

This handbook has been based largely on guidance provided by the World Meteorological Organization (WMO). In particular, much use has been made of the WMO *Guide to meteorological instrument and observing practices*,^{1*} and the *International cloud atlas*, Volume I.²

It is assumed in the body of the book that the observer is at a station which has been properly sited and equipped on the scale appropriate to its type and that it is in full working order. Chapter 1 accordingly begins with a brief summary of the observing procedure at each type of station and gives some general notes on observing. The following chapters are devoted to the details of each type of observation. Reference is made to the use and maintenance of instruments where necessary in describing observational techniques. Although many of the instruments described in the previous edition of this handbook are now obsolescent much of the information concerning them has been retained since they are still in use by some observers. Brief mention is also given of some new models and of new types of instruments. For more complete advice on instruments the reader is referred to the *Handbook of meteorological instruments*, Part I,³ and to the special 'Instrument Instructions' which accompany each instrument on initial issue by the Meteorological Office. The main text is followed by five appendices one of which gives directions for the selection of the site and for other matters which must receive attention when the station is being set up, and therefore it is only occasionally necessary to refer to questions of exposure in the body of the book.

The metric system of units is becoming generally accepted in this country and it is used in this edition whenever practicable. For a time, however, English units are likely to remain in use for some purposes, notably for reporting wind speed and cloud height; the relevant units, knots and feet, are therefore retained and metric equivalents are added where considered significantly informative.

Except where otherwise indicated, all times refer to Greenwich Mean Time (GMT) and are specified in the 24-hour system beginning at 0000. To emphasize the distinction between GMT and time by public clocks, the a.m. and p.m. system is used when reference is made to clock time. Adequate explanations accompany the few references made to other time standards, namely local zone time and local apparent time.