

Changes in the conceptual model of the Pampa del Tamarugal Aquifer: Implications for Central Depression water resources

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This paper has been written following the results and reflections of the previously published paper (Viguier et al., 2018) detailing a multidisciplinary assessment of the groundwater resources in the northern part of the Pampa del Tamarugal Aquifer (PTA), at Atacama Desert (Northern Chile). This short note aims to propose an overall review of the PTA conceptual model. Following a brief description of the PTA limit changes over 60 years, the boundary conditions, recharge processes and the 2012-2015 piezometric map are detailed in an updated hydrogeological conceptual model including the northern, central and southern parts of the aquifer. The exploited aquifer contained in El Diablo Fm (Miocene alluvial filling) covers almost 6420 km², i.e. +87% compared to a previous study. That means that the groundwater resources in the Central Depression are today still underestimated. The Andean Piedmont appears to be a highly interesting target for the groundwater resource exploration and for the long-term water supply in the Central Andes where the regional water demand is continuously increasing.