

"A mathematical model for estimation of the water vapour and carbon dioxide fluxes between non-uniform forest ecosystems and the atmosphere"

Funding Agency: Russian Foundation for Basic Research.

Period of Activity: January 2006 to December 2007.

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Major results of the project:

- Development of the final version of the MixFor-SVAT model for describing the sensible heat-, H₂O- and CO₂- fluxes in multi-species forest ecosystems
- Estimation and calibration of model input parameters describing the structure of vegetation cover and soil, as well as biophysical properties of trees species in forest stands of the Central Forest Biosphere State Reserve, Tver' Area, Russia
- Model validation using results of eddy covariance flux measurements of sensible heat, H₂O and CO₂ on meteorological towers
- Application of the model for estimation of the contribution of vertical advection in measured H₂O and CO₂ fluxes above a forest canopy, and for estimation of sensitivity of carbon and water balances of forest ecosystems to changes of species composition in a forest stand.