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**Intermediate Statistics
for
Geographers and Earth Scientists**

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University of Sussex
Brighton

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MACMILLAN

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Preface

The present work is offered as a companion to "Introduction to Statistics", which was published in 1984. It explains more advanced statistical techniques than its predecessor, including analysis of variance, curvilinear and multiple regression, and covariance analysis. Numerous worked examples are provided which are drawn from the fields of geography, planning and the earth sciences. The final chapter discusses some of the more controversial aspects of statistics, in particular the logic of significance testing.

Although this book is a continuation of "Introduction to Statistics", it can be read quite independently by anyone with a knowledge of the basic techniques of statistics. The text was originally developed as background reading for a course at the University of Sussex, and has been much modified as a result of experience of teaching the subject. Only a limited knowledge of mathematics is required. It is hoped that the book will be found useful for both class teaching and private study.

I should like to acknowledge my indebtedness to the many friends who have given advice and help, in particular my colleagues, Dr. D.C. Funnell, Dr. T.J. Browne, and Mr. M.F. Dunford. Miss Susan Rowland has provided invaluable assistance turning my crude drawings into finished diagrams. My special thanks are due to my wife, Elizabeth, who has been a constant source of help and encouragement. She has had to live with the writing of this book for far too long.

I am most grateful to readers of "Introduction to Statistics" who have written to me with suggestions and corrections. I hope that readers of the present book will also call my attention to any errors and imperfections that they note.

Software programs that implement many of the statistical techniques discussed in this book are available on disc for the BBC microcomputer. These programs are written in BASIC and are fully listable. In contrast to this book, the emphasis of the programs is on carrying out calculations rather than explaining the techniques. The programs assume that users are sufficiently familiar with the techniques to decide which ones are appropriate for analysing their particular data sets, and also are knowledgeable enough to interpret the results of the analyses. All the programs have been tested and run successfully on a wide range of research data.

University of Sussex

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SPECIAL NOTE

The pagination follows on from "Introduction to Statistics", as does the chapter numbering. The series of statistical tables is also continued with Tables N to R. Table G from the earlier book is included because it is much needed for analysis of variance. The other tables have not been repeated owing to limitations of space.