Chapter 12 – Analyses of AMAD publications

Contents

Analyses of AMAD Publications

12.0 Introduction

This chapter presents analyses of AMAD publications. Section 12.1 includes data on the number of AMAD publications (by MYP and total) and the number and type (e.g., first author) of contributions of AMAD authors. Section 12.2 presents a bibliometric analysis of AMAD publications from 2003 to 2008. The data presented in Section 12.1 addresses the quantity of AMAD publications and contributions, while section 12.2 speaks more to the quality of AMAD publications. Section 12.3 contains a listing of the AMAD publications from FY2004 to FY2008, including journal articles, book chapters, and EPA reports.

12.1 AMAD Publications and Author Contributions

Table 12.1 shows the number of AMAD contributions to peer-reviewed publications by ORD MYP for the period of FY2004 through FY2008. Table 12.2 shows the number and type of contributions, by author, to the peer-reviewed journal articles. Table 12.3 presents the information on contributions by fiscal year. In these Tables, “Contributions” indicates the number of articles which staff have authored or coauthored. For example, if multiple coauthors were on a single article, then each author would be counted as a contribution. “Contributing Authors” indicates the number of staff who authored or coauthored an article. “Journal Articles” indicates the number of journal articles with an AMAD staff member as an author or coauthor. Thus, the information provided indicates that from FY2004 to FY2008, 50 staff members were involved in authoring or coauthoring 161 journal articles with numerous articles being coauthored such that the 50 staff provided 388 individual contributions to the 161 articles. Tables 12.1, 12.2 and 12.3 also include publications and contributions from former AMAD staff, who are no longer with the Division.

Table 12.1 Number of AMAD Contributions by MYP (FY2004-FY2008)

ORD MYP	Number of Contributions
Air	355
Eco	23
Global	10
Totals	**388**

Table 12.2 Publication Contributions of AMAD Scientists (FY2004-FY2008)

AMAD Scientist	First Author Publications	Second Author Publications	Other Publication Contributions	Scientist Grand Total
Appel, Wyat	3	1	2	6
Benjey, William	1	2	2	5
Bhave, Prakash	1	6	7	14
Bowker, George #	6		2	8
Bullock, Russell	3	3	3	9
Carlton, Ann	1	1	1	3
Ching, Jason	1	1	6	8
Cooter, Ellen	3			3
Dennis, Robin	2	9	10	21
Eder, Brian	2	4	5	11
Finkelstein, Peter*	2	1	2	5
Foley, Kristen			3	3
Garcia, Valerie C	1		2	3
Gillette, Dale	5	5	3	13
Gilliam, Robert	3	1	6	10
Gilliland, Alice	4	9	14	27
Gipson, Gerald			1	1
Godowitch, James	3	1	3	7
Heist, David		1	4	5
Herwehe, Jerry		1		1
Howard, Steven			3	3
Huber, Alan H*	3	3	2	8
Hutzell, William	1	1		2
Isakov, Vladilen	6	6	7	19
Luecken, Deborah	5	2		7
Mathur, Rohit	6	6	11	23
Mebust, Michelle#	1	1	1	3
Mobley, David	2	4	5	11
Napelenok, Sergey	3		2	5
Nolte, Christopher	3			3
Otte, Tanya	4	1	3	8
Perry, Steven	2	1	2	5
Petersen, William *		1	2	3
Pierce, Thomas	1	2	7	10
Pinder, Robert	3	2	4	9
Pleim, Jonathan	4		8	12
Pouliot, George	2	4	3	9

Table 12.2 Publication Contributions of AMAD Scientists (FY2004-FY2008) (continued)

AMAD Scientist	First Author Publications	Second Author Publications	Other Publication Contributions	Scientist Grand Total
Rao, S.T.	6	1	16	23
Reff, Adam #	2	1	1	4
Roselle, Shawn		3	6	9
Roy, Dev#	1		1	2
Sarwar, Golam	4		4	8
Schere, Kenneth		2	12	14
Schwede, Donna			1	1
Streicher, John	1			1
Swall, Jenise	1	3	6	10
Touma, Jawad	2	1	3	6
West, Jeffrey			1	1
Wong, David			2	2
Young, Jeffrey		1	3	4
AMAD Grand Totals	**104**	**92**	**192**	**388**

Retired *
Transferred #

Table 12.3 Count of AMAD Published Peer Review Journal Articles for FY2004-FY2008

