

Introduction to Journal Bibliometrics and Research Impact

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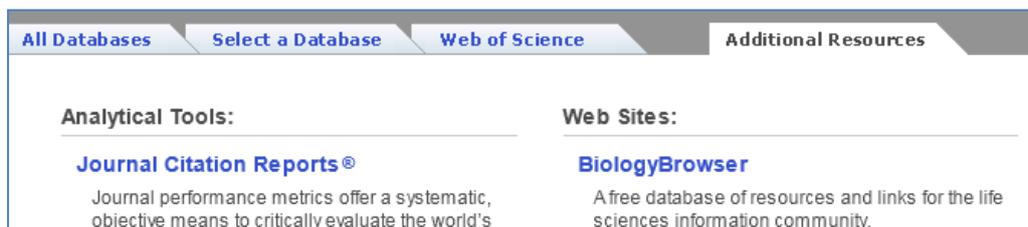
Journal Citation Reports (JCR)

Journal Citation Reports provides Impact Factors (IF), Immediacy Index, Citation Half-Like and other metrics to help researchers identify the most appropriate, influential journals in which to publish. JCR covers more than 8,000 of the world's most highly cited, peer-reviewed journals. Journals are from 3,300 publishers in approximately 227 disciplines, from 66 countries. There are two editions: The Sciences Edition covers over 6,500 journals the Social Sciences Edition covers over 1,900. You can search for an individual journal's metrics, or by subject category to allow comparison between journals in a particular field.

How to access JCR in Web of Knowledge:

Go to the 'Web of Knowledge' online Library platform, you can see a link to Web of Knowledge (including Web of Science) from many Library pages, on-campus students will normally access databases from the electronic Library at <http://liv.ac.uk> online students usually access Web of Knowledge from the Library for Online Programmes <http://libguides.liv.ac.uk/onlineprogrammes> (see the E-Resources tab then scroll down the E-Journals area to the Web of Knowledge link, you may see links to Web of Knowledge elsewhere in the site), otherwise visit Web of Knowledge directly at <http://www.webofknowledge.com.ezproxy.liv.ac.uk>

When you have visited Web of Knowledge, click the 'Additional Resources' tab, then click 'Journal Citation Reports':



The screenshot shows a navigation bar with four tabs: 'All Databases', 'Select a Database', 'Web of Science', and 'Additional Resources'. The 'Additional Resources' tab is active. Below the navigation bar, there are two columns of resources. The left column is titled 'Analytical Tools:' and contains 'Journal Citation Reports®' with a description: 'Journal performance metrics offer a systematic, objective means to critically evaluate the world's'. The right column is titled 'Web Sites:' and contains 'BiologyBrowser' with a description: 'A free database of resources and links for the life sciences information community.'

Comparing the metrics for a group of journals by Subject Category

1. Select the appropriate JCR edition (Science or Social Sciences) and year. Make sure the radio button is set against **View a group of journals...** and select **Subject Category** from the menu (this should be the default):

ISI Web of KnowledgeSM
Journal Citation Reports[®]

Select a JCR edition and year:
 JCR Science Edition 2010
 JCR Social Sciences Edition 2010

Select an option:
 View a group of journals by
 Search for a specific journal
 View all journals

Subject Category
 Subject Category
 Publisher
 Country/Territory

SUBMIT

This product is best viewed in 800x600 or higher resolution
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2. Select a subject category to display the metrics (using 'Environmental Sciences' as an example):

ISI Web of KnowledgeSM
Journal Citation Reports[®]

WELCOME HELP

2010 JCR Sc
Subject Category

Subject Category Selection

1) Select one or more categories from the list.
 (How to select more than one)

ENGINEERING, MANUFACTURING
 ENGINEERING, MARINE
 ENGINEERING, MECHANICAL
 ENGINEERING, MULTIDISCIPLINARY
 ENGINEERING, OCEAN
 ENGINEERING, PETROLEUM
 ENTOMOLOGY
 ENVIRONMENTAL SCIENCES
 EVOLUTIONARY BIOLOGY

2) Select to view Journal data or aggregate Category data.
 View Journal Data - sort by:
 View Category Data - sort by:

Journal Title
 Journal Title
 Total Cites
 Impact Factor
 Immediacy Index
 Current Articles
 Cited Half-Life
 5-Year Impact Factor
 Eigenfactor(TM) Score
 ArticleInfluence(TM) Score

SUBMIT

Choose sort order. Default sort is by journal title

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3. View results (sorted by Impact Factor in this case). To view the full citation report for a particular journal click on its title:

ISI Web of KnowledgeSM
Journal Citation Reports[®]

