Wangara wind profiles showing log-layer

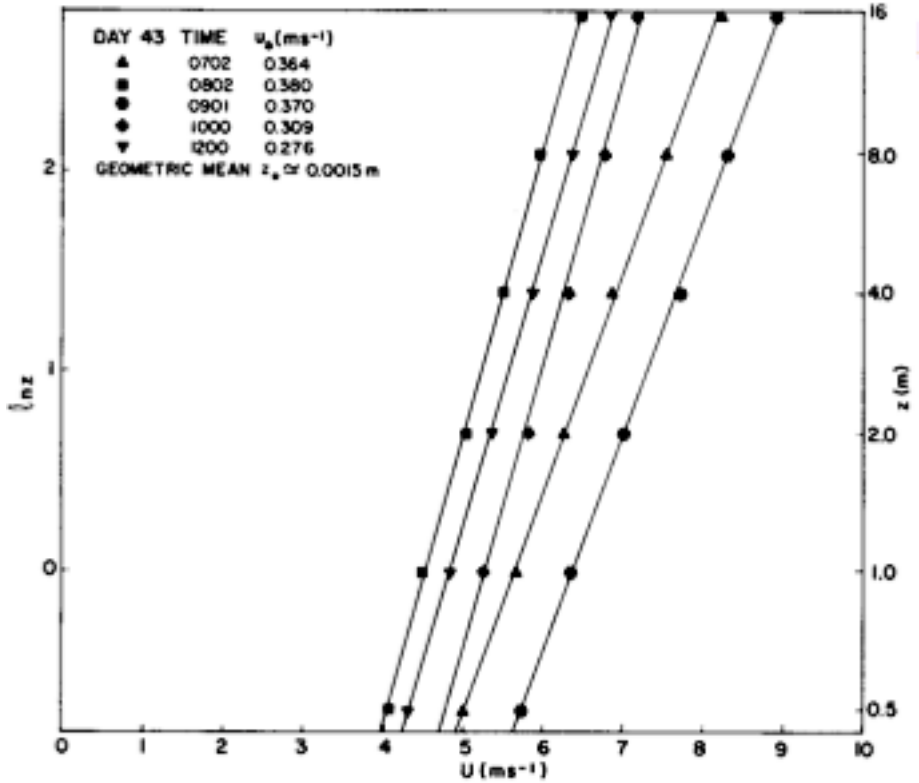


Fig. 10.4 Comparison of the observed wind profiles in the neutral surface layer of day 43 of the Wangara Experiment with the log law [Eq. (10.6)] (solid lines). [Data from Clarke *et al.* (1971).]

