Numerical modelling of some ecologically actual problems of mesometeorology

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It is put and solved numerically 2-dimentional (in a vertical plane x-z) a non-stationary problem about of a mesometeorological boundary layer of atmosphere. In it ecologically such actual processes, as a full cycle of development of a cloud and a fog and aerosol distribution are considered. A number of abnormal meteoprocesses is simulated: simultaneous existence of a stratus cloud and a radiation fog; an incorporated vertical complex of a stratus cloud and a radiation fog; daily continuous overcast ; ensemble of humidity processes; mutual transformation humidity processes. New the role of horizontal and vertical turbulence in formation of some meteoprocesses, in particular, a tropical cyclone and a tornado is considered. Influence of some meteoparameters on aerosol distribution is investigated.

Becides such problems are simulated in a stage of computer realization, as the account of cooling on cloud and fog border; influence of cloudy shades on boundary layer processes; the account of difficult underlying surface temperature heterogeneity.