WELCOME HELP

2010 JCR Science Edition

Journal Summary List
 Journals from: subject categories ENVIRONMENTAL SCIENCES
 Sorted by: Impact Factor
 Sort results by other metrics

Journals 1 - 20 (of 193)
 Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data (j)						Eigenfactor TM Metrics (j)	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor TM Score	Article Influence TM Score
	1	ENERG ENVIRON SCI	1754-5692	1766	9.488	9.488	0.944	198	1.7	0.00941	2.922
	2	FRONT ECOL ENVIRON	1540-9295	2994	8.820	7.931	1.309	55	4.1	0.01592	3.132
	3	GLOBAL CHANGE BIOL	1354-1013	13987	6.346	7.014	1.378	262	5.1	0.06034	3.049
	4	ENVIRON HEALTH PERSP	0091-6765	26174	6.087	7.024	1.289	270	7.1	0.06206	2.103
	5	GLOBAL BIOGEOCHEM CY	0886-6236	8761	5.263	5.936	0.853	102	7.7	0.02896	2.881
	6	GLOBAL ENVIRON CHANG		2722	4.918	7.840	0.731	67	5.1	0.00955	2.390
	7	CONSERV BIOL		5680	4.894	5.963	0.789	171	8.4	0.03558	2.160
	8	J ENVIRON SCI HEAL C		283	4.840	4.380	0.091	11	3.4	0.00114	1.176
	9	ENVIRON SCI TECHNOL		2582	4.827	5.398	0.747	1400	6.2	0.18254	1.490

Select a journal title to view full breakdown of metrics in tabular and graphic format

Viewing the metrics for a specific journal

1. Select the appropriate JCR edition (Science or Social Sciences) and year. Make sure the radio button is set against **Search for a specific journal**:

ISI Web of KnowledgeSM

Journal Citation Reports[®]

Select a JCR edition and year:

JCR Science Edition 2010

JCR Social Sciences Edition 2010

Select an option:

View a group of journals by Subject Category

Search for a specific journal

View all journals

SUBMIT

This product is best viewed in 800x600 or higher resolution

NOTICES

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2. Search for the journal title:

ISI Web of KnowledgeSM

Journal Citation Reports[®]

WELCOME HELP

Journal Search

1) Search by:

Full Journal Title

Full Journal Title

Abbreviated Journal Title

Title Word

ISSN

2) Type search term:

Enter words from journal title or ISSN ([view list of full journal titles](#))

environmental research

SEARCH

Full Journal Title: Enter JOURNAL OF CELLULAR PHYSIOLOGY or JOURNAL OF CELL* ([more examples](#))

Abbreviated Journal Title: Enter J CELL PHYSIOL or J CELL* ([more examples](#))

Title Word: Enter CELLULAR or CELL* ([more examples](#))

ISSN: Enter 0021-9541 or other ISSN ([more examples](#))

3. A summary of the metrics is displayed.

ISI Web of KnowledgeSM

Journal Citation Reports[®]

WELCOME HELP

2010 JCR Science Edition

Journal Summary List [Journal Title Changes](#)

Journals from: search Full Journal Title for 'ENVIRONMENTAL RESEARCH'

Sorted by: Journal Title [SORT AGAIN](#)

Journals 1 - 1 (of 1) [Page 1 of 1](#)

MARK ALL UPDATE MARKED LIST

Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data i						Eigenfactor TM Metrics i	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor TM Score	Article Influence TM Score
<input type="checkbox"/>	1	ENVIRON.RES	0013-9351	5481	3.500	3.670	0.558	104	6.5	0.01504	1.143

MARK ALL UPDATE MARKED LIST

Journals 1 - 1 (of 1) [Page 1 of 1](#)

4. Select the title to view the full breakdown:

ISI Web of KnowledgeSM

Journal Citation Reports[®]

WELCOME HELP RETURN TO LIST

2010 JCR Science Edition

Journal: ENVIRONMENTAL RESEARCH

Mark	Journal Title	ISSN	Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Citable Items	Cited Half-life	Citing Half-life
<input type="checkbox"/>	ENVIRON RES	0013-9351	5481	3.500	3.670	0.558	104	6.5	7.0

[Cited Journal](#) [Citing Journal](#) [Source Data](#) [Journal Self Cites](#)

[CITED JOURNAL DATA](#) [CITING JOURNAL DATA](#) [IMPACT FACTOR TREND](#) [RELATED JOURNALS](#)