AMAD Scientist	FY2004	FY2005	FY2006	FY2007	FY2008	Grand Total
Appel, Wyat	1		1		4	6
Bash, Jesse						0
Benjey, William	2		1	1	1	5
Bhave, Prakash		2	1	5	6	14
Bowker, George #			1	3	4	8
Bullock, Russell		2		3	4	9
Carlton, Ann					3	3
Ching, Jason	1	3	2	1	1	8
Cooter, Ellen		1	1		1	3
Dennis, Robin	3	3	3	1	11	21
Eder, Brian	1	2	6	2		11
Finkelstein, Peter*	3		2			5
Foley, Kristen					3	3
Garcia, Valerie					3	3
Gillette, Dale *	6	2	3	1	1	13
Gilliam, Robert	1	1	4		4	10
Gilliland, Alice	3	1	4	6	13	27
Gipson, Gerald *			1			1

Table 12.3 Count of AMAD Published Peer Review Journal Articles for FY2004-FY2008 (continued)

AMAD Scientist	FY2004	FY2005	FY2006	FY2007	FY2008	Grand Total
Godowitch, James				1	6	7
Heist, David	2			1	2	5
Herwehe, Jerry			1			1
Howard, Steven				3		3
Huber, Alan *	2		4	2		8
Hutzell, William			1		1	2
Isakov, Vladilen			4	4	11	19
Luecken, Deborah			1		6	7
Mathur, Rohit	1	2	2	7	11	23
Mebust, Michelle #	2				1	3
Mobley, David		4	2		5	11
Napelenok, Sergey					5	5
Nolte, Christopher					3	3
Otte, Tanya		3		2	3	8
Perry, Steven	2	2			1	5
Petersen, William *	1			1	1	3
Pierce, Thomas	4	2		1	3	10
Pinder, Robert			2		7	9
Pleim, Jonathan	2	2	1	4	3	12
Pouliot, George	2	1		2	4	9
Rao, S.T.	1	2	5	2	13	23
Reff, Adam #				2	2	4
Roselle, Shawn	3	2		1	3	9
Roy, Dev #					2	2
Sarwar, Golam				1	7	8
Schere, Kenneth		3	2	4	5	14
Schwede, Donna					1	1
Streicher, John	1					1
Swall, Jenise		2	4	2	2	10
Torian, Alfreida						0
Touma, Jawad			1	2	3	6
West, Jeffrey				1		1
Wong, David		1			1	2
Young, Jeffrey		2			2	4
Contributions	**44**	**45**	**60**	**66**	**173**	**388**
Contributing Authors	**21**	**22**	**26**	**28**	**42**	**50**
Journal Articles	**13**	**18**	**34**	**32**	**64**	**161**

Retired *
Transferred #

12.2 Bibliometric Analysis of AMAD Publications (2003-2008)

This is a bibliometric analysis of the papers prepared by researchers of the U.S. Environmental Protection Agency (EPA) National Exposure Research Laboratory's Atmospheric Modeling and Analysis Division (AMAD). For this analysis, a total of 168 journal articles and 24 non-journal publications published from 2003 to 2008 were reviewed. The 168 journal publications were cited 908 times in the journals covered by Thomson's *Web of Science*[1] and Elsevier's Scopus[2]. Of the 168 journal publications, 112 (66.7%) have been cited at least once in a journal. Only 1 (4.2%) of the 24 non-journal publications was cited in journals covered by *Web of Science* and Scopus, and that book chapter was cited 4 times.

Searches of Thomson Scientific's *Web of Science* and Scopus were conducted to obtain times cited data for the journal publications. The analysis was completed using Thomson's *Essential Science Indicators (ESI)* and *Journal Citation Reports (JCR)* as benchmarks. *ESI* provides access to a unique and comprehensive compilation of essential science performance statistics and science trends data derived from Thomson's databases. For this analysis, the *ESI* highly cited papers thresholds as well as the hot papers thresholds were used to assess the influence and impact of the AMAD publications. *JCR* is a recognized authority for evaluating journals. It presents quantifiable statistical data that provide a systematic, objective way to evaluate the world's leading journals and their impact and influence in the global research community. The two key measures used in this analysis to assess the journals in which the AMAD papers were published are the Impact Factor and Immediacy Index. The Impact Factor is a measure of the frequency with which the "average article" in a journal has been cited in a particular year. The Impact Factor helps evaluate a journal's relative importance, especially when compared to other journals in the same field. The Immediacy Index is a measure of how quickly the "average article" in a journal is cited. This index indicates how often articles published in a journal are cited within the same year and it is useful in comparing how quickly journals are cited.

