

GEOMODELS IN ENGINEERING GEOLOGY - AN INTRODUCTION

Peter Fookes, Geoff Pettifer and Tony Waltham



VISUAL GUIDE TO VARIED GEOLOGICAL AND GEOMORPHOLOGICAL SITUATIONS

PROFUSELY ILLUSTRATED WITH OVER 400 PHOTOGRAPHS AND DIAGRAMS

THE IDEAL FIRST STEP TO GAIN AN OVERVIEW OF A SITE FOR INVESTIGATION

Ground conditions depend on the climatic, geological and geomorphological history of the site and its surrounding area. In ground investigation and ground engineering, design and construction, a preliminary study is therefore required of the local environment (including climate), the landforms and the geomorphological processes creating and modifying the local landscape, as well as accurate detailed knowledge of the soils and geology, their distribution, properties and engineering behaviour gained through the investigation.

Geomodels in Engineering Geology outlines the world's climatic and morphological zones and the changes that such environments make on the ground. It deals with fundamental aspects of surface soils and geology in relation to their engineering behaviour and guides the way in which ground investigation can be developed with the aid of ground models to provide appropriate information needed for design and construction of a project.

The book thus provides instant access to a store of information for engineering geologists/geomorphologists and geotechnical/ground engineers, whether as an aide mémoire for experienced professionals in a new or novel location, or as a basic guide for those learning about or starting in the profession. It does this through a series of annotated block models and supporting photographs of common geological and geomorphological situations around the world, with basic explanations and tables for each principal block model – augmented by case histories and experience of practical problems.

'...the photographs and block geomodels bring [the subject] to life in a new and fresh way. ... this book will provide an invaluable insight into the art of unravelling the complexities of the ground.'

from the Foreword by Professor John Burland, CBE, FRS, FREng Imperial College London

Contents: Introduction. Part 1: Underlying Factors – Climate and Geology. Part 2: Near-surface Ground Changes. Part 3: Basic Geological Environments for Engineering. Part 4: Ground investigation (GI). Part 5: Case Histories and Some Basic Ground Characteristics and Properties. Appendix: Geotechnical Problems Associated with Different Types of Engineering Soils. References. Bibliography. Index

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