Journal Information

Full Journal Title: ENVIRONMENTAL RESEARCH
 ISO Abbrev. Title: Environ. Res.
 JCR Abbrev. Title: ENVIRON RES
 ISSN: 0013-9351
 Issues/Year: 8
 Language: ENGLISH
 Journal Country/Territory: UNITED STATES
 Publisher: ACADEMIC PRESS INC ELSEVIER SCIENCE
 Publisher Address: 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495
 Subject Categories: ENVIRONMENTAL SCIENCES
 PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH

EigenfactorTM Metrics
 EigenfactorTM Score: 0.01504
 Article InfluenceTM Score: 1.143

Additional Links
[GO TO ULRICH'S](#)
 Holdings

Journal Rank in Categories: [JOURNAL RANKING](#)

Journal Impact Factor

Cites in 2010 to items published in: 2009 = 387 Number of items published in: 2009 = 132
 2008 = 600 2008 = 150
 Sum: 987 Sum: 282

Calculation: $\frac{\text{Cites to recent items}}{\text{Number of recent items}} = 3.500$
 $\frac{987}{282} = 3.500$

5-Year Journal Impact Factor

Scopus

Scopus is the largest abstract and citation database of research literature and quality web sources, covering 29 million abstracts of over 15,000 peer-reviewed journals from more than 4,000 publishers.

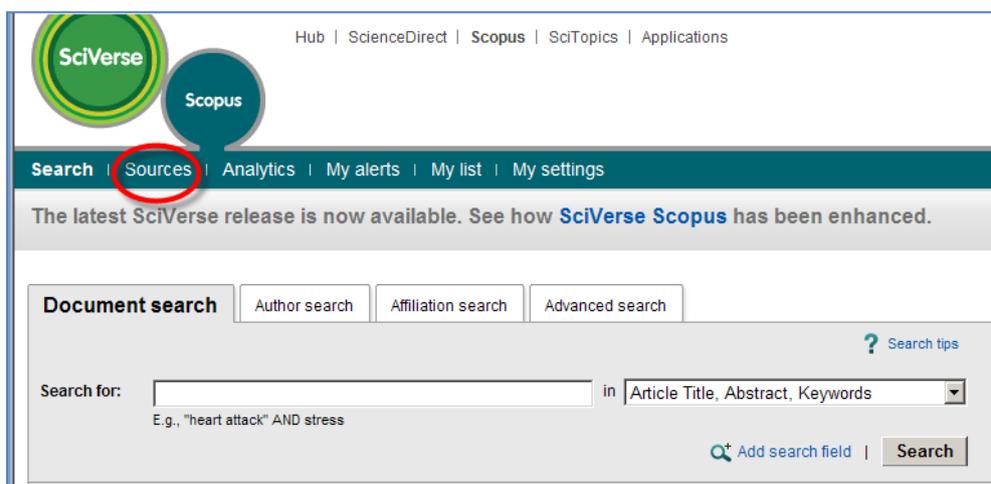
To identify the key sources in your field use the 'Journal Analyzer' to measure and compare impact for up to 10 journals. Impact is measured by SJR (SCImago Journal Rank), SNIP (Source Normalized Impact per Paper), citation counts and other metrics.

How to access Scopus:

Go to the 'SCOPUS' online Library platform, you can see a link to SCOPUS from many Library pages, on-campus students will normally access databases from the electronic Library at <http://liv.ac.uk> online students usually access SCOPUS from the Library for Online Programmes <http://libguides.liv.ac.uk/onlineprogrammes> (see the E-Resources tab then scroll down the E-Journals area to the SCOPUS link, you may see links to SCOPUS elsewhere in the site), otherwise visit SCOPUS directly at <http://www.scopus.com.ezproxy.liv.ac.uk>

Viewing the metrics for a specific journal

1. Select the **Sources** tab:



2. Search for a journal by title:

The screenshot shows a search interface with a search bar containing 'environmental research'. Below the search bar, there are filters for 'Subject Area' and 'Source Type'. The search results section displays a list of 21 sources. The sixth result, 'Environmental Research', is highlighted in yellow. A callout box points to this result with the text: 'Select the title to view a citation overview and the Journal Analyzer'. To the right of the highlighted result, the SJR (0.220) and SNIP (1.627) metrics are circled in red.

