

EDITORIAL

Journal of Cave and Karst Studies Listing in the *Journal of Citation Report*: What Does it Mean?

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THOMSON ISI LISTING

Several years ago the *Journal of Cave and Karst Studies* achieved a listing in the distinguished Thomson Institute for Scientific Information (ISI) which included Science Citation Index Expanded, ISI Alerting Services, and Current Contents Physical, Chemical, and Earth Sciences. A significant aspect of an ISI listing is a measure of the influence a listed journal has on scientific research. This is where the Thomson ISI *Journal Citation Reports* (JCR) becomes important.

JOURNAL CITATION REPORTS

The JCR currently covers more than 7,500 of the world's most highly cited, peer-reviewed journals in approximately 200 disciplines; the Science Edition covers over 5,900 leading international science journals from the Thomson Science Citation Index (SCI) database. It is the recognized authority for evaluating journals (Thomson, 2008).

After a journal is accepted for listing by Thomson ISI and has been in the system for a minimum of three years, the journal becomes eligible for an additional listing in the JCR, which is a multidisciplinary journal evaluation tool and is the only evaluation resource that provides statistical information based on citation data. By compiling cited references, a measure of research influence and impact at the journal level is obtained and illustrates the relationships between citing and cited journals (Thomson, 2005a).

The importance of a journal's influence on scientific research is evident by the importance university administrators and federal research institutions have placed on SCI data, which are now being used as a measure of faculty productivity and faculty productivity quality. It is no longer enough to publish in refereed journals, now they must be SCI journals as well. To avoid U.S. karst work going to foreign karst journals that are listed in the SCI, it is critical that the *Journal* continue to be published regularly and voluminously with high-quality peer-reviewed articles.

CITATION STATISTICS

The JCR lists the total cites, which represents the number of times that the *Journal* has been cited by all journals included in the product database within the current product year and the total number of articles

published in a journal in the current product year. It also provides four basic statistics to measure a particular journal's influence. These statistics are impact factor, immediacy index, cited half-life, and citing half-life and are explained below (Thomson, 2005a,b).

IMPACT FACTOR

The impact factor is a measure of the frequency that an article in the *Journal* is cited in a particular year. It is calculated by dividing the number of current citations to items published in the two previous years by the total numbers of articles and reviews published in the two previous years.

IMMEDIACY INDEX

The immediacy index is a measure of how quickly the average article in the *Journal* is cited. It tells a user how often articles in a journal are cited within the same year. It is calculated by dividing the number of citations to articles published in a given year by the number of articles published in that year.

CITED HALF-LIFE AND CITING HALF-LIFE

The cited half-life represents the median age of *Journal* articles cited in the current JCR year. It is useful for evaluating the age range of the articles from the journal and may be used for making archiving and retention decisions. The citing half-life represents the median age of the articles cited by the *Journal* in the current JCR year. It is useful for evaluating the age of the majority of articles referenced by a journal.

JOURNAL OF CAVE AND KARST STUDIES STATISTICS

So how does the *Journal of Cave and Karst Studies* measure up? Figure 1 shows the JCR statistics for 2005 and 2006, the only two years available as of this writing. The *Journal* impact factor increased from 0.357 in 2005 to 0.576 in 2006 suggesting that the impact that articles have on scientific research increased in 2006. Unfortunately, the *Journal* immediacy index decreased from 0.235 in 2005 to 0.000 in 2006 suggesting articles published in 2006 were not being cited very quickly. However, a more realistic explanation may be the small number of articles actually published in that year. This statistic is somewhat misleading because it is dependent on the number of articles published in 2006, which the JCR accurately lists as nine

2005

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Articles	Cited Half-Life	Citing Half-Life
<input type="checkbox"/>	J CAVE KARST STUD	1090-6924	77	0.352	0.235	17		> 10.0

2006

Mark	Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Articles	Cited Half-Life	Citing Half-Life
<input type="checkbox"/>	J CAVE KARST STUD	1090-6924	103	0.576	0.000	9	6.3	9.2

Figure 1. Journal Citation Reports statistics for the *Journal of Cave and Karst Studies* for 2005 and 2006.

because the December 2006 issue came out in 2007. Had the December 2006 issue been included in the counting, a total of 16 articles would have been listed. In addition, because the *Journal* has only been included in the Thomson ISI database for a short time, categories such as the immediacy index are going to lag for a while.

The *Journal* cited half-life increased from no data in 2005 to 6.3 yr in 2006 which suggests that there were no published articles in the *Journal* cited in 2005 but some cited works in 2006. The *Journal* citing half-life decreased from >10.0 yr in 2005 to 9.2 yr in 2006 suggesting that the number of articles cited in the *Journal* decreased from 2005 to 2006. By comparison, the only other karst journal in the Thomson ISI database had no listing for 2006.

When the JCR statistics for the *Journal of Cave and Karst Studies* are compared with other journals (e.g., *Science*) it doesn't appear to rate very well. However, other journals have been included in JCR for a much longer time than the *Journal of Cave and Karst Studies* and are not nearly so specialized. The extremely parochial nature of the *Journal of Cave and Karst Studies* limits the number of papers that will get submitted for publication which then limits the number of papers that get cited.

Overall, the *Journal* is on an upswing as evidenced by the improved 2006 *Journal* impact factor over the 2005 *Journal* impact factor¹. As the *Journal* continues to expand because more and more papers are being submitted, it is very probable that the *Journal* statistics listed in the JCR will also continue to increase. For example, for 2007 it is expected that ~20 articles to be listed in the JCR because it includes the December 2006 issue, but not the December 2007 issue due to the lateness associated with these two issues². While 30+ published articles per year in the *Journal* have not been common in the past, it is very likely to become common in the not too distant future. This increase in published articles in the *Journal* will almost definitely lead to higher ratings for the *Journal*.

REFERENCES

- Thomson, 2005a, Journal Citation Reports on the Web v. 4.0: Thomson ISI, URL http://scientific.thomson.com/media/scpdf/jcr4_sem_0305.pdf, [accessed January 10, 2008].
- Thomson, 2005b, Journal Citation Reports Tutorial (v. 4.0): Thomson ISI, URL <http://scientific.thomson.com/tutorials/jcr4/jcr4tut6.html>, [accessed January 14, 2008].
- Thomson, 2008, Journal Citation Reports on the Web v. 2.0: Thomson ISI, URL <http://scientific.thomson.com/products/jcr/>, [accessed January 10, 2008].

¹ The JCR report released just prior to press of this issue reports an impact factor for the *Journal of Cave and Karst Studies* = 1.000.

² Note that we expect to be returning to our publishing schedule shortly.