The report includes a summary of the results of the bibliometric analysis, an assessment of the 168 AMAD journal articles analyzed by *ESI* field (e.g., Engineering, Geosciences), an analysis of the journals in which the AMAD papers were published, a table of the highly cited researchers among the authors of the AMAD publications, and an assessment of the non-journal publications.

[1] Thomson Scientific's *Web of Science* provides access to current and retrospective multidisciplinary information from approximately 8,830 of the most prestigious, high impact research journals in the world. *Web of Science* also provides cited reference searching.

[2] Scopus is a large abstract and citation database of research literature and quality Web sources designed to support the literature research process. Scopus offers access to 15,000 titles from 4,000 different publishers, more than 12,850 academic journals (including coverage of 535 Open Access journals, 750 conference proceedings, and 600 trade publications), 27 million abstracts, 245 million references, 200 million scientific Web pages, and 13 million patent records.

SUMMARY OF RESULTS

1. **More than 32% of AMAD's publications were highly cited** using the ESI 10% threshold - (this is the threshold that OMB allows us to use for our PART reviews). Average ORD-wide scores are approximately 23%.

2. **Nearly one-third of the 168 AMAD journal publications are highly cited papers.** 55 (32.7%) of the 168 AMAD journal publications qualify as highly cited when using the *ESI* criteria for the top 10% of highly cited publications. This is 3.3 times the number expected. 9 (5.4%) of the 168 AMAD journal papers qualify as highly cited when using the *ESI* criteria for the top 1%, which is 5.4 times the number expected. 2 (1.2%) of the 168 AMAD publications qualifies as very highly cited when using the criteria the *ESI* criteria for the top 0.1% of highly cited publications. This number is 12 times higher than expected. 1 (0.6%) of the 168 AMAD publications qualifies as extremely highly cited when using the criteria the *ESI* criteria for the top 0.01% of highly cited publications. This number is 60 times higher than expected.

3. **The AMAD journal publications are more highly cited than the average paper.** Using the *ESI* average citation rates for papers published by field as the benchmark, in 4 of the 7 fields in which the 168 AMAD journal papers were published, the ratio of actual to expected cites is greater than 1, indicating that the AMAD journal publications are more highly cited than the average papers in those fields. For all 7 fields combined, the ratio of total number of cites to the total number of expected cites (908 to 370.7) is 2.4 indicating that the AMAD journal papers are more highly cited than the average paper.

4. **More than 5% of the AMAD journal papers are published in high impact journals ranked by Impact Factor and nearly one-quarter of the AMAD journal papers are published in high impact journals ranked by Immediacy Index.** 9 of the 168 journal papers were published in the top 10% of journals ranked by *JCR* Impact Factor, representing 5.4% of the AMAD journal publications. This number is approximately one-half of the number expected. 39 of the 168 papers appear in the top 10% of journals ranked by *JCR* Immediacy Index, representing 23.2% of AMAD's journal publications. This number is 2.3 times higher than expected.

5. **There were three hot papers among the 168 AMAD publications.** Using the hot paper thresholds established by *ESI* as a benchmark, 3 (1.8%) hot papers were identified in the analysis. This number is 18 times the number expected. Hot papers are papers that are highly cited shortly after they are published.

6. **The authors of the AMAD journal publications cite themselves much less than the average author.** 49 of the 908 total cites are author self-cites. This 5.4% author self-citation rate is well below the accepted range of 10-30% author self-citation rate.

7. **13 (2.9%) of the 448 authors of the NERL AMAD journal publications are included in *ISIHighlyCited.com***, which is a database of the world's most influential researchers who have made key contributions to science and technology during the period from 1981 to 1999.

8. **The 24 non-journal publications were cited 4 times in journals**. One of the 19 book chapters (4.2% of the non-journal publications) was cited in 4 different journals; one of these cites was an author self-cite. None of the other non-journal publications was cited. When applying the *ESI* benchmark for journal publications to these 24 non-journal publications, none of them met the criteria for highly cited when using the *ESI* thresholds for the top 10%, 1%, 0.1%, or 0.01%.

Highly Cited AMAD Publications

All of the journals covered by ESI are assigned a field, and to compensate for varying citation rates across scientific fields, different thresholds are applied to each field. Thresholds are set to select highly cited papers to be listed in *ESI*. Different thresholds are set for both field and year of publication. Setting different thresholds for each year allows comparable representation for older and younger papers for each field.

The 168 AMAD journal publications reviewed for this analysis were published in journals that were assigned to 7 of the 22 *ESI* fields. The distribution of the papers among these 7 fields and the number of citations by field are presented in Table 1.

