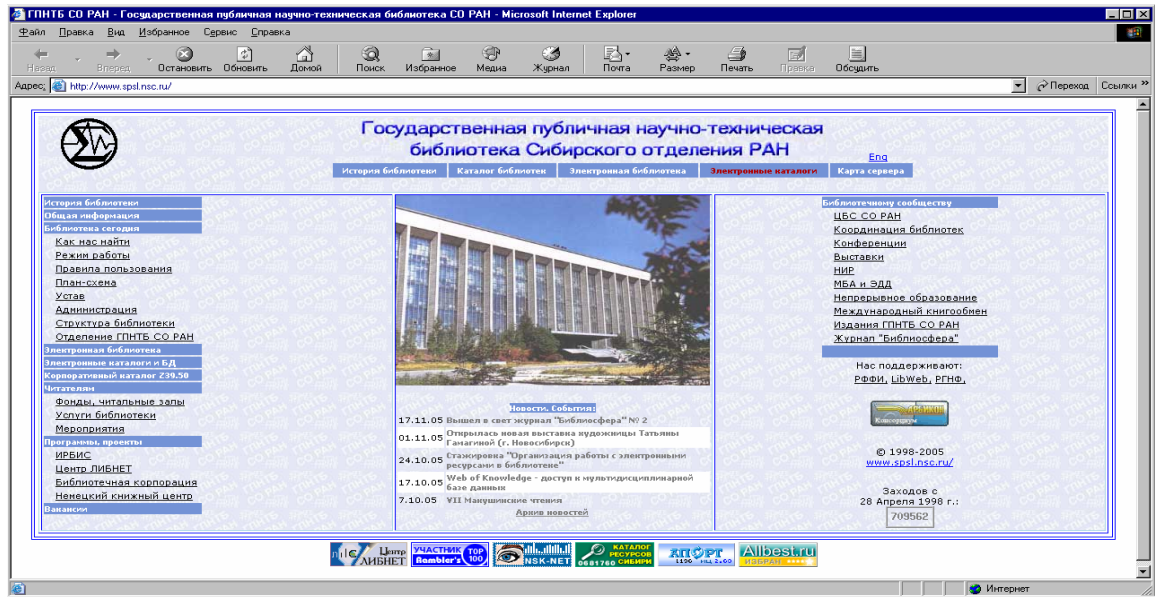
## System for information support of the scientific projects of SPSTL SB RAS

The State Public Scientific and Technical Library of the Siberian Branch of the Russian Academy of Sciences (SPSTL SB RAS) is the biggest informational center of Siberia, which compiles bibliographic databases on the urgent problems of modern times. We have generated the following problem-oriented databases on the cycle of natural sciences<sup>2</sup>: “Nature and Natural Resources of Siberia and Far East, Their Protection and Management,” “Problems of the North,” “Sustainable Development,” “Aquatic Resources of Siberia,” “Environmental Pollution and Protection: Reference and Information-Bibliographic Publications,” “Natural Zeolites,” “Ecology and Protection of Natural Complexes of Western Siberia,” and “Biodiversity of Northern Eurasia.” The problems of pollution, protection, and monitoring of the environment in Siberia are concerned with in our problem-oriented databases

“Nature and Natural Resources of Siberia and Far East, Their Protection and Management,” “Problems of the North,” and “Ecology and Protection of Natural Complexes of Western Siberia,” which include the materials for 1988–2005 (the material on aerosols make up about 700, 400, and 350 documents, respectively, in these databases).

All the bases, compiled by the department of scientific bibliography, are maintained in the IRBIS/Windows system, in which every document included a complete bibliographic description, geographic and subject entries, abstract, translation to foreign publications.<sup>3</sup> The search in the databases can be performed by keywords from the title, abstract, or translation, by authors, editors, year and publisher, geographic or subject entry, language, and type of publication. Whenever necessary, it is possible to join the search fields and to perform the combined search by several parameters simultaneously. The SPSTL SB RAS databases are distinguished from other similar databases, because they include various types of documents. The material in the databases is systematized by subject entries; additional references to other fields of science are included. A feature of the regional SPSTL SB RAS databases is a geographic entry, which includes not only the region of investigation, indicated in a publication, but also the larger unit of the physical-geographic or administrative division, which allows one to find publications for the region of interest.

Today the SPSTL SB RAS databases are a huge information array, including more than 500 000 documents. Since the databases are compiled based on the literature coming to SPSTL SB RAS, any publication can be received through the Interlibrary Exchange Service, which, in recent years, has been providing the electronic delivery of documents to a user. In addition to compilation of the databases, we carry out a selective distribution of information (SDI) by permanent inquires and the scientometrics analysis of document-information flows concerning some problems. The SDI system allows us to deliver the whole databases or database fragments in the traditional or machine-readable form to users via the email address [onb@spsl.nsc.ru](mailto:onb@spsl.nsc.ru).



## Brief scientometrics analysis of the document flow concerning Aerosols of Siberia

The scientometrics, or bibliometrics, analysis assumes the analytical–statistical processing of a problem-oriented database or an information-document array, selected from a larger DB on some subject.<sup>4</sup> Scientometrics investigations are a new information product of survey-analytical character, giving an idea about the temporal, specific, thematic, and language structure of the document-information flow (DIF), reflecting the contribution of individual research teams and scientists to the development of a particular problem, demonstrating the most productive periodic and ponderable monographic publications in that field of science, basic areas of field investigations, and subjects of conferences, symposia, workshops, concerning that subject.

The document-information flow, selected from the “Nature and Natural Resources of Siberia and Far East, Their Protection and Management” DB on the “Aerosols of Siberia” made up about 700 documents in Russian and in English. The tentative analysis of the information flow has shown that the main part of the documents is represented by conference proceedings (51%) and journal papers (40%), doctor’s theses and monographs contribute only about 3.5% to DIF. The most productive periodic journals are *Atmospheric and Oceanic Optics*, *Chemistry for Sustainable Development*, and *Doklady RAN*. Since 1994 the meetings of the “Aerosols of Siberia” Workshop are held, and their proceedings are published regularly. The highest publication activity is observed at the Institute of Atmospheric Optics, Institute of Kinetics and Combustion SB RAS, and Tomsk State University. The geographic analysis of the materials, presented in DIF, has shown that the main area of investigations

is Western Siberia (more than half of documents). On the territory of Eastern Siberia, this problem is developed not so actively (16%). The materials presented in the rest papers do not concern any specific region; they are devoted to the study of this problem either in Siberia or Siberia and Far East as a whole.

## Conclusions

The SPSTL SB RAS, having huge document arrays and modern equipment, can provide for the regular support of regional scientific investigations on a wide range of problems with the selected and systematized information on the subject of interest. The information resources of the department of scientific bibliography, including the current and retrospective bibliography and databases of bibliographic type, allow the compilation of the problem-oriented database (with the subsequent annual completion) and its printed analog for the half-century period on the subject “Aerosols of Siberia.”

The information from the “Nature and Natural Resources of Siberia and Far East, Their Protection and Management” DB is available through the Internet on the web site of the SPSTL SB RAS: [www.spsl.nsc.ru/win/onb.html](http://www.spsl.nsc.ru/win/onb.html).

## References

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