

A GUIDE TO THE NATURE INDEX

A description of the terminology and methodology used in this supplement, and a guide to the functionality available free online at natureindex.com.

The Nature Index is a database of author affiliations and institutional relationships. The index tracks contributions to articles published in a group of highly selective science journals, chosen by an independent group of active researchers.

The Nature Index provides absolute counts of publication productivity at the institutional and national level and, as such, is one indicator of global high-quality research output.

Data in the Nature Index are updated monthly, with the most recent 12 months of data made available under a Creative Commons licence at natureindex.com. The database is compiled by Nature Publishing Group (NPG). The list of journals tracked by the Nature Index is under review, and will be extended to include the clinical sciences.

NATURE INDEX METRICS

There are four measures provided by the Nature Index to track affiliation data. The simplest is the **article count (AC)**. A country or institution is given an AC of 1 for each article that has at least one author from that country or institution. This is the case whether an article has one or a hundred authors, and it means that the same article can contribute to the AC of multiple countries or institutions.

To get a sense of a country or institution's contribution to an article, and to remove the possibility of counting articles more than once, the Nature Index uses the **fractional count (FC)**, which takes into account the relative contribution of each author to an article. The total FC available per paper is 1, which is shared between all authors under the assumption that each contributed equally. For instance, a paper with 10 authors means that each author receives an FC of 0.1. For authors who have joint affiliations, the individual FC is then split equally between each affiliation.

The third measure used is the **weighted fractional count (WFC)**, which applies a weighting to the FC to adjust for the over-representation of papers in astronomy and astrophysics. The four journals in these disciplines publish about 50% of all papers in international journals in this field — approximately five times the equivalent percentage for other fields. Therefore, although the data for astronomy and astrophysics are compiled in the same way as for all other disciplines, articles from these journals are assigned one-fifth the weight of other articles (i.e., the FC is multiplied by 0.2 to derive the WFC).

The total FC or WFC for an institution is calculated by summing the FC or WFC for

natureindex.com users can search for specific institutions or countries and generate their own reports, ordered by article count (AC), fractional count (FC) or weighted fractional count (WFC).

Each query will return a profile page that lists the country or institution's recent research outputs, from which it is possible to drill down for more information. For example, articles can be displayed by journal, and then by article title. As in the supplement, research outputs are organized by subject area. The profile page also lists the institution or country's top collaborators, as well as its relationship with other research organizations.

individual authors. The process is similar for countries, although complicated by the fact that some institutions have overseas labs that will be counted towards their host country totals. What's more, there is great variability in the way authors present their affiliations. Every effort is made to count affiliations consistently, with a background of reasonable assumptions.

The fourth metric is **collaboration score**, derived from the average of the FCs for all bilateral relationships for that institution or country. If institution A has relationships with two others, B and C, then the collaboration score is the average of the FC for A + B and A + C.

For more information on how the affiliation information is processed and counted, please see the FAQ section at natureindex.com.

NATUREINDEX.COM

A global indicator of high-quality research

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Research Collaboration Relationships

1 January 2014 - 31 December 2014

Region: Global
Subject/journal group: All

AC	FC	WFC
1221	598.04	558.30

The table to the right includes counts of all research outputs for Institution name published between 1 January 2014 - 31 December 2014 which are tracked by the Nature Index.

Below, the same research outputs are grouped by subject. Click on the subject to drill-down into a list of articles organized by journal, and then by title.

Note: Articles may be assigned to more than one subject area.

Outputs by subject



Subject	AC	FC	WFC
Chemistry	276	179.1	179.11
Earth & Environmental Sciences	95	42.73	42.73
Life Sciences	439	231.50	231.50
Physical Sciences	652	284.48	244.74

Return to institution outputs

THE SUPPLEMENT

Nature Index 2016 Australia and New Zealand is based on Nature Index data, covering articles published between 1 January 2015 and 31 December 2015. Most analyses use WFC as the primary metric, as it provides a more even basis for comparison across multiple disciplines, and in determining the relative contribution of each institution or countries.

Funding data displayed on page S66 were provided by ÜberResearch, a portfolio company of Digital Science, which is owned by the same parent company as Springer Nature, publisher of the Nature Index. As the database is continually improved, figures in the supplements may differ from those online. ■