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# Climatological Numerical Models of the Surface Mixed Layer of the Ocean

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### ABSTRACT

Three slab models of the surface mixed layer of the ocean are given simple and fast computer implementations. Actual meteorological data from Ocean Weather Station N are used for a year-long forecast. The results compare quite well with the observations of vertical temperature profiles, with correlations up to 0.98 between predicted and observed sea-surface temperature and of 0.8 between predicted and observed mixed-layer depths. Temperature anomalies introduced in the spring can be covered up in the summer, yet reappear in the winter. A constant-thickness slab is suitable as a lower boundary for some atmospheric climatological studies, if a depth of 25 m is used. The model based on a Fofonoff number criterion worked best for the available data set; this is physically appealing since the model contains no adjustable parameters.

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