Roughness length vs. element density

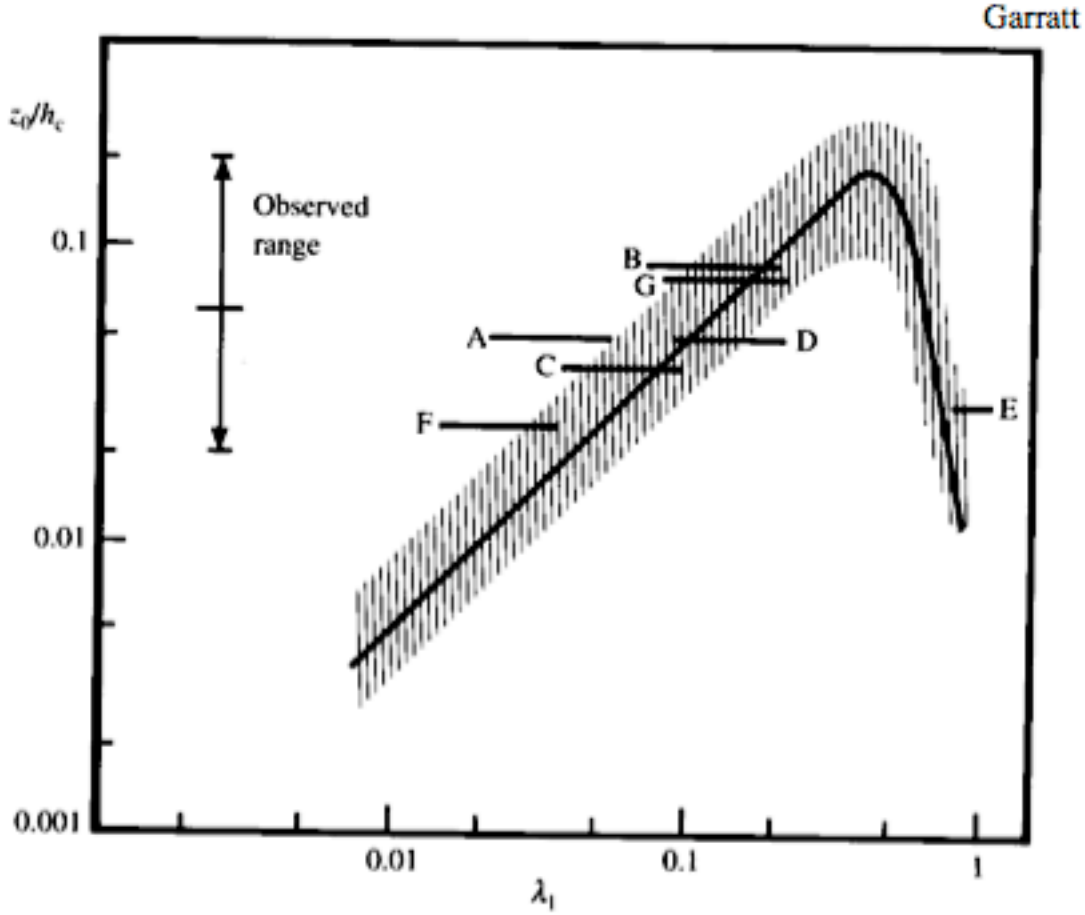


Fig. 4.1 Variation of z_0/h_c with element density, based on the results of Kutzbach (1961), Lettau (1969) and Wooding *et al.* (1973), represented by the shaded area and solid curve. Some specific atmospheric data are also shown as follows: A and B, trees; C and D, wheat; E, pine forest; F, parallel flow in a vineyard; G, normal flow in a vineyard. Analogous wind-tunnel data are described in Seginer (1974). From Garratt (1977b).

