

# **Impacts of Sea Surface Salinity on Numerical Weather Prediction**

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In most of numerical weather prediction (NWP) models, ocean surface is also assumed to be saturated with respect to pure water, without considering the effects of salinity in computing the saturated vapor pressure for the surface heat fluxes. Therefore, this paper addressed the impacts of salinity on the surface heat fluxes in a global atmospheric model with by modulating the saturated vapor pressure for seawater over the ocean, based on the Raoult's Law. This new saturated vapor pressure for the seawater, which is generally smaller than that for the pure water, is found to enhance vertical mixing in planetary boundary layer (PBL) over the ocean by changing the latent and sensible heat fluxes. Furthermore the new formula is found to make the overestimated precipitation overcome in the tropical oceans, by suppressing light prediction.