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KEY=AND - LEILA DICKERSON

LAVA FLOWS AND DOMES

EMPLACEMENT MECHANISMS AND HAZARD IMPLICATIONS

Springer Science & Business Media **This collection of papers is based on a symposium held in 1987 at the Interna tional Union of Geology and Geodesy Congress in Vancouver, British Colum bia. The Symposium was planned as a follow-up to a session at the 1984 Geo logical Society of America Annual Meeting in Reno, Nevada, which dealt with the emplacement of silicic lava domes. In both cases, emphasis was placed on the physical and mechanical rather than chemical aspects of lava flow. The IUGG Symposium consisted of two lecture sessions, a poster session, and two discussion periods, and had 22 participants. The contributions to this volume are all based on papers presented in the various parts of the Sym posium. The motivation for studying lava flow mechanics is both practical and scientific. Scientists and government agencies seek to more effectively predict the hazards associated with active lavas. Recovering mineral resources found in lava flows and domes also requires an understanding of their emplacement. From a more theoretical standpoint, petrologists view lava studies as a way to directly observe the rheologic consequences of mixing crystals, bubbles, and solid blocks of country rock with silicate liquids. This information can then be used to constrain processes occurring in the concealed conduits, dikes, and chambers that feed flows and domes on the surface.**

LAVA FLOWS AND DOMES

ACTIVE LAVAS

MONITORING AND MODELLING

Taylor & Francis **Originally published in 1993, Active Lavas looks at the practical aspects of monitoring uncontrolled streams of molten rock and how field data can be applied for theoretical modelling and forecasting the growth of lava flows. It describes the basic features of common subaerial lava flows and domes – both on Earth and on other bodies in the Solar System – before discussing the logistics of measuring lava properties during eruption and how these measurements are used to develop simple theoretical models for forecasting flow behaviour.**

REMOTE SENSING OF VOLCANOES AND VOLCANIC PROCESSES

INTEGRATING OBSERVATION AND MODELLING

Geological Society of London **This volume focuses on how advances in both remote sensing and modelling can be brought together to improve our understanding of the behaviour of active volcanoes. It includes review papers, papers reporting technical advances and case studies showing how the integration of remote-sensing observations with models can be put to good use.**

THE ENCYCLOPEDIA OF VOLCANOES

Elsevier **Volcanoes are unquestionably one of the most spectacular and awe-inspiring features of the physical world. Our paradoxical fascination with them stems from their majestic beauty and powerful, sometimes deadly, destructiveness. Notwithstanding the tremendous advances in volcanology since ancient times, some of the mystery surrounding volcanic eruptions remains today. The Encyclopedia of Volcanoes summarizes our present knowledge of volcanoes; it provides a comprehensive source of information on the causes of volcanic eruptions and both the destructive and beneficial effects. The early chapters focus on the science of volcanism (melting of source rocks, ascent of magma, eruption processes, extraterrestrial volcanism, etc.). Later chapters discuss human interface with volcanoes, including the history of volcanology, geothermal energy resources, interaction with the oceans and atmosphere, health aspects of volcanism, mitigation of volcanic disasters, post-eruption ecology, and the impact of eruptions on organismal biodiversity. Provides the only comprehensive reference work to cover all aspects of volcanology Written by nearly 100 world experts in volcanology Explores an integrated transition from the physical process of eruptions through hazards and risk, to the social face of volcanism, with an emphasis on how volcanoes have influenced and shaped society Presents hundreds of color photographs, maps, charts and illustrations making this an aesthetically appealing reference Glossary of 3,000 key terms with definitions of all key vocabulary items in the field is included**

