COMPUTER-BASED STORAGE AND RETRIEVAL OF GEOSCIENCE INFORMATION: BIBLIOGRAPHY 1970-72

C. F. BURK, Jr.

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COMPUTER-BASED STORAGE AND RETRIEVAL OF GEOSCIENCE INFORMATION: Bibliography 1970-72

C.F. Burk, Jr.

Prepared for

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COGEODATA, W.W. Hutchison, Chairman

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FOREWORD

The present bibliography is the third compilation prepared for COGEODATA, the I.U.G.S. Committee on Storage, Automatic Processing and Retrieval of Geological Data. Among the tasks of the Committee has been the dissemination of information on the application of computers to storage and retrieval of geoscience data, and Dr. Burk's present contribution to this aim is particularly welcome.

The first bibliography on the subject was compiled by Dr. J. Hruska on the occasion of the 23rd International Geological Congress. The second edition, prepared jointly by Drs. Hruska and Burk, and covering the years 1946-69, is an enlargement of the first. The present compilation further augments this second edition to cover the years 1970-72. It includes relevant papers presented at the 24th International Geological Congress, held in Montreal during August 1972.

For the field of computer-based data storage and retrieval in geology, the year 1946 may be considered as the Archaean. Interest in the technique has grown impressively since these early days, as illustrated by the continuing high rate of publication. In 1972, we may only have advanced to the Proterozoic, but the Cambrian is not far ahead, when the computer will be taken for granted, as is the polarizing microscope, and where a variety of computer-based data files will be used as an integral part of geological research and activity. The present bibliography will hasten the advent of this era, by providing workers with the comprehensive review they need.

Dr. Burk is to be congratulated for his excellent compilation and gratefulness is expressed to the Canadian Centre for Geoscience Data and to the Geological Survey of Canada for their kind offer to publish it.

A. Hubaux,
Chairman, COGEODATA.

Ispra, Italy
11 October 1972

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COMPUTER-BASED STORAGE AND RETRIEVAL OF GEOSCIENCE INFORMATION: BIBLIOGRAPHY 1970-72

INTRODUCTION

The publication of papers describing activity in computer-based storage and retrieval and geoscience information has continued at a vigorous pace since release of the last bibliography, which covered the period 1946-69 (63). A total of 211 references are identified, nearly all of which were published during the three-year period 1970-72 inclusive.

The objectives of the present compilation remain identical to those of the 1946-69 edition (63): Worldwide coverage; identification of papers describing the use of computers and/or computer-readable records for storage and retrieval of information in the solid-earth sciences; and identification of works of direct assistance to this activity. The field of "remote sensing", which has emerged as a major user of computer-based information systems during the past few years, has been largely excluded from this compilation, as have papers in the fields of hydrology and oceanography. A detailed list of those disciplines and topics included are shown in Index 1.

In order to publish the bibliography in an up-to-date form as quickly as possible, two changes in format have been introduced. The papers listed are those *known to the compiler* as of 30 November 1972, and do not purport to include all papers published to the end of 1972. Thus, the ideal of publishing a comprehensive bibliography for a specific interval of time is abandoned. Furthermore, the 211 references listed in the bibliography are not given in alphabetical order by author, as in the previous edition. Nevertheless, author names can be found easily in Index 6.

How to use the Bibliography – In order to identify papers of interest quickly, the user should examine one or more of the six indexes that precede the bibliography:

1. Geoscience discipline and/or topic
2. Information aspect
3. System name and acronym
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5. Organization (origin of work)
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The reference numbers appearing in these indexes identify the papers listed, thus allowing for simple coordinate searches. For example one could identify those papers giving *codes* used in the field of *paleontology,* the development of *national systems* in *Czechoslovakia,* or use of the *GIPSY* system for building *mineral deposits* data files.

Acknowledgments – I am grateful for the continued encouragement and assistance from COGEODATA, particularly two of its members, Drs. A. Hubaux and J. Hruska, in publication of this bibliography. The interest and support of the I.U.G.S. Committee on Geological Documentation, under its Chairman Dr. L. Delbos, is also appreciated. Assistance in translation of titles was kindly provided by Dr. P. Laznicka, and Mrs. Louise Dubois-Rochon.

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