

<b>JPI Partner, EU Member State</b>	<b>United Kingdom</b>	<b>GB</b>
Total estimated Water RDI Funding: 47 M€/yr		

The [Business, Innovation and Skills](#) (BIS) Department of the Government of the United Kingdom pursues global excellence in science and research to help the UK maintain economic prosperity and address key global and domestic challenges, such as climate change and security. Innovation helps BIS deal with complex challenges and drive growth by improving productivity and R&D. The BIS Department coordinates scientific efforts in the country. Responsibilities for water related research are distributed across devolved governments (Scotland, Wales and Northern Ireland) and between different departmental interests (e.g. environment, international development). The largest funders of water research are the [Research Councils](#) and The [Department of Environment, Food and Rural Affairs](#) (DEFRA). Living with Environmental Change (LWEC) is a partnership of twenty two UK public sector funders and users of environmental research that seeks to improve coherence and effectiveness of environmental (including water) research and innovation across its member organisations.

Each year the Research Councils invest around 3,500 M€ in research covering the full spectrum of academic disciplines from the medical and biological sciences to astronomy, physics, chemistry and engineering, social sciences, economics, environmental sciences and the arts and humanities. The focus is on excellence with impact. Global research requires a diversity of funding approaches, fostering international collaborations, and providing access to the best facilities and infrastructure, and locating skilled researchers in stimulating environments. Research Council research achieves impact – the demonstrable contribution to society and the economy made by knowledge and skilled people. While each of the seven Research Councils is to some extent involved in water research, two of them are more directly related.

The [Natural Environment Research Council](#) (NERC) mission is to gather and apply knowledge, improve understanding and predict the behaviour of the natural environment and its resources. It was established in 1965. NERC funds and manages research and training in earth system science, advancing knowledge of planet Earth as a complex, interacting system. Its work covers the full range of atmospheric, earth, terrestrial and aquatic sciences. Current research programs most related to this JPI include: Changing Water Cycle (€10m over 4 years 2011-17); Storm Risk Mitigation (€5m over 5 years 2010-14) and the Water Security Knowledge Exchange Programme (1.5€ over three years 2011-14). New research programmes related to hydrological extremes are just beginning with possible start dates in 2012 or beyond.

The [Engineering and Physical Sciences Research Council](#) (EPSRC) funds research and training in engineering and the physical sciences, investing around 600 M€/yr in a broad range of subjects. EPSRC operates to meet the needs of industry and society by working in partnership with universities to invest in people and scientific discovery and innovation. Their research programs most related to this JPI include: water system resilience; the waste, water and land management cluster; the Water for All grand challenge; and cold water cleaning.

The human dimensions to water use are addressed by the [Economic and Social Research Council](#) (ESRC), water use in agriculture and biotechnological aspects are addressed by the Biotechnology and Biological Sciences Research Council (BBSRC), while the health aspects are addressed by the Medical Research Council (MRC).

DEFRA makes policy and legislation, and works with others to deliver policies in areas such as: the natural environment, biodiversity, plants and animals; sustainable development and the green economy; food, farming and fisheries; flood and coastal erosion risk management; and environmental protection and pollution control. DEFRA funds a large number of research projects every year. Projects are funded in a number of ways, including: competitive calls for proposals; non-competitive arrangements; and in partnership with others. Water-related research is carried out under a number of different programmes within the Department. The Water Availability and Quality Programme delivers the Government's policy priorities in the areas of water quality and supply. The Drinking Water Inspectorate R&D Programme provides credible and authoritative information on the health aspects of drinking water quality to ensure that standards and regulations protect public health. The Food and Farming Group funds a significant R&D programme on water quality and use in farming, through the Sustainable Water Management Programme. The Department also funds a significant Flood and Coastal Erosion Risk Management R&D programme.

Regulation of the water environment lies primarily with devolved Environment Agency for [England](#) (EA), WALES (NRW), [Scotland](#) (SEPA) and [Northern Ireland](#) (DENI). These agencies are interested in knowledge exchange and networking to provide the evidence to support their operations.

**Table with publications and patents data**

Indicator <sup>1</sup>	SRIA theme	Publications		Patents	
		United Kingdom	Europe <sup>2</sup>	United Kingdom	Europe
Raw data	Q1	6385	33531	20	59
	Q2	6268	37391	103	855
	Q3	22872	134254	97	759
	Q4	2246	15957	16	184
	Q5	4224	22514	46	329
	ALL	24143	142901	292	2256
Increasing rate <sup>3</sup>		1.6	2.1	1.1	1.3
Patents per 1,000 publications		GB: 12.10 ; Europe: 15.78			
Standardized by population <sup>4</sup> (10 <sup>6</sup> Inhabitants)	Q1	100.2	53.7	0.1	0.0
	Q2	98.4	59.9	1.6	1.4
	Q3	359.0	215.0	1.5	1.2
	Q4	35.3	25.5	0.3	0.3
	Q5	66.3	36.0	0.7	0.5
	ALL	379.0	228.8	4.6	3.6
Standardized by GDP <sup>5</sup> (100 × 10 <sup>3</sup> M EUR)	Q1	341.1	229.3	1.1	0.4
	Q2	334.8	255.7	5.5	5.8
	Q3	1221.8	918.1	5.2	5.2
	Q4	120.0	109.1	0.9	1.3
	Q5	225.6	154.0	2.4	2.2
	ALL	1289.7	977.2	15.6	15.4

<sup>1</sup> All data correspond to the period 1999 - 2013

<sup>2</sup> Considered as the 28 EU Member States plus the 12 Associated Countries.

