

<b>Name of project:</b> Development of online interactive water footprint tools	
<b>Project number:</b> 28.18	<b>Internal/external:</b> Internal
<b>Thesis supervisor:</b> Prof.dr.ir. Arjen Y. Hoekstra	<b>Daily supervisor:</b> Ir Rick Hogeboom / Dr ir. Joep Schyns
<b>Names of involved institutions:</b> Water Footprint Network	<b>Start of project:</b> Flexible
<p><b>Short project description</b></p> <p>There is a great online demand for data, tools and interactive visualizations of water footprints of products, and of individual and national consumption. In the past, a few tools have been developed, like the Product Gallery, the Extended Individual Water Footprint Calculator and the National Water Footprint Explorer (see <a href="http://waterfootprint.org/en/resources/interactive-tools/">http://waterfootprint.org/en/resources/interactive-tools/</a>). All three tools have great limitations and are outdated to various extents. There is a great potential to develop much nicer tools than currently available, given the rich datasets available (see e.g. <a href="http://waterfootprint.org/en/resources/waterstat/">http://waterfootprint.org/en/resources/waterstat/</a>).</p> <p><b>Research objective &amp; methods</b></p> <p>We offer three possibilities:</p> <ol style="list-style-type: none"> <li>1. Develop a new product gallery The new product gallery should offer water footprint data for a whole suite of food, energy and possibly 'other' products. For all products, green, blue and grey water footprints will be nicely visualised, possibly showing differences across countries and showing the difference between the global average and a reasonable benchmark level (showing the potential water saving). The application will provide some explanation per product and give access to relevant publications and data. Regarding food products, it will be possible to compose a meal out of ingredients that can be selected and get the water footprint for that, or alternatively choose between alternative meals (see e.g. <a href="http://www.socsc.hku.hk/jcwise/water-footprint-calculator/">http://www.socsc.hku.hk/jcwise/water-footprint-calculator/</a>).</li> <li>2. Develop a new personal water footprint calculator The new personal water footprint calculator should be applicable to all countries in the world and preferably adapt to cultural differences. Based on a limited number of questions on consumption behaviour, the user will receive an estimate of his/her water footprint and recommendations to reduce that. The calculator will be transparent regarding assumptions taken, be visually attractive, and competitive to other calculators available online (e.g. <a href="http://www.gracelinks.org/1408/water-footprint-calculator">http://www.gracelinks.org/1408/water-footprint-calculator</a>). The implementation should be such that (possibly later) it is easy to choose a different language than English.</li> <li>3. Develop a new national water footprint explorer The new explorer will need to give full insight into the water footprints of nations, offering to select a country on the world map, zoom in to provide spatially explicit data on the water footprint and water scarcity in a country as well as the country's virtual water trade and dependency on water resources outside the country (the external water footprint). The user should be able to put the data for the selected country in the perspective of how other countries perform. In addition to tool should provide access to relevant publications and data regarding the water footprint of the selected country.</li> </ol> <p>In all three cases, the first step will be to develop a list of functionalities for the tool to be developed. The next step will be to develop some alternative designs, select one, implement that, and test it with a user panel. The aim is to embed the tool developed in the waterfootprint.org website.</p>	

