Expertise

Topical analyses of water research

A report by Thomson Reuters, December 2013

Summary of key findings

The University of Leeds commissioned Thomson Reuters to assess the global research-by-publications position of water@leeds for the five year period 2008-2012. Using the bibliographic database Web of Science™, water@leeds performance was compared to global benchmarks in seven key research areas (listed in Figure 1) as well as the top ten global research institutions, such as the University of California Berkeley, NASA, Chinese Academy of Sciences, Wageningen University, US Geological Survey and Russian Academy of Sciences, in each area by volume of peer-reviewed papers published.

water@leeds outperforms global benchmarks in each of the water research areas, with high levels of field-normalised citation impact (NCI_F)[1] (Figure 1) as well as high levels of international collaboration. For citation impact, a value greater than 1.0 indicates better than world ranking and is a good indication of paper quality: note that NCI_F takes into account the different research areas and hence differ from 1.0.

As such, water@leeds' research in Water & Climate Change is over three times the world average whilst Water & Policy, Water & Atmosphere and Water & Land are all greater than twice the world average.

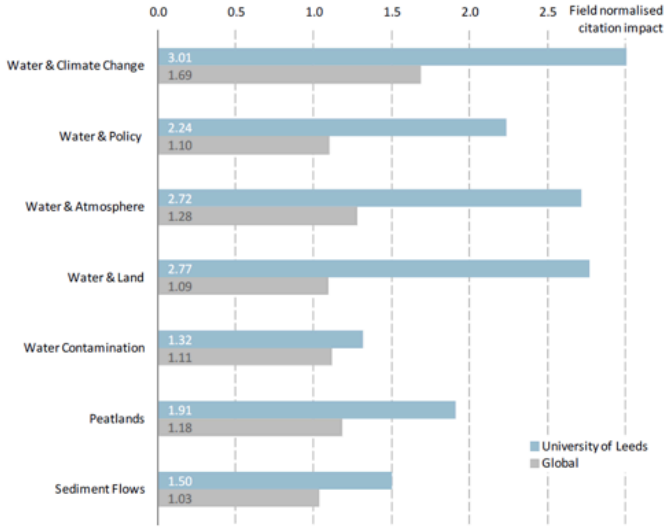

Figure 1: Field-normalised citation impact (NCI_F) of water@leeds compared to global benchmarks by water research area, 2008-2012.

[1] NCI_F takes into consideration the variation in citation rates between research fields and over time. Some fields publish as faster rates and adopt different citation practices than others. Normalising citation counts accounts for such variations by field. NCI_F 'rebases' the citation count using the standard normalisation factor of world average citations per paper for the year and journal category in which the paper was published.

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Comparison with the world leading research organisations in these seven areas consistently places water@leeds in the top 5 (Table 1). For Water & Land and Water & Atmosphere, water@leeds is the highest ranked amongst the top ten global research institutions in these areas for citation impact (NCI_F); Water & Policy and Peatlands also rank highly as the second highest for citation impact globally.

Table 1: World ranking for water@leeds based on NCI_F score (indicative of paper quality) when compared to the ten institutions producing most papers in each field.

water@leeds research field	% Highly cited	Global Rank (NCI_F)
Water & Atmosphere	36.8	1
Water & Land	26.1	1
Water & Policy	22.4	2
Peatlands	16.0	2
Water & Climate Change	36.5	4
Sediment Flows	14.3	4
Water Contamination	10.2	5

water@leeds is consistently within the top 100 global research institutions for all seven water areas by volume of papers. For Water & Atmosphere and Peatlands, water@leeds ranks, respectively, tenth and fifth globally by volume. Given that in these areas water@leeds is in the top 5 by volume AND is ranked first and second respectively within these top ten for citation impact, this indicates that water@leeds research is truly world-leading in these areas.

In six of the seven areas, 60% or more of the papers are published with international collaborators demonstrating significant internationalisation of research. In conclusion, water@leeds is producing high quality, highly cited papers across seven broad international fields of research.

Figures 2 and 3 show examples of how we compare to the top 10 institutes by volume for different water fields in terms of citations.

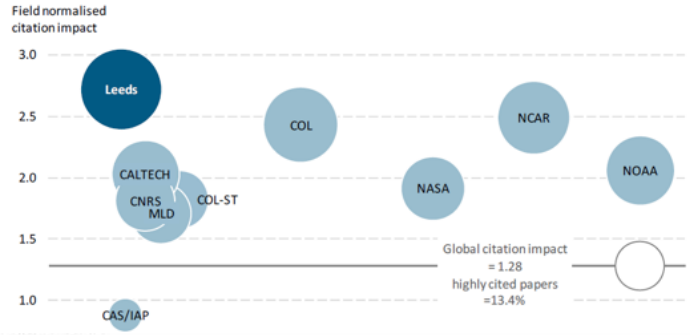

Figure 2: Water and Atmosphere papers, field-normalised citation impact and percentage of highly cited papers (bubble size), water@leeds and top ten global research institutions by volume of papers, 2008-2012

Figure 3: Water and Land papers, field-normalised citation impact and percentage of highly cited papers (bubble size), water@leeds, 2008-2012

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