<sup>3</sup> Increasing Rate is the number of publications or patents in 2009-2013 divided by the number in 1999-2003 (considering ALL water topics).

<sup>4</sup> Population obtained from [http://en.wikipedia.org/wiki/List\\_of\\_countries\\_by\\_population](http://en.wikipedia.org/wiki/List_of_countries_by_population).

<sup>5</sup> Gross Domestic Product (GDP), nominal, obtained from [http://en.wikipedia.org/wiki/List\\_of\\_countries\\_by\\_GDP\\_%28nominal%29](http://en.wikipedia.org/wiki/List_of_countries_by_GDP_%28nominal%29)

**Tables on Funders and Performers obtained from publications analyses**

SRIA theme	Funding Institutions <sup>1</sup>	Acronym	Intensity of citations
<b>Q1</b>	UK NATURAL ENVIRONMENT RESEARCH COUNCIL	NERC	100
	UK ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL	EPSRC	19
	UK DEPARTMENT FOR ENVIRONMENT FOOD & RURAL AFFAIRS	DEFRA	14
	THE LEVERHULME TRUST		13
	ENVIRONMENT AGENCY	EA	10
<b>Q2</b>	UK ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL	EPSRC	100
	UK NATURAL ENVIRONMENT RESEARCH COUNCIL	NERC	68
	ENVIRONMENT AGENCY	EA	26
	SEVERN TRENT WATER	STWATER	21
	WELLCOME TRUST	WELLCOME TRUST	20
<b>Q3</b>	UK NATURAL ENVIRONMENT RESEARCH COUNCIL	NERC	100
	UK ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL	EPSRC	82
	THE ROYAL SOCIETY		19
	BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL	BBSRC	18
	THE LEVERHULME TRUST		13
<b>Q4</b>	UK DEPARTMENT FOR ENVIRONMENT FOOD & RURAL AFFAIRS	DEFRA	100
	UK NATURAL ENVIRONMENT RESEARCH COUNCIL	NERC	89
	BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL	BBSRC	60
	UK ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL	EPSRC	42
	THE SCOTTISH GOVERNMENT	SCOTGOV	27
<b>Q5</b>	UK NATURAL ENVIRONMENT RESEARCH COUNCIL	NERC	100
	UK ENGINEERING AND PHYSICAL SCIENCES	EPSRC	44

<sup>1</sup> Royal Society is often acknowledged as a pre-eminent professional science institution giving wide but predominantly not financial, support for UK science. This institution has not been considered as funder even if it does fund some work.

	RESEARCH COUNCIL		
	UK DEPARTMENT FOR ENVIRONMENT FOOD & RURAL AFFAIRS	DEFRA	25
	ENVIRONMENT AGENCY	EA	23
	THE LEVERHULME TRUST		23
<b>ALL</b>	UK NATURAL ENVIRONMENT RESEARCH COUNCIL	NERC	100
	UK ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL	EPSRC	65
	BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL	BBSRC	23
	THE ROYAL SOCIETY		20
	UK DEPARTMENT FOR ENVIRONMENT FOOD & RURAL AFFAIRS	DEFRA	20

SRIA theme	Performing Institutions	Intensity of citations
<b>Q1</b>	NERC NATURAL ENVIRONMENT RESEARCH COUNCIL	100
	NERC CENTRE FOR ECOLOGY & HYDROLOGY (CEH) <sup>1</sup>	51
	NERC NATIONAL OCEANOGRAPHY CENTRE (NOC)	30
	UNIVERSITY OF LONDON	29
	UNIVERSITY OF EDINBURGH	22
<b>Q2</b>	UNIVERSITY OF LONDON	100
	NERC NATURAL ENVIRONMENT RESEARCH COUNCIL	82
	IMPERIAL COLLEGE LONDON <sup>2</sup>	58
	NERC CENTRE FOR ECOLOGY HYDROLOGY	48
	CRANFIELD UNIVERSITY	46
<b>Q3</b>	NERC NATURAL ENVIRONMENT RESEARCH COUNCIL	100
	UNIVERSITY OF LONDON	62
	NERC NATIONAL OCEANOGRAPHY CENTRE	44
	UNIVERSITY OF CAMBRIDGE	43
	IMPERIAL COLLEGE LONDON	40
<b>Q4</b>	NERC NATURAL ENVIRONMENT RESEARCH COUNCIL	100
	NERC CENTRE FOR ECOLOGY HYDROLOGY	84
	UNIVERSITY OF LONDON	59
	CRANFIELD UNIVERSITY	57
	LANCASTER UNIVERSITY	38
<b>Q5</b>	NERC NATURAL ENVIRONMENT RESEARCH COUNCIL	100
	NERC CENTRE FOR ECOLOGY HYDROLOGY	74
	UNIVERSITY OF LONDON	60
	UNIVERSITY OF OXFORD	30
	LANCASTER UNIVERSITY	30
<b>ALL</b>	NERC NATURAL ENVIRONMENT RESEARCH COUNCIL	100
	UNIVERSITY OF LONDON	91
	NERC CENTRE FOR ECOLOGY HYDROLOGY	61
	IMPERIAL COLLEGE LONDON	52
	UNIVERSITY OF LEEDS	41

<sup>1</sup> Both CEH and NOC are part of NERC. These Institutions may have been computed in the NERC numbers, depending on the way authors have acknowledged them in the articles.

<sup>2</sup> Imperial College has historically been part of University of London, then numbers from both Institutions may not be totally independent.