

Interactive comment on “Mapping current and future European public water withdrawals and consumption” by I. Vandecasteele et al.

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Firstly, thank you very much for all comments and corrections provided, we have tried in as far as possible to take them on board. A valuable comment made by both referees was that keeping the water withdrawal per user constant in time does not give a realistic reflection of future withdrawals as it does not take into account the improvements made in water use efficiency. As yet, we do not have sufficient data to assume a correction factor for increasing water use efficiency (indeed related to water pricing, reduction of leakages and general consumer awareness). This has been clarified in the text. We did look again at the FAO - AQUASTAT statistics, and the figure attached gives the annual change in per capita withdrawals for countries where data was available for the

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period 1990 to 2005. Again, we see no common trend, with several countries showing increases in per capita withdrawals. We do, however, agree that the trend should be towards a reduction in per capita withdrawals but at this time we believe such a factor would only increase the uncertainty of the results. It remains, however, a valid point, and it is something we are looking further into through scenario development.

Authors response to Referee #1: Our projected results are based on both population and tourism projections, reflecting the foreseeable demand for water from both the resident population and from tourism, which has a substantially larger water usage. We are developing a database of regional water use statistics, but as yet it is not complete enough, nor consistent enough between countries to allow its use for this mapping purpose. We did, however, use the public water use statistics at NUTS3 level from France to verify our methodology. The references have been verified and updated.

Authors response to Referee #2: The minor comments and corrections were all taken on board and much appreciated. We did not deem the trend shown by historical water withdrawal statistics to be strong enough to make a valid and robust conclusion on the future trend in withdrawals. For the time being we therefore only consider demand to increase proportionally with the number of users. As mentioned before, this is a valuable comment, and an important point to be further worked on, but which we feel falls outside of the scope of this paper. The discussion section has been elaborated.

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/10/C6237/2013/hessd-10-C6237-2013-supplement.pdf>

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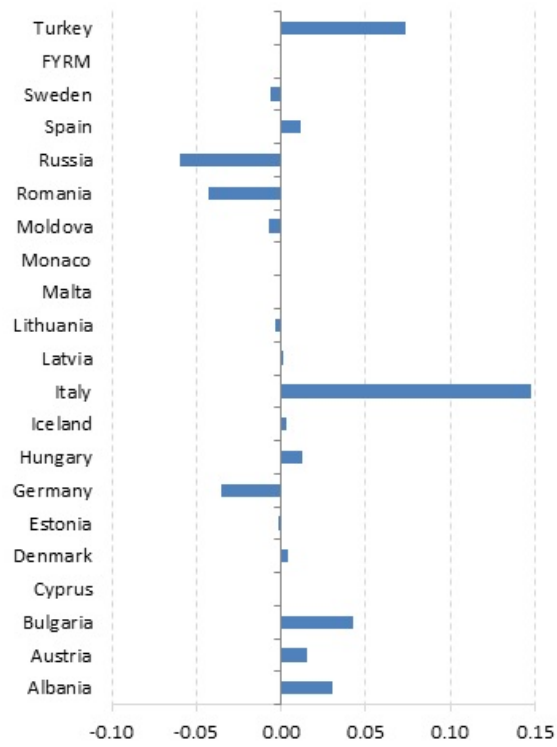


Fig. 1. Average annual change in municipal water withdrawals per capita for the period 1990 - 2005, based on statistics from the FAO - AQUASTAT database.