Roughness lengths

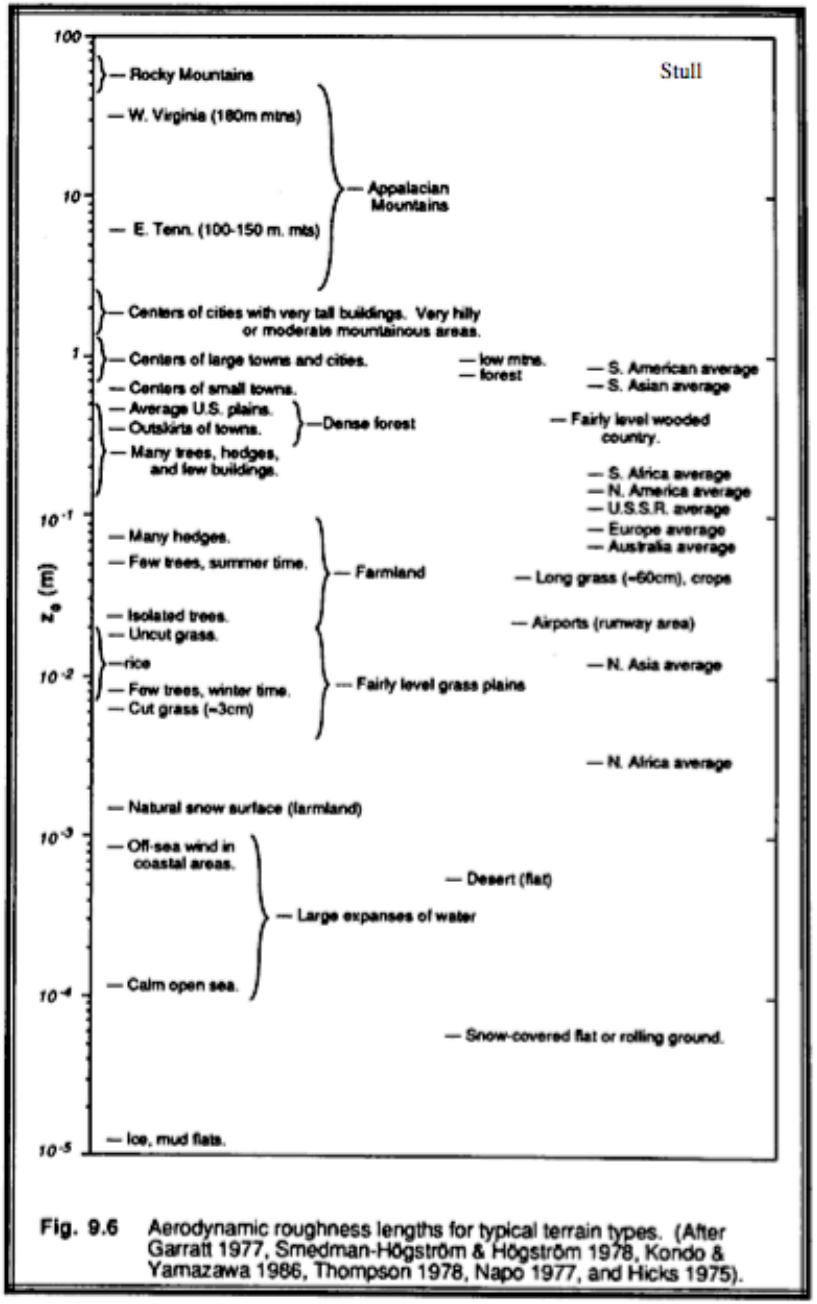


Fig. 9.6 Aerodynamic roughness lengths for typical terrain types. (After Garratt 1977, Smedman-Högström & Högström 1978, Kondo & Yamazawa 1986, Thompson 1978, Napo 1977, and Hicks 1975).

