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**Title:** *The influence of groundwater discharge on the runoff of an Arctic stream (Ebba River, Central Spitsbergen)*

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This presentation show the methodology of constructing a net of piezometers which form a local polar monitoring network. In these piezometers, systematic measurements of hydrogeological parameters that characterize shallow aquifer (thickness of the active layer, hydraulic conductivity, groundwater level and temperature fluctuations) were performed during three melting season of 2007, 2009 and 2009. It was observed that groundwater occurs there seasonally in the summer melting season when the active layer melts and enables groundwater flow. The amount of water that recharges the Ebba River was calculated in accordance with Darcy's law using field data. This calculation enabled more precise estimations of other components of the Ebba River recharge (surface and overland water inflow, recharge from glaciers). These calculations were confirmed by interpretation of groundwater and surface water chemistry differentiation. The most unique character has calculation of groundwater flow. This component of recharge in Arctic environment is usually estimated approximately, assessed using conceptual models or even omitted in water balance calculations.