Table 1. AMAD Journal Publications by *ESI* Fields

***ESI* Field**	**No. of Citations**	**No. of EPA AMAD Papers**	**Average Cites/Paper**
Biology & Biochemistry	4	1	4.0
Chemistry	0	1	0.0
Computer Science	0	1	0.0
Engineering	183	43	4.3
Environment/Ecology	68	14	4.9
Geosciences	651	107	6.1
Physics	2	1	2.0
Total = 7	**Total = 908**	**Total = 168**	**5.4**

There are 55 (32.7% of the 168 journal papers analyzed) highly cited AMAD journal publications in 3 of the 7 fields—Engineering, Environment/Ecology, and Geosciences—when using the *ESI* criteria for the **top 10% of papers**. Table 2 shows the number of AMAD journal publications in those 3 fields that meet the **top 10% threshold in *ESI***. This number is 3.3 times the number expected to meet this threshold.

Table 2. Number of Highly Cited AMAD Journal Publications by Field (top 10%)

ESI Field	No. of Citations	No. of Papers	Average Cites/Paper	% of AMAD Papers in Field
Engineering	125	9	13.9	20.9%
Environment/Ecology	48	5	9.6	35.7%
Geosciences	492	41	12.0	38.3%
Total = 3	**Total = 665**	**Total = 55**	**12.1**	**32.7%**

Nine (5.4%) of the AMAD journal publications analyzed qualify as highly cited when using the *ESI* criteria for the **top 1% of papers**. These publications are in 3 of the *ESI* fields—Engineering, Environment/ Ecology, and Geosciences. This number is 5.4 times higher than expected. Table 3 shows the nine papers by field that meet the **top 1% threshold in *ESI***. The citations for these papers are provided in Tables 4, 5, and 6. Two (1.2%) of the AMAD journal publications meet the **top 0.1%** *ESI* thresholds for highly cited papers, which is 12 times the number expected to meet this threshold. These publications are listed in Table 7. One (0.6%) of the AMAD journal publications actually meets the **top 0.01%** threshold in *ESI*, which is 60 times the expected number of publications to meet this threshold. This publication is listed in Table 8.

Table 3. Number of Highly Cited AMAD Journal Publications by Field (top 1%)

ESI Field	No. of Citations	No. of Papers	Average Cites/Paper	% of AMAD Papers in Field
Engineering	90	2	45.0	4.6%
Environment/Ecology	23	1	23.0	7.1%
Geosciences	162	6	27.0	5.6%
TOTALS	**Total = 275**	**Total = 9**	**30.6**	**5.4%**

Table 4. Highly Cited AMAD Journal Publications in the Field of Engineering (top 1%)

No. of Cites	First Author	Paper
83	Byun D	Review of the governing equations, computational algorithms, and other components of the Models-3 Community Multiscale Air Quality (CMAQ) modeling system. *Applied Mechanics Reviews* 2006;59(2):51-77.
7	Reff A	Receptor modeling of ambient particulate matter data using positive matrix factorization: review of existing methods. *Journal of the Air & Waste Management Association* 2007;57(2):146-154.

Table 5. Highly Cited AMAD Journal Publications in the Field of Environment/Ecology (top 1%)

No. of Cites	First Author	Paper
23	Lindberg S	A synthesis of progress and uncertainties in attributing the sources of mercury in deposition. *AMBIO* 2007;36(1):19-32.

Table 6. Highly Cited AMAD Journal Publications in the Field of Geosciences (top 1%)

No. of Cites	First Author	Paper
79	Binkowski FS	Models-3 Community Multiscale Air Quality (CMAQ) model aerosol component - 1. Model description. *Journal of Geophysical Research-Atmospheres* 2003;108(D6):4183.
40	Grell GA	Fully coupled 'online' chemistry within the WRF model. *Atmospheric Environment* 2005;39(37):6957-6975.
22	Eder B	A performance evaluation of the 2004 release of Models-3 CMAQ. *Atmospheric Environment* 2006;40(26):4811-4824.
8	Appel KW	Evaluation of the Community Multiscale Air Quality (CMAQ) model version 4.5: sensitivities impacting model performance. Part I – Ozone. *Atmospheric Environment* 2007;41(40):9603-9615.
9	Hudman RC	Surface and lightning sources of nitrogen oxides over the United States: Magnitudes, chemical evolution, and outflow. *Journal of Geophysical Research-Atmospheres* 2007;112(D12):D12S05.

No. of Cites	First Author	Paper
4	Altieri KE	Oligomers formed through in-cloud methylglyoxal reactions: chemical composition, properties, and mechanisms investigated by ultra-high resolution FT-ICR mass spectrometry. *Atmospheric Environment* 2008;42(7):1476-1490.

