

## **The role of the ocean mixed layer in air-sea interaction**

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The mixed layer is the link between the atmosphere and the deeper ocean, controlling air-sea exchanges of heat, momentum, gas, and freshwater. Variations in the depth of the mixed layer, which arise from atmospheric forcing and ocean dynamics, modulate these air-sea fluxes. Only fairly recently have models begun to resolve sub-seasonal (e.g., diurnal, intraseasonal) variations in mixed-layer depth: it is evident that variations on these scales have important consequences for coupled air-sea interaction, particularly in the tropics. Here, an observations-based overview of the importance of the ocean mixed layer in air-sea interaction is presented, from submesoscale to basin-scale. Topics include the drivers of mixed-layer depth variability, the roles of temperature versus salinity stratification, and the implications for the coupled air-sea system.