

InCites

# Essential Science Indicators

## Quick Reference Guide

View Indicators, Field Baselines, or Citation Thresholds

Change the table below to show Research Fields, Authors, Institutions, Journals, Countries, or Research Fronts

Add a filter to reduce the number of items in the table or target a specific entity

View Highly Cited Papers, Hot Papers, or both

Clear filters or Save your criteria as a custom report

Filter within the data grid to look for specific items

Your User Account for accessing saved reports

The screenshot shows the InCites Essential Science Indicators interface. At the top, there are navigation tabs for 'Indicators', 'Field Baselines', and 'Citation Thresholds'. The main content area is titled 'Top Papers by Institutions' and features a 'Results List' on the left with filters for 'Institutions' and 'Top Papers'. A world map visualization shows the distribution of top papers by country. Below the map is a table with columns for 'Total: 5465', 'Institutions', 'Web of Science Documents', 'Cites', 'Cites/Paper', and 'Top Papers'. The table lists the top 10 institutions, with 'UNIV CALIF SYSTEM' at the top. A 'Customize' button is visible next to the table header.

Total: 5465	Institutions	Web of Science Documents	Cites	Cites/Paper	Top Papers
1	UNIV CALIF SYSTEM	360,195	8,712,678	24.19	11.07
2	HARVARD UNIV	190,279	5,730,931	30.12	3.63
3	CNRS	296,226	4,803,629	16.22	4.59
4	CHINESE ACAD SCI	289,266	3,841,908	13.28	4.79
5	UNIV LONDON	177,943	3,644,318	20.48	4.98
6	US DEPT HLTH HUMAN SERVICES	118,446	3,492,114	29.48	4.88
7	UNIV TEXAS SYS	150,186	3,276,960	21.82	4.29
8	US DEPT ENERGY	123,661	2,836,594	22.94	4.19
9	NATL INST HLTH (NIH) - USA	86,683	2,818,858	32.52	3.68
10	MAX PLANCK SOCIETY	99,437	2,543,030	25.57	3.23

Open Saved custom reports

Export data from the table below

View Top Papers by country

Choose which indicators to display in the table  
Set document thresholds

Sort the table by clicking a column heading

Click the Top Papers count to view the Hot and Highly Cited papers in a document list

The screenshot shows the 'Papers by Research Field' page in the InCites Essential Science Indicators tool. The interface includes a navigation bar with 'Indicators', 'Field Baselines', and 'Citation Thresholds'. A 'Citation Trends' sidebar on the left allows for filtering results and tracking performance over time. The main content area displays a list of papers with columns for title, author, source, and 'Times Cited'. Callouts point to specific features: 'Sort the table by Citations, Publication Year, or Journal Title' points to the 'Sort By' dropdown; 'Export data from the table below' points to the download icon; 'Show additional fields for each item in the table' points to the 'Customize Documents' button; 'Identify Hot papers and export graphs of citations' points to the 'ESI Hot' indicator; 'Click the Times Cited count of a paper to view a graph providing the number of citations across citing years' points to the 'Times Cited: 8' value; and 'Track research performance over time' points to the 'Citation Trends' sidebar. The footer contains copyright information for Clarivate Analytics and links to terms of use and privacy policy.

## What is Essential Science Indicators?

Essential Science Indicators is a compilation of science performance statistics and trends data derived from *Web of Science* Core Collection data.\* This analytical tool surveys more than 12,000 journals from around the world for article publication and citation count performance indicators. It ranks authors, institutions, countries, and journals in 22 specific fields of research by the number of papers published, citations received, and citations per paper.

Data covers a rolling 10-year period and includes bimonthly updates to rankings and citation counts.

- Examine the research performance of top-ranking institutions, countries, journals, authors, and papers in each of the 22 research fields in Essential Science Indicators.
- Compare the citation performance of a paper with that of its peers by both publication period and field.
- Identify trends and emerging areas of research in the sciences and social sciences.

\*Data is limited to *Clarivate Analytics* indexed journals in the Science Citation Index Expanded and the Social Science Citation Index with "article" or "review" as the document type. Proceedings papers, books, book chapters, abstracts, and other document types, as well as articles published in journals not indexed by *Clarivate Analytics*, are not taken into account, either in terms of publication counts or citation counts.

	RESEARCH FIELDS	AUTHOR	INSTITUTION	JOURNAL	COUNTRY
ESI Thresholds	AGRICULTURAL SCIENCES	387	1,749	1,748	962
	BIOLOGY & BIOCHEMISTRY	852	5,239	6,426	674
Highly Cited Thresholds	CHEMISTRY	1,537	6,239	5,786	1,239
	CLINICAL MEDICINE	1,775	1,915	4,393	6,193
Hot Paper Thresholds	COMPUTER SCIENCE	320	2,959	1,205	332
	ECONOMICS & BUSINESS	342	3,628	1,268	241
	ENGINEERING	463	1,899	1,983	928
	ENVIRONMENT/ECOLOGY	684	3,417	2,825	1,809
	GEOSCIENCES	1,043	4,970	2,290	1,007
	IMMUNOLOGY	884	3,956	7,019	1,695
	MATERIALS SCIENCE	1,119	4,253	1,941	771
	MATHEMATICS	296	3,707	1,358	334
	MICROBIOLOGY	631	4,579	3,502	936
	MOLECULAR BIOLOGY & GENETICS	2,214	10,486	6,716	1,382
	MULTIDISCIPLINARY	509	2,128	162	164
	NEUROSCIENCE & BEHAVIOR	1,178	5,053	7,223	394
	PHARMACOLOGY & TOXICOLOGY	502	2,915	5,254	810
	PHYSICS	7,491	14,716	4,323	1,531
	PLANT & ANIMAL SCIENCE	562	2,292	2,190	1,462
	PSYCHIATRY/PSYCHOLOGY	692	3,540	2,425	285
	SOCIAL SCIENCES, GENERAL	340	1,178	840	1,099
	SPACE SCIENCE	5,207	29,870	1,464	664

