



Iron Flux Behavior Anomaly in the Amur River: the Climate Reasons?

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Two main sources of Fe income to the main rivers of the Amur Basin are to be taken into account: 1) soils and rocks of mountain areas – commonly headwaters – where river flow is generated mainly by underground water; 2) swamps on the vast Amur plains where the ground water highly enriched by Fe sometimes via undeveloped network of plain natural streams and - mainly in China - drainage systems comes to the Amur and its large tributaries. The main reason of abrupt rise of Fe flux registered in the Amur basin in 1990's appears to be climate change – increase of air temperature and precipitation rate. The latter leads to permafrost degradation in its near-southern-edge areas and, therefore, to the increased permeability of melted soils and underlying rocks. Moreover, the warmer atmospheric precipitation infiltrated into deeper underground layers, supposedly, is to accelerate the physical-chemical processes of resorption of minerals and the dissolved Fe flush-out from soils and rocks. The role of plant-soil cover on the vast area submerged by Zeya Reservoir in 1970s, in Fe flux rise in 1990's does not tracked up distinctly.