

Urban areas as active zones of energy exchange between geospheres

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One of the main problems in modern Earth sciences is investigation mass and energy fluxes between geospheres: lithosphere, ocean and atmosphere. Such investigations include monitoring, classification and modeling these fluxes.

For intergeospheric mass and energy exchange concept development is necessary the comprehensive investigations of such fluxes both theoretically and by field studies. These investigations have to study intergeospheric fluxes at standard natural and climatic conditions as well as at catastrophic conditions: earthquakes, volcano eruptions, hurricanes, floods, large forest fires, etc

The special attention has to be taken to energy and mass fluxes within active zones of geospheric interaction. The examples of such active zones are active tectonic points, depth circle structures, sea and ocean coasts, industrial and urban areas, etc.

In the modern world almost half population lives in cities and about two third of world energy consumption is concentrating within urban areas. Due to this urban areas play specific role in local, regional and even global climatic processes.

The presentation is focused on main laws of current stage of global urbanization as well as on estimation of anthropogenic energy fluxes within industrial and urban areas. The comparative analysis of XX century climate trends in Moscow and New-York is also presented.