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Rolf Hut¹, Nick van de Giesen¹ and Corine J Houtman²

r.w.hut@tudelft.nl

¹ Civil Engineering and Geosciences, Delft University of Technology, Delft, The Netherlands

² The Water Laboratory, Haarlem, The Netherlands

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Medicinal footprint of the population of the Rhine basin

Rolf Hut¹, Nick van de Giesen¹ and Corine J Houtman²

The relation between pharmaceutical residues along the river Rhine and the demographic characteristics of the upstream population was studied. A sampling campaign was performed in which water samples from the Rhine were taken at 42 locations. Measurements were compared to a two parameter model with regional demographic data as main input. For 12 out of the 21 studied pharmaceuticals, a significant dominant demographic group could be identified. For 3 out of these 12 pharmaceuticals the male elderly were the most contributing demographic group. A Monte Carlo analysis showed a high level of significance for the results of this study ($p < 0.01$). By combining environmental water quality data and demographic data, better insight was gained in the interplay between humans and their environment, showing the medicinal footprint of the population of the Rhine basin.

Link to abstract video: <http://bcove.me/rl2kypbm>