3. Select the title to view the full range of metrics:

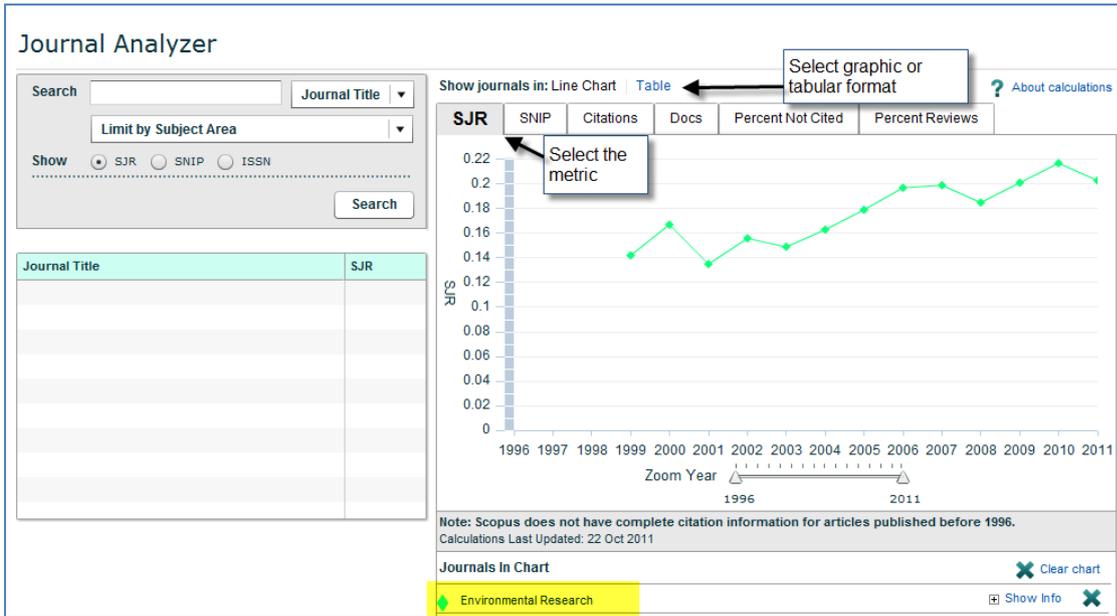
The screenshot shows the journal page for 'Environmental Research'. The subject area is 'Biochemistry, Genetics and Molecular Biology: Biochemistry'. The publisher is 'Academic Press'. The ISSN is '0013-9351' and the E-ISSN is '1096-0953'. The Scopus coverage years are 'from 1967 to Present'. The SJR (2010) is 0.220 and the SNIP (2010) is 1.627. A yellow button labeled 'View journal analyzer' is highlighted. A callout box points to this button with the text: 'View journal analyzer to access metrics in graphic format'. Below the journal information, there is a table of documents available from 2005 to 2011. A callout box points to the 'View citation overview' link for the year 2009 with the text: 'View citation figures for each paper from a specific year'.

4. Select the **View citation overview** for a particular year to track how often articles have been cited, and to gauge their impact with the **h-index** metric:

The screenshot shows the 'Citation overview' page for 'Environmental Research'. The source is 'Environmental Research' and the publication year is 2009. The page displays '140 Cited Documents' and an 'h index = 13'. A table shows the number of citations received by the cited documents in 2009, 2010, 2011, and a subtotal. A callout box points to the number '11' in the subtotal column for the year 2009 with the text: 'Click on a number to view the the citing documents'. A separate callout box points to the 'Document h index' section with the text: 'Of the 140 documents considered for the h index, 13 have been cited at least 13 times. Scopus does not have complete citation information for articles published before 1996. About h-Graph'.

	Citations					>2011	Total
	<2009	2009	2010	2011	Subtotal		
Total	1	82	394	442	918	3	922
1				1	1		1
2				4	4		4
3			5	6	11		11
4			4	6	10		10
5				1	1		1

- You can also view the complete range of metrics for a journal in graphic or tabular format by selecting the **Journal Analyzer** link (see screen dump for step three above):



Comparing the metrics for a group of journals by Subject Category

The procedure is similar to viewing the metrics for a specific journal (steps 1-5 above), but at step 2, select the appropriate **Subject Area**. This will allow you to compare SJR and SNIP metrics between journals, but please note that the Subject Areas are quite broad:

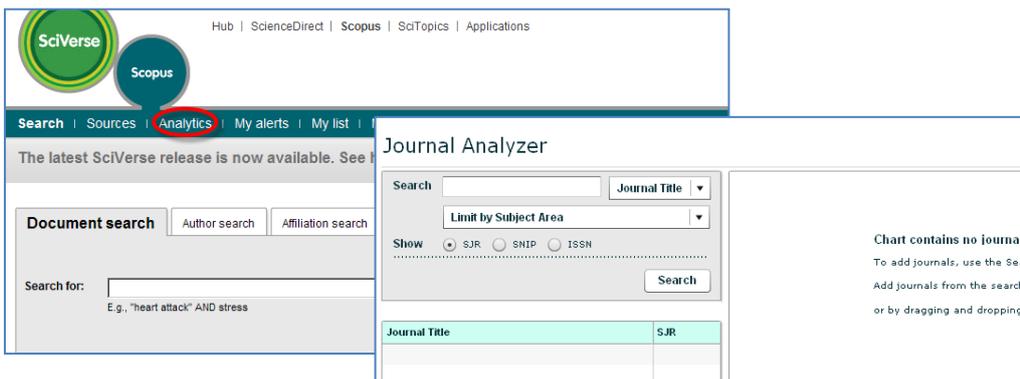
The screenshot shows the 'Journal Analyzer' interface with the 'Subject Area' set to 'Environmental Science'. The results are sorted by SJR metric. The table below shows the top 5 journals.