**Citation Thresholds**  
View the minimum number of citations required to be ranked as a top author, institution, journal, country, or paper in each of the 22 research fields in Essential Science Indicators

	RESEARCH FIELDS	2007	2008	2009	2010	2011	2012	2013	2014
Citation Rates	ALL FIELDS	23.43	21.26	19.41	17.34	14.68	12.14	9.44	6.74
	AGRICULTURAL SCIENCES	17.69	14.97	13.50	12.14	10.16	8.42	6.65	4.71
Percentiles	BIOLOGY & BIOCHEMISTRY	32.31	29.56	27.19	23.43	19.59	16.07	12.31	8.48
	CHEMISTRY	23.64	23.18	21.30	19.96	17.69	15.53	12.19	9.26
Field Rankings	CLINICAL MEDICINE	25.36	22.82	20.82	18.19	15.33	12.60	9.72	6.81
	COMPUTER SCIENCE	12.91	12.03	11.84	10.25	8.78	6.85	5.42	4.04
	ECONOMICS & BUSINESS	18.29	15.19	13.47	11.55	9.37	6.99	5.19	3.33
	ENGINEERING	12.79	11.77	11.75	10.67	9.28	7.68	6.27	4.56
	ENVIRONMENT/ECOLOGY	28.37	25.80	22.14	19.84	16.39	13.60	10.14	6.99
	GEOSCIENCES	23.46	22.10	20.57	17.62	15.47	12.35	9.52	6.48
	IMMUNOLOGY	38.29	34.89	31.50	27.16	22.78	17.93	14.17	9.85
	MATERIALS SCIENCE	20.59	18.77	17.98	17.45	15.43	13.37	10.80	8.41
	MATHEMATICS	8.53	7.91	7.09	6.33	5.14	4.00	2.97	2.06
	MICROBIOLOGY	31.00	27.65	25.42	22.60	17.67	14.30	11.46	8.12
	MOLECULAR BIOLOGY & GENETICS	53.09	46.11	41.79	36.24	30.26	23.42	18.10	12.05
	MULTIDISCIPLINARY	30.36	24.75	28.98	25.26	22.28	15.67	14.19	7.74
	NEUROSCIENCE & BEHAVIOR	36.93	32.43	29.56	25.77	21.44	17.23	13.03	8.91
	PHARMACOLOGY & TOXICOLOGY	25.58	23.38	20.56	18.28	15.01	12.55	9.89	6.95
	PHYSICS	17.99	17.80	16.52	15.04	12.87	11.53	8.98	6.71

**Field Baselines**  
Baselines are annualized expected citation rates for papers in a research field. View baselines for Citation Rates, Percentiles, and Field Rankings (see the Glossary section for more info)

## Glossary

### Citation Rates

Average citation rates are calculated for each year of the 10-year period, based on accumulated citations from the year of publication to the most current bimonthly update. Averages are calculated by adding the citation counts of individual papers and dividing by the number of papers. An average for the full 10-year period is also given in All Years.

### Field Rankings

Field Rankings displays total papers, total citations received, citations per paper, and Hot and Highly Cited papers in each field.

### Percentiles

The term "percentile" designates a citation threshold at or above that at which a fixed fraction of the papers fall. This term is used to denote any fixed fraction of top papers ordered by citation count. The levels we have selected for listing by field and year are 0.01%, 0.1%, 1.0%, 10%, 20%, and 50%.

### Research Fronts

A group of Highly Cited papers, referred to as "core papers," in a specialized topic defined by co-citation analysis. Since the assignment of papers to a Research Front is not based on the journal categories used in Essential Science Indicators, Research Fronts offer an alternative classification scheme for Highly Cited papers.

### Thresholds required for an entity or paper's inclusion in Essential Science Indicators

	Citation percentile	Years of data examined
Scientists	1%	10
Institutions	1%	10
Countries	50%	10
Journals	50%	10
Highly Cited Papers	1%	10
Hot Papers	.1%	2

#### Top papers

- Highly Cited Papers: The top-cited papers over the last 10 years in 22 scientific fields. Rankings are based on meeting a threshold of the top 1% by field and year based on total citations received.
- Hot Papers: Papers published in the past two years that receive enough citations during the most recent bimonthly update to place them in the top 0.1% when compared to peer papers.

#### Getting help

Click the Help button on any page to get detailed help on features, as well as detailed examples.

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