U.S. GEOLOGICAL SURVEY PROFESSIONAL PAPER

LUNAR DOMES

PROPERTIES AND FORMATION PROCESSES

Springer Science & Business Media **Lunar domes are structures of volcanic origin which are usually difficult to observe due to their low heights. The Lunar Domes Handbook is a reference work on these elusive features. It provides a collection of images for a large number of lunar domes, including telescopic images acquired with advanced but still moderately intricate amateur equipment as well as recent orbital spacecraft images. Different methods for determining the morphometric properties of lunar domes (diameter, height, flank slope, edifice volume) from image data or orbital topographic data are discussed. Additionally, multispectral and hyperspectral image data are examined, providing insights into the composition of the dome material. Several classification schemes for lunar domes are described, including an approach based on the determined morphometric quantities and spectral analyses. Furthermore, the book provides a description of geophysical models of lunar domes, which yield information about the properties of the lava from which they formed and the depth of the magma source regions below the lunar surface.**

EPSL FRONTIERS

COLLECTION 2002-2003

Elsevier **A new section of short reviews called 'Frontiers' was introduced within the Elsevier journal Earth and Planetary Science Letters (EPSL) in 2002 under the Editorship of Alex Halliday from ETH Zurich, Switzerland. These high profile Frontiers articles are written by leading experts and published as the opening pages to regular issues of EPSL. The reason for this development is that the Editors of EPSL believe there is an important niche to be filled with fast communications that bring the scientific community up-to-speed on interesting new areas of science. Frontiers articles are therefore specifically intended for the non-specialist earth and planetary science readership. In order to reach a broader readership, those without subscriptions to the journal, Frontiers articles will now also be published in a new book series, the EPSL Frontiers series. Volume 1 will contain all 2002 and 2003 Frontiers articles. Future volumes will contain one year of articles each.**

BIOMEDICAL EFFECTS OF VOLCANOES

JANUARY 1980 THROUGH SEPTEMBER 1991 : 697 CITATIONS

U.S. GEOLOGICAL SURVEY BULLETIN

U.S. GEOLOGICAL SURVEY BULLETIN

STATISTICS IN VOLCANOLOGY

Geological Society of London **Statistics in Volcanology is a comprehensive guide to modern statistical methods applied in volcanology written by today's leading authorities. The volume aims to show how the statistical analysis of complex volcanological data sets, including time series, and numerical models of volcanic processes can improve our ability to forecast volcanic eruptions. Specific topics include the use of expert elicitation and Bayesian methods in eruption forecasting, statistical models of temporal and spatial patterns of volcanic activity, analysis of time series in volcano seismology, probabilistic hazard assessment, and assessment of numerical models using robust statistical methods. Also provided are comprehensive overviews of volcanic phenomena, and a full glossary of both volcanological and statistical terms. Statistics in Volcanology is essential reading for advanced undergraduates, graduate students, and research scientists interested in this multidisciplinary field.**

NEW PUBLICATIONS OF THE GEOLOGICAL SURVEY

VOLCANOLOGY

Jones & Bartlett Learning **Physical Sciences**

HYDROLOGIC CONSEQUENCES OF HOT-ROCK/SNOWPACK INTERACTIONS AT MOUNT ST. HELENS VOLCANO, WASHINGTON, 1982-84

CURRENT BIBLIOGRAPHIES IN MEDICINE

GEOMORPHOLOGICAL FLUID MECHANICS

Springer **Geomorphology deals with some of the most striking patterns of nature. From mountain ranges and mid-ocean ridges to river networks and sand dunes, there is a whole family of forms, structures, and shapes that demand rationalization as well as mathematical description. In the various chapters of this volume, many of these patterns are explored and discussed, and attempts are made to both unravel the reasons for their very existence and to describe their dynamics in quantitative terms. Particular focus is placed on lava and mud flows, ice and snow dynamics, river and coastal morphodynamics and landscape formation. Combining a pedagogical approach with up-to-date reviews of forefront research, this volume will serve both postgraduate students and lecturers in search of advanced textbook material, and experienced researchers wishing to get acquainted with the various physical and mathematical approaches in a range of closely related research fields.**

