عنوان مقاله:

Data assimilation application in unauthorized groundwater pumping estimation

محل انتشار:

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خلاصه مقاله:

In this study, nudging data assimilation algorithm is used to estimate unknown pumping rate in a part of Shabestar plain. Nudging data assimilation algorithm uses the observed measured data of hydraulic head to physical interpretation in order to identify pumping rate. The additional sink and source term is added to the original equation in order to treat the unknown pumping rate. The algorithm identifies the unknown pumping rate and at the same time reduces the forecast error in hydraulic head. The constant pumping rate is the considered scenario in this study. In the case study it is sought to estimate the two unknown pumping rates using head measurements from three observation wells. The results show an excellent rate of convergence for pumping estimation.

کلمات کلیدی:

groundwater modelling, Richard's equation, data assimilation, nudging algorithm, unknown pumping rate, physical interpretation

لینک ثابت مقاله در پایگاه سیویلیکا:

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