

PART IV

APPLICATIONS OF EXTREME VALUE THEORY

A substantial section of this volume has been directed towards showing that the classical theory of extremes still applies, under specified general assumptions, to a wide variety of dependent sequences and continuous parameter processes. It is tempting, by way of applications, to give examples which simply demonstrate how the classical extremal distributions do apply to such dependent situations. We have done this only to a limited extent, for two reasons. First, the literature abounds with applications of the classical theory, and many of these are really *dependent* cases although assumed independent. More importantly, however, we feel that each potential application should be understood as well as possible in terms of its underlying physical principles so that extremal theory may be thoughtfully applied in the light of such principles, rather than by routine “trial and error” fitting.

Our approach in this part is therefore to primarily include applications which we feel do profit from a discussion of such underlying principles, occasionally involving modest extensions to the general theory, and to point out where difficulties may occur. For a more extensive compilation of the fitting of extremal distributions, under classical assumptions, we refer to the literature, e.g. Gumbel (1958); Harter (1978) contains a comprehensive listing of references.