



Sketch of typical vertical profiles of temperature ( $T$ ), potential temperature ( $\theta$ ), specific humidity ( $q$ ), and wind speed ( $V$ ) in the bottom of the troposphere. FA, free atmosphere; EZ, entrainment zone; ML, mixed layer; SL, surface layer; CI, capping inversion; RL, residual layer; SBL, stable boundary layer;  $z_i$ , height of the capping inversion, which equals top of the boundary layer (BL);  $V_g$ , geostrophic wind speed. [Adapted from *Meteorology for Scientists and Engineers*, A Technical Companion Book to C. Donald Ahrens' *Meteorology Today*, 2nd Ed., by Stull, p. 70. Copyright 2000. Reprinted with permission of Brooks/Cole, a division of Thomson Learning: [www.thomsonrights.com](http://www.thomsonrights.com). Fax 800-730-2215.]