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978-0-521-86810-5 - Metamorphic Rocks: A Classification and Glossary of Terms

Edited by D. Fettes and J. Desmons

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METAMORPHIC ROCKS: A CLASSIFICATION AND GLOSSARY OF TERMS

Recommendations of the International Union of Geological Sciences
Subcommission on the Systematics of Metamorphic Rocks

Many common terms in metamorphic petrology vary in their usage and meaning between countries, and there is a range of specialized rock names that have been applied locally. The International Union of Geological Sciences (IUGS) Subcommission on the Systematics of Metamorphic Rocks (SCMR) has aimed to resolve this position and to present systematic terminology and rock definitions that can be used worldwide. This book is the result of discussion and consultation lasting 20 years and involving hundreds of geoscientists worldwide.

This volume presents a complete nomenclature of metamorphic rocks based on the recommendations of the IUGS Subcommission. Twelve multi-authored sections explain how to derive the correct names for metamorphic rocks and processes, and discuss the rationale and background behind the more important terms. These sections deal with rocks from high- to low- and very low-grade, including amphibolites, granulites and high-pressure rocks, as well as structural terminology, migmatites, metasomatism, contact metamorphism, metacarbonate rocks and impactites. It also gives a comprehensive glossary of definitions, sources and etymology of over 1100 terms, both those recommended by the Subcommission and those considered redundant, and a list of mineral abbreviations. Less common types of metamorphism such as lightning and combustion metamorphism are also covered.

A companion to *Igneous Rocks: A Classification and Glossary of Terms* (Second Edition, Cambridge University Press, 2002), this book will form a key reference and international standard for all geoscientists studying metamorphic rocks.

DOUGLAS FETTES is an Honorary Research Associate at the British Geological Survey, and Chairman of the SCMR. He was the compiler of the UK section of the Metamorphic Map of Europe and has over 40 years' involvement with structural and metamorphic studies.

JACQUELINE DESMONS, a researcher at the French 'Centre National de la Recherche Scientifique', has dedicated most of her career to the Alps and their metamorphism, including the high P/T events, metamorphic maps and reviews.

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Subcommission on the Systematics of Metamorphic Rocks

Editors: D. FETTES and J. DESMONS

Contributing authors: P. Árkai, K. Brodie, I. Bryhni, E. Callegari,
J. Coutinho, E. Davis, J. Desmons, D. Fettes, R. Grieve, B. Harte,
H. Krättner, N. Pertsev, O. Rosen, V. Rusinov, F. Sassi, R. Schmid, S. Sen,
J. Siivola, W. Smulikowski, D. Stöffler, W. Wimmenauer, V. Zharikov



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Contributing authors

- P. ÁRKAI, Institute for Geochemical Research, Hungarian Academy of Sciences, Budapest, Hungary
- K. BRODIE, Department of Earth Sciences, University of Manchester, UK
- I. BRYHNI, Natural History Museum, University of Oslo, Norway
- E. CALLEGARI, Department of Science, Mineralogy and Petrology, University of Torino, Italy
- J. COUTINHO, University of São Paulo, São Paulo, Brazil
- E. DAVIS, Athens University, Greece
- J. DESMONS, CNRS, Nancy, France
- D. FETTES, British Geological Survey, Edinburgh, UK
- R. GRIEVE, Natural Resources Canada, Ottawa, Canada
- B. HARTE, School of Geosciences, University of Edinburgh, UK
- H. KRÄUTNER, LM University, Munich, Germany
- N. PERTSEV, IGEM, Moscow, Russia
- O. ROSEN, Geological Institute, Moscow, Russia
- V. RUSINOV, IGEM, Moscow, Russia
- F. SASSI, Department of Mineralogy and Petrography, University of Padova, Italy
- R. SCHMID, ETH-Centre, Zurich, Switzerland
- S. SEN, Indian Institute of Technology, Kharagpur, India
- J. SHIVOLA, Department of Geology, University of Helsinki, Finland
- W. SMULIKOWSKI, Institute of Geological Sciences, Polish Academy of Sciences, Warsaw, Poland
- D. STÖFFLER, Humboldt-University, Berlin, Germany
- W. WIMMENAUER, Freiburg University, Germany
- V. ZHARIKOV, Moscow State University, Russia

Preface

The Subcommittee on the Systematics of Metamorphic Rocks (SCMR) is a branch of the IUGS Commission on the Systematics in Petrology (CSP). It started operating in 1985, with Rolf Schmid as chairman, succeeded by Douglas Fettes in 2001. The Subcommittee consisted initially of 33 members, distributed in 11 Study Groups devoted to special topics, and a Working Group of more than 100 earth scientists spread worldwide. The Study Groups in addition to Subcommittee members also drew membership from appropriate specialists worldwide. The main consultative work of the Subcommittee was done initially by correspondence and during annual working meetings. Also, questionnaires were sent to members of the Working Group to improve prepared definitions and test international acceptance. The provisional recommendations were published on the SCMR website and critical comment encouraged. The final results were then drawn up and are now presented in printed form. The Subcommittee's work was conducted in English and all its recommendations and definitions are designed only for English language usage. Transposition into other languages may follow.

The SCMR has dealt with all metamorphic rocks. This was taken to include rocks which are quenched melts produced by, or closely associated with metamorphic processes and which are not defined by the Igneous Subcommittee. In addition the SCMR has defined a number of structural terms and processes closely associated with metamorphic systems.

The SCMR also includes the systematics of impactites. Although many impactite products and processes are not strictly metamorphic it was considered expedient to deal with the group as an entity, especially as no part of the subject was being considered elsewhere by the CSP.

Although the SCMR has taken every precaution to present a comprehensive and accurate set of recommendations it is inevitable in such a complex subject that omissions and mistakes will exist. Readers are encouraged to make these known to the editors (c/o Cambridge University Press). Constructive comment on how aspects of the nomenclature scheme might be improved are also welcome. See the SCMR website for updates (www.bgs.ac.uk/SCMR).

Lastly it would be wrong to think that these recommendations, even if they were perfect, would represent the final statement on metamorphic terminology. The science continues to evolve as new discoveries are made and new understandings develop: the terminology has to develop in parallel with these changes and it is hoped that the Subcommittee will continue its work in this regard.

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