NEW PUBLICATIONS OF THE U.S. GEOLOGICAL SURVEY

UNDERSTANDING OPEN-VENT VOLCANISM AND RELATED HAZARDS

Geological Society of America **Special Paper 498 contains 12 new scientific papers, assembled as part of an NSF-sponsored workshop in 2011. The work highlights study of persistently active volcanoes and their hazards, mostly in Central America. Such volcanoes are termed "open vents" by volcanologists, and they offer the chance to study active processes. Insight into how volcanoes work and how hazards might be mitigated are the goals of the work. Overall, the volume presents insight into hazards infrastructure collaborations and development for geoscientists and students.**

HANDBOOK OF ENVIRONMENTAL FLUID DYNAMICS, TWO-VOLUME SET

CRC Press **With major implications for applied physics, engineering, and the natural and social sciences, the rapidly growing area of environmental fluid dynamics focuses on the interactions of human activities, environment, and fluid motion. A landmark for the field, this two-volume Handbook of Environmental Fluid Dynamics presents the basic principles, fund**

PARALLEL PROCESSING AND APPLIED MATHEMATICS, PART II

8TH INTERNATIONAL CONFERENCE, PPAM 2009, WROCLAW, POLAND, SEPTEMBER 13-16, 2009, PROCEEDINGS

Springer **Annotation This book constitutes the proceedings of the 8th International Conference on Parallel Processing and Applied Mathematics, PPAM 2009, held in Wroclaw, Poland, in September 2009.**

3D COMPUTER VISION

EFFICIENT METHODS AND APPLICATIONS

Springer Science & Business Media **This work provides an introduction to the foundations of three-dimensional c- puter vision and describes recent contributions to the ?eld, which are of methodical and application-speci?c nature. Each chapter of this work provides an extensive overview of the corresponding state of the art, into which a detailed description of new methods or evaluation results in application-speci?c systems is embedded. Geometric approaches to three-dimensional scene reconstruction (cf. Chapter 1) are primarily based on the concept of bundle adjustment, which has been developed more than 100 years ago in the domain of photogrammetry. The three-dimensional scene structure and the intrinsic and extrinsic camera parameters are determined such that the Euclidean backprojection error in the image plane is minimised, u- ally relying on a nonlinear optimisation procedure. In the ?eld of computer vision, an alternative framework based on projective geometry has emerged during the last two decades, which allows to use linear algebra techniques for three-dimensional scene reconstructionand camera calibration purposes. With special emphasis on the problems of stereo image analysis and camera calibration, these fairly different - proaches are related to each other in the presented work, and their advantages and drawbacks are stated. In this context, various state-of-the-artcamera calibration and self-calibration methods as well as recent contributions towards automated camera calibration systems are described. An overview of classical and new feature-based, correlation-based, dense, and spatio-temporal methods for establishing point c- respondences between pairs of stereo images is given.**

CHARACTERISTICS OF HAWAIIAN VOLCANOES

Government Printing Office **Characteristics of Hawaiian Volcanoes establishes a benchmark for the currrent understanding of volcanism in Hawaii, and the articles herein build upon the elegant and pioneering work of Dutton, Jagger, Steams, and many other USGS and academic scientists. Each chapter synthesizes the lessons learned about a specific aspect of volcanism in Hawaii, based largely o continuous observation of eruptive activity and on systematic research into volcanic and earthquake processes during HVO's first 100 years. NOTE: NO FURTHER DISCOUNTS FOR ALREADY REDUCED SALE ITEMS.**

ENVIRONMENTAL GEOLOGY WORKBOOK

Waveland Press **Environmental geologists use a wide range of geologic data to solve environmental problems and conflicts. Professionals and academics in this field need to know how to gather information on such diverse conditions as soil type, rock structure, and groundwater flow and then utilize it to understand geological site conditions. Field surveys, maps, well logs, bore holes, ground-penetrating radar, aerial photos, geologic literature, and more help to reveal potential natural hazards in an area or how to remediate contaminated sites. This new workbook presents accessible activities designed to highlight key concepts in environmental geology and give students an idea of what they need to know to join the workforce as an environmental geologist, engineering geologist, geological engineer, or geotechnical engineer. Exercises cover: • Preparation, data collection, and data analysis • Descriptive and engineering properties of earth materials • Basic tools used in conjunction with geoenvironmental investigations • Forces operating on earth materials within the earth • Inanimate forces operating on earth materials at the surface of the earth • Human activities operating on earth materials Each activity encourages students to think critically and develop deeper knowledge of environmental geology.**