Neutral drag coefficient C_{DN} over ocean

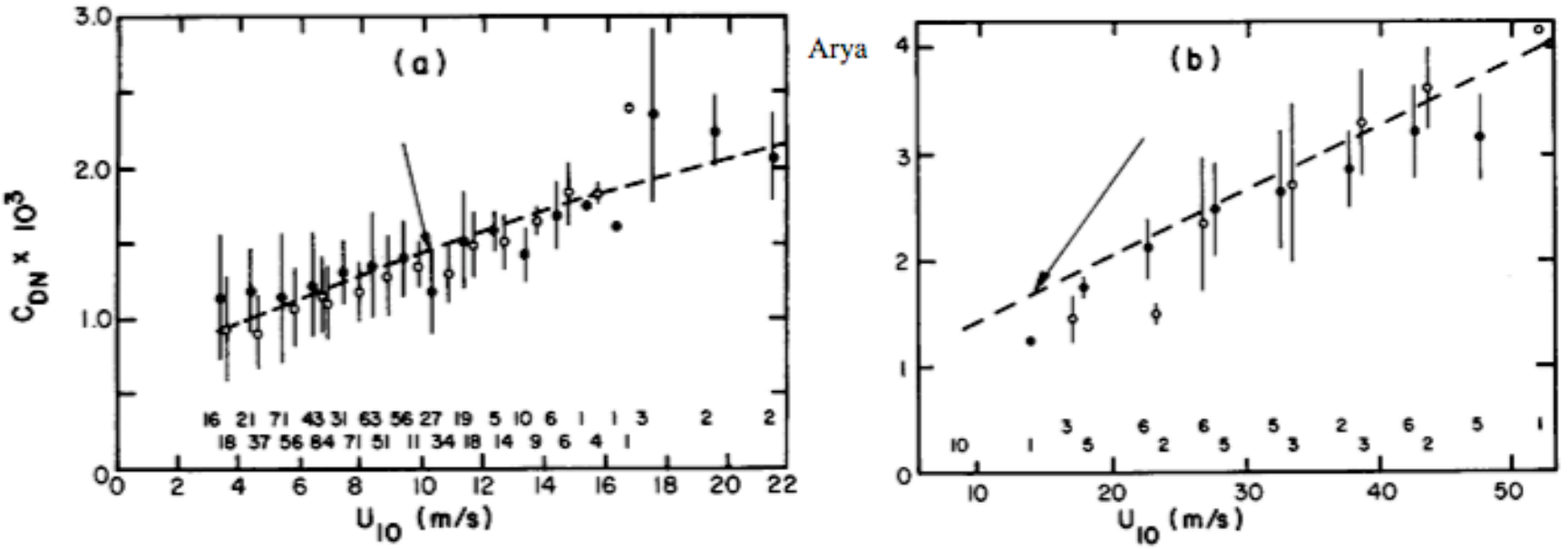
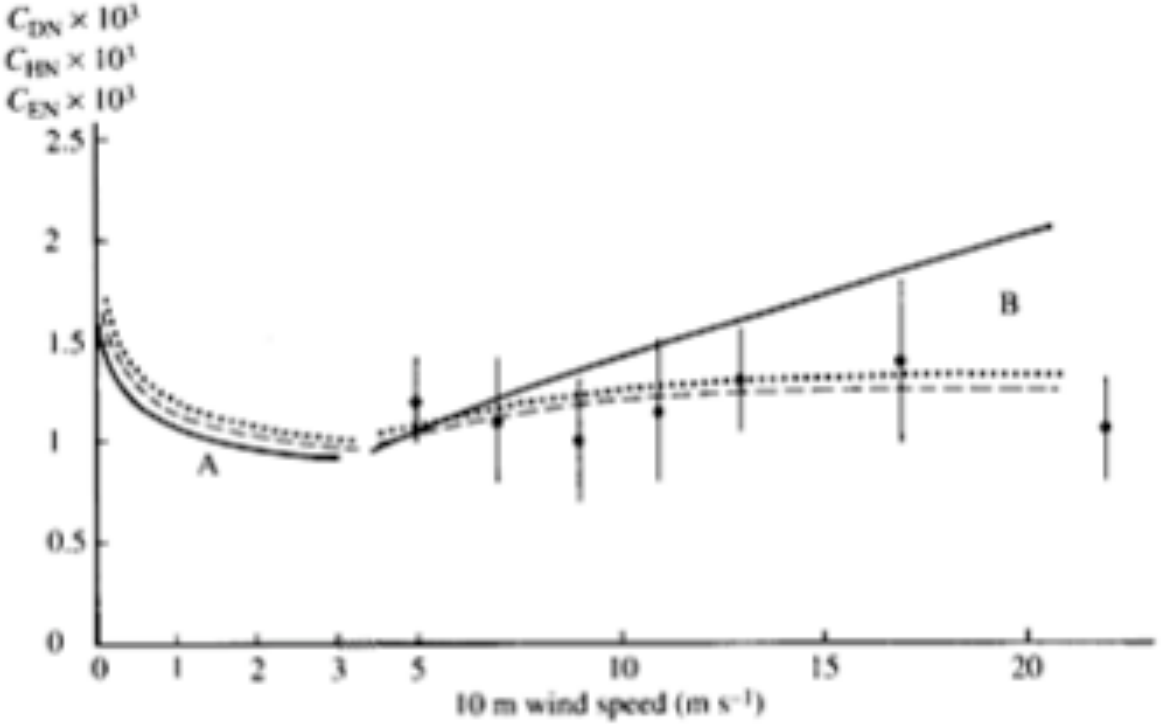


Fig. 13.4 Neutral drag coefficient as a function of wind speed at a 10-m height compared with Charnock's formula [Eq. (13.5), indicated by the arrows in (a) and (b)] with $a = 0.0144$. Block-averaged values are shown for (a) 1-m sec^{-1} intervals, based on eddy correlation and profile methods, and (b) 5-m sec^{-1} intervals, based on geostrophic departure method and wind flume simulation experiments. [After Garratt (1977).]

Heat transfer over the ocean



Garratt

Fig. 4.9 Drag coefficient C_{DN}, heat transfer coefficient C_{HN} and water vapour transfer coefficient C_{EN} as functions of the 10 m wind speed. Curves A are for smooth flow: solid curve C_{DN} (Eq. 4.22); pecked curve, C_{HN} (Eqs. 4.10 and 4.26a); dotted curve, C_{EN} (Eqs. 4.11 and 4.26b). Curves B are for rough flow: solid curve, C_{DN} (Eq. 4.23); pecked curve, C_{HN} (Eqs. 4.10 and 4.27); dotted curve, C_{EN} (Eqs. 4.11 and 4.28). Observational data are from Large and Pond (1982).

