

## **Selected recent (last 5 years) publications on regional and complex aquifers by Emilio Custodio**

### Papers

Ferreira do Rosário, F., Custodio, E., Cardoso da Silva Jr., G. 2016 Hydrogeology of the Western Amazon Aquifer System (WAAS). *Journal of South American Earth Sciences*, 72: 375-386. *Continental regional aquifer in deep sandstone*

Custodio, E., Albiac, J., Cermerón, M., Hernández, M., Llamas, M.R., Sahuquillo, A. 2017 Groundwater mining: benefits, problems and consequences in Spain. *Sustainable Water Resources Management*, published on line 04 April 2017 DOI 10.1007/s40899-017-0099-2 *Intensively exploited regional hard rock behavior*

Jódar, J., Cabrera, J.A., Martos-Rosillo, S., Ruiz-Constán, A., González-Ramón, A., Lambán, L.J., Herrera, C., Custodio, E. 2017 Groundwater discharge in high-mountain watersheds: A valuable resource for downstream semi-arid zones. The case of the Bérchules River in Sierra Nevada (Southern Spain). *Science of the total Environment*, 593-594: 760-772. *Hardrock watershed*

Hornero, J., Manzano, M., Ortega, L., Emilio Custodio, E. 2016 Integrating soil water and tracer balances, numerical modelling and GIS tools to estimate regional groundwater recharge: Application to the Alcadozo Aquifer System (SE Spain). *Science of the Total Environment*, 568: 415-432. *Hardrock watershed*

Herrera, C., Custodio, E., Chong, G., Lambán, L.J., Riquelme, R., Wilke, H., Jódar, J., Urrutia, J., Urqueta, H., Sarmiento, A., Gamboa, C., Lictevoud, E. 2016. Groundwater flow in a closed basin with a saline shallow lake in a volcanic area: Laguna Tuyajto, northern Chilean Altiplano of the Andes. *Science of the Total Environment*, 541: 303-318. *Large volcanic area*

Custodio, E., Jódar, J. 2016. Simple solutions for steady-state diffuse recharge evaluation in sloping homogeneous unconfined aquifers by means of atmospheric tracers. *Journal of Hydrology*, 540: 287-305. *Close mathematical solutions for mass transport in large sloping aquifers*

Marrero-Díaz, R., López, D., Pérez, N.M., Custodio, E., Sumino, S., Melián, G., Padrón, E., Hernández, P.A., Calvo, D., Barrancos, J., Padilla, G., Sortino, F. 2015. Carbon dioxide and helium dissolved gases in groundwater in Central Tenerife Island, Canary Islands: chemical and isotopic characterization.

*Bulletin of Volcanology*, BUVO-D-14-00161. *Volcanic massif behavior*

Custodio, E., Andreu-Rodes, J.M., Aragón, R., Estrela, T., Ferrer, J., García-Aróstegui, J.L., Manzano, M., Rodríguez-Hernández, L., Sahuquillo, A., del Villar, A. 2016. Groundwater intensive use and mining in south-eastern peninsular Spain: Hydrological, economic and social aspects. *Science of the Total Environment*, 559: 302-316. *Intensively exploited regional hard rock behavior*

Custodio, E., Cabrera, M.C., Poncela, R., Puga, L.O., Skupien, E., del Villar, A. 2016. Groundwater intensive exploitation and mining in Gran Canaria and Tenerife, Canary Islands, Spain: Hydrogeological, environmental, economic and social aspects. *Science of the Total Environment*, 557-558: 425-437. *Intensively exploited regional hard rock behavior*

Scheiber, L.; Ayora, C.; Vázquez-Suñé, E.; Cendón, D.I.; Soler, A.; Custodio, E.; Baquero, J.C. 2015. Recent and old groundwater in the Niebla–Posadas regional aquifer (southern Spain): Implications for its management. *Journal of Hydrology*, 523: 624–635. *Regional aquifer*

Lambán, L.J.; Jódar, J.; Custodio, E.; Soler, A.; Sapriza, G.; Soto, R. 2015. Isotopic and hydrogeochemical characterization of high–altitude karst aquifers in complex geological settings. The Ordesa and Monte Perdido National Park (Northern Spain) case study. *Science of the Total Environment*, 506–507: 466–479. *Karst massif behavior*

Herrera, Ch.; Custodio, E. 2014. Groundwater flow in a relatively old oceanic volcanic island: the Betancuria area, Fuerteventura Island, Canary Islands, Spain. *Science of the Total Environment*, 496: 531–550. *Old water in a volcanic aquifer*

Lambán, L.J.; Jódar, J.; Custodio, E. 2014. Groundwater isotopic characterization in Ordesa and Monte Perdido National Park (Northern Spain).

In: B. Andreo, Carrasco, F., Durán, J.J., Jiménez, P.L., Moreaux, J.W. (eds.), *Hydrogeological and Environmental Investigations in Karst Systems. Environmental Earth Sciences*. Springer: 245–253. DOI 10.1007/978-3-642-17435-3\_27. *Karst massif behavior*

Cruz–Fuentes, T.; Cabrera, M.C.; Heredia, J.; Custodio, E. 2014. Groundwater salinity and hydrochemical processes in the volcano–sedimentary aquifer of La Aldea, Gran Canaria, Canary Islands, Spain. *Science of the Total Environment*, 484: 154–166. *Volcanic aquifer behavior*

Cruz–Fuentes, T.; Heredia, J.; Cabrera, M.C.; Custodio, E. 2014. Behaviour of a small sedimentary volcanic aquifer receiving irrigation return flows: La Aldea, Gran Canaria, Canary Islands (Spain). *Hydrogeology Journal*, 22: 865–882. DOI 10.1007/s10040-013-1094-9. *Volcanic aquifer behavior*

## Book

Ferreira do Rosário, f., Custodio, E., Cardoso, G. Jr. 2015. O sistema aquífero Amazonas e o aquífero Tikuna. Novas Edições Acadêmicas..ISBN: 978-3-8417-2176-1

## Large reports

MASE 2015. Aspectos hidrológicos, ambientales, económicos, sociales y éticos del consumo de reservas de agua subterránea en España: Minería del Agua Subterránea en España. Preparado por E. Custodio para UPC y AQUALOGY–Cetaqua, Barcelona: 1–730. <http://h2ogeo.upc.edu/es/proyectos-empresa-ghs#d%C3%A9cada-2010> *Intensively exploited regional hard rock behavior*

SASMIE 2017. Salinización de las aguas subterráneas en los acuíferos costeros mediterráneos e insulares españoles. Preparado por E. Custodio para UPC y Suez Solutions–Cetaqua, Barcelona: 1–800 (in e–press). *Intensively exploited regional hard rock behavior*