

Forces when the wind blows

paulvalentine • 4 Oct 2025

Have you ever wondered why, when the wind speed increases, the affects on bodies exposed to the increase significantly.

$$pda - (pda + \frac{dp}{dx} dx da) = m \frac{dv}{dt} \quad (1)$$

Taking $m = da dx \rho$ then Equation 1 becomes:

$$pda - (pda + \frac{dp}{dx} dx da) = da dx \rho \frac{dv}{dt} \implies -\frac{dp}{dx} = \rho \frac{dv}{dt} \quad (2)$$