

boundary layer (in atmospheric chemistry)

That well-mixed region of the lower atmosphere in which the turbulence is maintained largely by convective buoyancy induced by the upward heat flux originating from the solar-heated surface of the earth. During the afternoon this often extends from 1 to 5 km in height. The surface boundary layer is that region of the lower atmosphere where the shearing stress is constant. It is separated by the Ekman layer from the free atmosphere, where the behaviour of the atmosphere approaches that of an ideal fluid in approximate geostrophic equilibrium (horizontal coriolis force balances the horizontal pressure force at all points in the field).

1990, 62, 2176