Geophysical Research Abstracts
Vol. 20, EGU2018-90-2, 2018
EGU General Assembly 2018

Spatio-temporal variation of methane emission from reservoirs with the different water residence time

Maria Grechushnikova (1,3), Irina Repina (1,2), Victor Stepanenko (1), Vladimir Kazantsev (2), Arseniy Artamonov (2), Mikhail Varencov (1,2), Diana Lomova (3), Alexandr Molkov (4), and Ivan Kapustin (4)

(1) State company «Moscow state university », Moscow, Russia, (3) State company «Institute of water problems», Moscow, Russia, (2) State company A.M.Obukhov Institute of Atmospheric Physics RAS, Moscow, Russia, (4) State company Institute of applied physics, Nizhniy Novgorod, Russia

Increase in concentration in the atmosphere of greenhouse gases (GHG) is considered as one of the possible reasons of climatic changes. Recently all their possible anthropogenic sources including artificial reservoirs are considered. The actual task is the inventory of GHG emissions various sources for possible reduction and parameterization of emission from the underlying surface to define the conditions of interaction with the atmosphere in climate models. The work concerned questions of time-spatial changes of contents and emission of methane from a surface of polytypic reservoirs. On the basis of comparison of the field observations on the Mozhaisk and Gorky reservoirs the distinctions of contents and specific fluxes of methane for reservoirs with various water residence time and hydrological regime are shown. Comparison with literary data has shown that emission rate from reservoirs of a boreal zone with slow water exchange can be underestimated.