Moisture flux over ocean

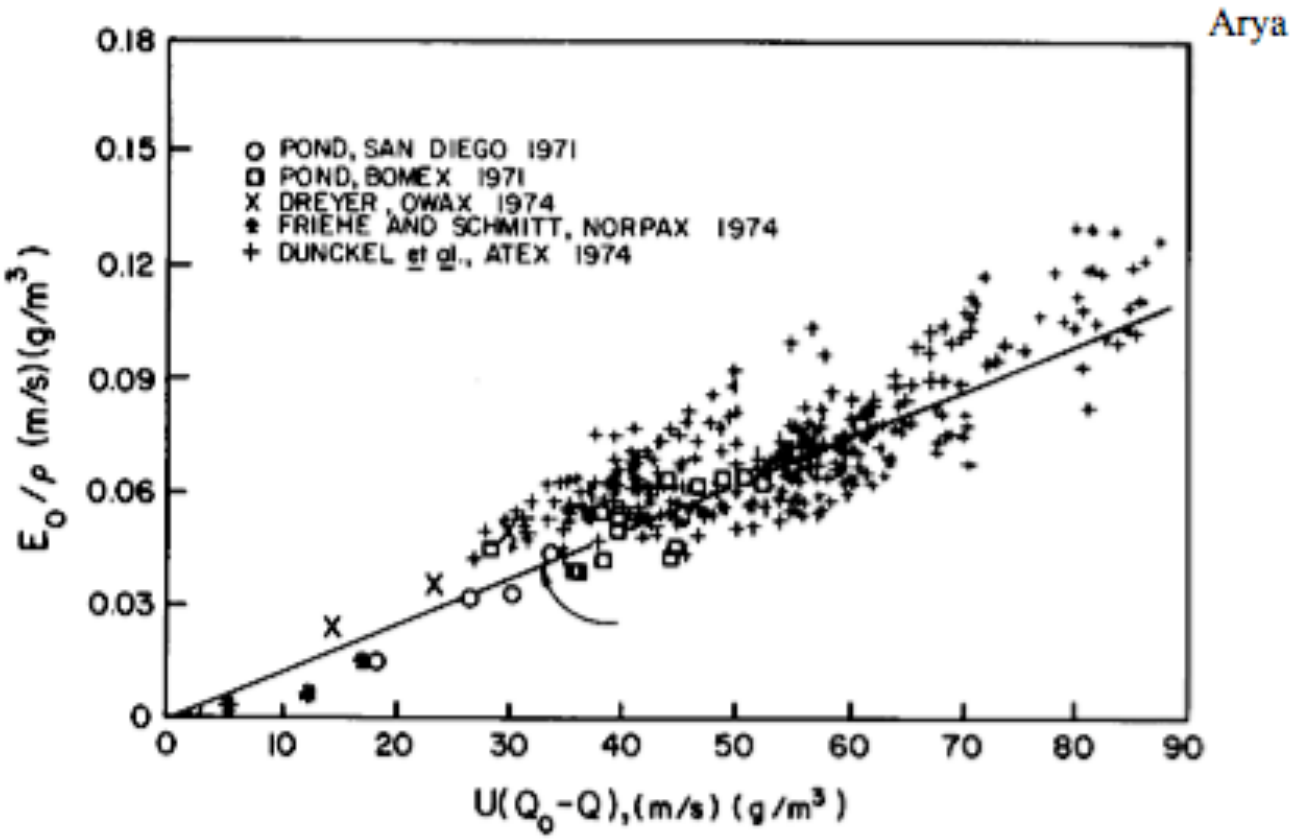


Fig. 13.6 Observed moisture flux at the sea surface as a function of $U(Q_0 - Q)$ compared with Eq. (13.8) with $C_w = 1.32 \times 10^{-3}$, indicated by the arrow. [After Friehe and Schmitt (1976).]