

Height of the Planetary Boundary Layer (PBL): This quantity can be useful in air quality applications, aviation applications and other forecast applications where knowledge of the spatial variation of the depth and strength of near-surface mixing is important. In high latitudes it tends to be important in a bimodal sense: 1) to determine the degree and persistence of convective mixing in the summer and 2) to determine the depth and persistence of the low-level surface inversion and/or ice fog in wintertime.

The PBL height is computed from a variety of standard measures of turbulent mixing, including an examination of the vertical temperature and wind structure. It is strongly dependent on the solution provided by a given PBL scheme however.