



Air-sea exchange - a mixture of atmospheric and oceanic processes

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The marine atmosphere and the ocean form a coupled system where waves and surface temperature are the common parameters linking the two together.

Physical processes in the atmosphere such as geostrophic wind, radiation, turbulent transport of momentum and heat together with ocean mixing and turbulence make up the structure of the whole marine atmospheric boundary layer. A situation which is incompletely described in models.

The Influence of waves in connection with atmospheric stability and wave age is discussed for the whole boundary layer up to ~ 300 m including transport mechanisms for heat and momentum. A new concept of a 'residual layer' is also introduced.

Data from the BASE experiment at Östergarnsholm in the Baltic Sea are used to illustrate the processes.