

Water research thrives as new report highlights spiralling growth year on year

August 27 2012

Research into water is growing faster than the average 4% annual growth rate for all research disciplines, claims a new report presented by Elsevier and Stockholm International Water Institute (SIWI) during the 2012 World Water Week in Stockholm. The report, "The Water and Food Nexus: Trends and Development of the Research Landscape" analysed the major trends in water and food-related article output at international, national and institutional levels. Elsevier and SIWI worked closely together on creating the report, which is based on the analysis of Scopus citation data by Elsevier's SciVal Analytics team.

The growing discrepancy between supply and demand for water is becoming more challenging each year. Developments in [water research](#) have the potential to help solve this issue. The [report](#) examined the dynamics of global water research between 2007 and 2011, focusing on two strands of research; water resources research, referring to natural and social science studies on [water use](#), and food and water research focusing on the study of [water consumption](#) and recycling to produce food. The latter strand is an important theme in this year's World Water Week thematic focus: Water and [Food Security](#).

Key findings from the report include:

Exploding research landscape

There has been a dramatic growth of water research, with both strands of

research growing above the 4% average for all research disciplines. Water resources research is growing at a rate of 9.2% per year, while research into food and water is growing by 4.7% each year. Research is also becoming more collaborative and interdisciplinary, with a dramatic rise in publications from the fields of computer science and mathematics in water resource research; while research from fields within the social sciences have become the fastest growing fields in the food and water research strand.

United States leads research output, but for how long?

Research output is the highest in the United States in both water resources and food and water research, but growth between 2007 and 2011 is low. On the other hand, China is experiencing ongoing growth in water research output and, if its trajectory continues, it could be the leading producer of water research within the next few years. Other countries experiencing high growth rates in both [water resources](#) and food and water research include Malaysia and Iran.

Collaboration holds the key for high impact research

More than half of all articles published on water research are based on international collaboration. Interestingly, the most impactful research, for this study defined as average citations per paper, did not come from the countries that produced the most research, nor from those with the highest growth rate. Instead, the most impactful papers were found to come from the Netherlands, Switzerland, Denmark and Belgium for water resource research and Sweden, Switzerland, Great Britain, the Netherlands and Denmark for food and water research. In addition, a strong correlation was found between the level of international and interdisciplinary collaboration and the impact, with greater collaboration

leading to higher impact research.

"The aim of this report is to provide a transparent view of the water research landscape and the key players within the field," said Dr. Christiane Barranguet, Executive Publisher of Elsevier Aquatic and Green Sciences. "We found that the research landscape is becoming more dynamic, complex and, in some places, fragmented. We also found that collaboration is a key factor in producing high impact research. As such there is a greater need for collaboration – across borders and even between academia and industry – in order to grow and enhance the field."

Commenting on key trends identified, Per Bertilsson, Acting Executive Director at Stockholm International Water Institute said, "The report clearly shows that water research is growing in new places and becoming increasingly interdisciplinary. The entire water community now has a great opportunity to better leverage the knowledge creation on [water](#) research that is emanating from new places and new partnerships."

Provided by Elsevier

Citation: Water research thrives as new report highlights spiralling growth year on year (2012, August 27) retrieved 23 June 2024 from <https://phys.org/news/2012-08-highlights-spiralling-growth-year.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.