Source Title	SJR	SNIP
1 Annual Review of Ecology, Evolution, and Systematics	1.263	5.273
2 Applied and Environmental Microbiology	0.367	2.103
3 Applied Catalysis B: Environmental	0.274	2.704
4 Analytica Chimica Acta	0.255	1.888
5 Annual Review of Environment and Resources	0.254	2.391

Using the Journal Analyzer to compare metrics for selected journals

You can use the Journal Analyzer to compare up to ten journals on a variety of metrics, including SJR, SNIP, citations, and percentage of documents not cited.

- To access, select the Analytics tab:



2. To compare journals you need to populate the Journal Analyzer Chart:

- a. Enter the journal title and click Search. This adds the title(s) to the Results box.
- b. Drag and drop a title from the Results box into the Chart area on the right.
- c. Your graph will then display showing the various metrics for that journal.
- d. To add more titles for comparison, repeat the process.

Search for the journal. Title matches are added to the Results box

Select graphic or tabular format

Drag and drop up to 10 titles into the chart area to populate the graph

Search

Results: 1 Sources Found (Double-click or drag to add)

Journal Title	SJR
Biological Conservation	0.154

Calculations Last Updated: 30 May 2011

Note: Scopus does not have complete citation information for articles published before 1996.
Calculations Last Updated: 30 May 2011

Journal Title	Show Info	Close
Ecological Applications	Show Info	Close
Annual Review of Environment and Resources	Show Info	Close
Conservation Biology	Show Info	Close
Australasian Journal of Environmental Management	Show Info	Close
Biological Conservation	Show Info	Close

Google Scholar

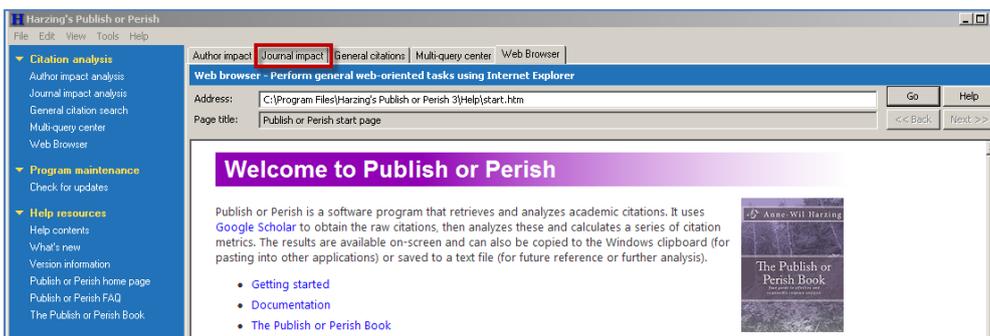
Google Scholar (GS) provides access to a diverse range of scholarly material including peer-reviewed journal articles, books, conference papers, theses, reports etc. This wide coverage includes material outside the remit of other indexing & abstracting databases, so can lead to better citation counts for disciplines where the journal article is not the main source of published research output.

To extract the journal ranking metrics from GS you need to use a third-party software package, of which there are several freely available on the Web. This document will concentrate on the **Publish or Perish** software package.

Using Publish or Perish to identify key journals

Publish or Perish works with GS data to produce a range of metrics to allow you to gauge the impact of a journal. Unlike JCR or Scopus, you cannot use it to compare groups of journals.

1. Download and install the Publish or Perish software from: <http://www.harzing.com/pop.htm>
2. Open the program and select the **Journal impact** tab:



3. Enter the journal title and 'Lookup'. Points to bear in mind:
 - a. There is no facility for an exact title search, so enter the title in "quotation marks" to reduce the number of false hits.
 - b. To further focus your search, select only one subject category.
 - c. Use the date limit to keep within Publish or Perish's 1,000 article limit.
 - d. Click on the Publication column heading to sort by journal title and scan for unwanted titles. If there are any, deselect the check boxes to remove from the metric calculations.