PROCESSES ON THE EARLY EARTH

Geological Society of America **"This Special Paper presents a collection of 19 papers contributed to a joint Field Forum organized by the Geological Society of America and the Geological Society of South Africa in July 2004 in the Barberton Greenstone Belt and the Vredefort Dome, South Africa. The papers cover a wide variety of themes, including Archean and Proterozoic crust formation and geodynamics (with an appraisal of evidence of Archean subduction processes); the significance of impacts in the evolution of the early Earth's crust; traces of early life in Archean environments of Australia and South Africa and related studies of depositional environments; and processes affecting the giant Witwatersrand gold deposit."--Publisher's website.**

THE WEB OF GEOLOGICAL SCIENCES

ADVANCES, IMPACTS, AND INTERACTIONS

Geological Society of America **"This volume covers many of the important advances in the geological sciences from 1963 to 2013. These advances include understanding plate tectonics, exploration of the Moon and Mars, development of new computing and analytical technologies, understanding of the role of microbiology in geologic processes, and many others"--Provided by publisher.**

NEOGENE-QUATERNARY CONTINENTAL MARGIN VOLCANISM

A PERSPECTIVE FROM MÉXICO

Geological Society of America

SIMULATION AND MODELING METHODOLOGIES, TECHNOLOGIES AND APPLICATIONS

INTERNATIONAL CONFERENCE, SIMULTECH 2011 NOORDWIJKERHOUT, THE NETHERLANDS, JULY 29-31, 2011 REVISED SELECTED PAPERS

Springer Science & Business Media **The present book includes extended and revised versions of a set of selected papers from the 1st International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH 2011) which was sponsored by the Institute for Systems and Technologies of Information, Control and**

Communication (INSTICC) and held in Noordwijkerhout, The Netherlands. SIMULTECH 2011 was technically co-sponsored by the Society for Modeling & Simulation International (SCS), GDR I3, Lionphant Simulation and Simulation Team and held in cooperation with ACM Special Interest Group on Simulation and Modeling (ACM SIGSIM) and the AIS Special Interest Group of Modeling and Simulation (AIS SIGMAS).

PLATES, PLUMES, AND PLANETARY PROCESSES

Geological Society of America **Presents a collection of papers discussing various hypotheses and models of planetary plumes.**

ANNALES GEOPHYSICAE

VOLCANIC HAZARDS

ASSESSMENT AND MONITORING

Springer Science & Business Media **The contributions in this book were presented, orally or as posters, at the International Volcanological Congress held in New Zealand from 1 to 9 February 1986, the centenary year of the Tarawera eruption of 10 June 1886. More than 500 people, from 29 countries, attend ed the Congress. Most of these works formed part of Symposium 4, "Volcanic Hazards - Prediction and Assess ment", convened by J.H. Latter, R.R. Dibble, D.A. Swanson and C.G. Newhall. The collection represents over half of the published abstracts of Symposium 4, together with three papers given at the Symposium, which lacked abstracts, and two which were part of Symposium 1 on pyroclastic flow deposits. The contribu tions cover a good proportion of the volcanically active parts of the world, with Italy, Japan, the West Indies and the USA especially well represented. Mount Erebus, Vulcano and Rabaul are individual volcanoes which have been treated in particular detail. Unfor tunately, there are no chapters in the book dealing with Africa, the Atlantic islands (except Iceland), Hawaii, Central America (except Mexico), or South America (in spite of the major disaster at Nevado del Ruiz Volcano in 1985).**

