



Influence of Climate Changes on Formation and Evolution of Clouds

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The subsystem of monitoring of the atmospheric air takes the central place within the framework of the United State System of Ecological Monitoring. The developed standard-technical documentation regulates, basically, monitoring of the chemical and radioactive substances going to the atmosphere and also meteorological monitoring. At the same time questions of pollution of the atmosphere by both thermal and aerosol emissions as well as antropogenic cloudy formations (ÀCF) are almost disregarded.

ACF are condensate formations in the atmosphere, which are result of vehicles and industrial activity. Necessity of the organization of ÀCF monitoring is referred to features of their influence on the environment. Under ÀCF influence there is shielding of solar radiation and change of radiating and thermal balance of the underlying surface, intensification of precipitation growth and icing that results in mesoscale climate change of the territory.

Difficulties in organization of ACF monitoring are referred to transient of the sources, differences in physical processes, local spacio-time scale of the phenomenon.

Physical processes and mechanisms of cloud formation in the atmosphere are extremely complex and various. The data analysis allowed to find out that mesoscale cloudiness appear under influence of local convection.

The preliminary analysis of conditions for ACF formation with help of experimental data and satellite information allows to make some conclusions.

It is revealed that speed of movement and geometrical sizes of a vehicle as well as his aerodynamic characteristics influence on stability of such formations to the significant extent.

Processes of formation and destruction of clouds as well as cloudiness evolutions are recognized among examined processes.