BIBLIOGRAPHY AND INDEX OF GEOLOGY

HANDBOOK OF ENVIRONMENTAL FLUID DYNAMICS, VOLUME ONE

OVERVIEW AND FUNDAMENTALS

CRC Press **With major implications for applied physics, engineering, and the natural and social sciences, the rapidly growing area of environmental fluid dynamics focuses on the interactions of human activities, environment, and fluid motion. A landmark for the field, the two-volume Handbook of Environmental Fluid Dynamics presents the basic principles, funda**

VOLCANIC DEBRIS AVALANCHES

FROM COLLAPSE TO HAZARD

Springer Nature **This book presents an overview of volcanic debris avalanche deposits, which are produced by partial volcanic edifice collapse, a catastrophic natural phenomenon. It has been 40 years since the volcanic debris avalanche associated with the 1980 eruption of Mount St. Helens, and our understanding of these events has grown considerably in the interim. Drawing on these advances, the book addresses all aspects of volcanic debris avalanches. Though previously overlooked in field-based geological and volcanological studies, these deposits are now known to be associated with most volcanoes and volcanic areas around the world. The book presents state-of-the-art ideas on the triggering and emplacement mechanisms of these events, supported by field and analogue studies, as well as new simulations tools and models used to determine their physical characteristic and hazards.**

EPSL FRONTIERS

THE GEOLOGY OF WASHINGTON AND BEYOND

FROM LAURENTIA TO CASCADIA

University of Washington Press **The 20 chapters of The Geology of Washington and Beyond—an outgrowth of a geologic symposium—present the substantial advances in recent research on the geologic history of Washington State. The 32 contributors used new conceptual developments such as sequence stratigraphy, identification and matching of terranes, and neotechtonics, as well as breakthroughs in technology such as lidar mapping, paleomagnetism, and new methods of radiometric dating, to examine the fascinating geology of Washington State and beyond. Also included is geologic mapping in areas previously known only by reconnaissance. This book will influence resource management decisions, as well as disaster and land-use planning in the region. The introductory chapters make the book accessible for undergraduate courses in geology and to the general public.**

MINERALS, INCLUSIONS AND VOLCANIC PROCESSES

Walter de Gruyter GmbH & Co KG **Volume 69 of Reviews in Mineralogy and Geochemistry covers the fundamental issues of volcanology: At what depths are eruptions triggered, and over what time scales? Where and why do magmas coalesce before ascent? If magmas stagnate for thousands of years, what forces are responsible for initiating final ascent, or the degassing processes that accelerate upward motion? To the extent that we can answer these questions, we move towards formulating tests of mechanistic models of volcanic eruptions (e.g., Wilson, 1980; Slezin, 2003; Scandone et al., 2007), and hypotheses of the tectonic controls on magma transport (e.g., ten Brink and Brocher, 1987; Takada, 1994; Putirka and Busby, 2007). Our goal, in part, is to review how minerals can be used to understand volcanic systems and the processes that shape them; we also hope that this work will spur new and integrated studies of volcanic systems.**

FIELD DATA, MODELS AND UNCERTAINTY IN HAZARD ASSESSMENT OF PYROCLASTIC DENSITY CURRENTS AND LAHARS: GLOBAL PERSPECTIVES

Frontiers Media SA

GEOMORPHOLOGY

A SYSTEMATIC ANALYSIS OF LATE CENOZOIC LANDFORMS

Waveland PressInc **A systematic analysis of landforms of the late Cenzoic Era that fully covers the constructional processes of tectonism and volcanism and the erosional processes of weathering, flurial erosion, glaciers, winds, and waves. It explains each set of processes and the resulting landforms in a separate chapter to provide a comprehensive, nonmathematical overview of the subject. Coverage of rock weathering includes more discussion of soils, soil formation, and soils chronosequences, which tell about the evolution of the present landscape. A chapter on The Last Glacial-Interglacial Cycle,¿ stresses the intensity of change during and since the last ice age when human civilization has risen, and appeals to readers to understand change as a normal factor of life on Earth.**

BIBLIOGRAPHY AND INDEX OF THE GEOLOGY AND MINERAL RESOURCES OF WASHINGTON