Table 7. Very Highly Cited AMAD Journal Publications (top 0.1%)

No. of Cites	ESI Field	Paper
83	Engineering	Byun D, et al. Review of the governing equations, computational algorithms, and other components of the Models-3 Community Multiscale Air Quality (CMAQ) modeling system. *Applied Mechanics Reviews* 2006;59(2):51-77.
23	Environment/ Ecology	Lindberg S, et al. A synthesis of progress and uncertainties in attributing the sources of mercury in deposition. *AMBIO* 2007;36(1):19-32.

Table 8. Extremely Highly Cited AMAD Journal Publication (top 0.01%)

No. of Cites	ESI Field	Paper
83	Engineering	Byun D, et al. Review of the governing equations, computational algorithms, and other components of the Models-3 Community Multiscale Air Quality (CMAQ) modeling system. *Applied Mechanics Reviews* 2006;59(2):51-77.

Ratio of Actual Cites to Expected Citation Rates

The expected citation rate is the average number of cites that a paper published in the same journal in the same year and of the same document type (article, review, editorial, etc.) has received from the year of publication to the present. Using the *ESI* average citation rates for papers published by field as the benchmark, in 4 of the 7 fields in which the AMAD journal papers were published, the ratio of actual to expected cites is greater than 1, indicating that the AMAD journal publications are more highly cited than the average papers in those fields (see Table 9). For all 7 fields combined, the ratio of total number of cites to the total number of expected cites (908 to 370.7) is 2.4, indicating that the AMAD journal publications are more highly cited than the average paper.

Table 9. Ratio of Actual Cites to Expected Cites for AMAD Journal Publications by Field

ESI Field	Total Cites	Expected Cite Rate	Ratio
Biology & Biochemistry	4	13.3	0.3
Chemistry	0	0.2	0.0
Computer Science	0	0.1	0.0
Engineering	183	63.5	2.9
Environment/Ecology	68	23.8	2.9
Geosciences	651	268.7	2.4
Physics	2	1.1	1.8
TOTAL	**908**	**370.7**	**2.4**

JCR Benchmarks

Impact Factor. The *JCR* Impact Factor is a well known metric in citation analysis. It is a measure of the frequency with which the "average article" in a journal has been cited in a particular year. The Impact Factor helps evaluate a journal's relative importance, especially when compared to others in the same field. The Impact Factor is calculated by dividing the number of citations in the current year to articles published in the 2 previous years by the total number of articles published in the 2 previous years.

Table 10 indicates the number of AMAD journal publications published in the top 10% of journals, based on the *JCR* Impact Factor. Nine of 168 journal papers were published in the top 10% of journals, representing 5.4% of AMAD's journal publications. This indicates that 5.4% of the AMAD journal publications are published in the highest quality journals as determined by the *JCR* Impact Factor, which is approximately one-half the expected percentage.

Table 10. AMAD Journal Publications in Top 10% of Journals by *JCR* Impact Factor

AMAD Papers in that Journal	Journal	Impact Factor (IF)	*JCR* IF Rank
2	Atmospheric Chemistry and Physics	4.865	365
6	Environmental Science & Technology	4.363	465
1	Bulletin of the American Meteorological Society	3.475	764
Total = 9			

Immediacy Index. The *JCR* Immediacy Index is a measure of how quickly the *average article* in a journal is cited. It indicates how often articles published in a journal are cited within the year they are published. The Immediacy Index is calculated by dividing the number of citations to articles published in a given year by the number of articles published in that year.

Table 11 indicates the number of AMAD journal publications published in the top 10% of journals, based on the *JCR* Immediacy Index. Thirty-nine of the 168 papers appear in the top 10% of journals, representing 23.2% of the AMAD journal papers. This indicates that nearly one-fourth of the AMAD journal papers are published in the highest quality journals as determined by the *JCR* Immediacy Index, which is 2.3 times higher than the expected percentage.

Table 11. AMAD Journal Publications in Top 10% of Journals by *JCR* Immediacy Index

AMAD Papers in that Journal	Journal	Immediacy Index (II)	*JCR* II Rank
1	Bulletin of the American Meteorological Society	1.087	329
1	Environmental Modelling & Software	0.976	410
2	Atmospheric Chemistry and Physics	0.925	451
1	AMBIO	0.777	610
1	Environmental Pollution	0.699	716
6	Environmental Science & Technology	0.615	876
27	Journal of Geophysical Research-Atmospheres	0.613	881
Total = 39			

Hot Papers

ESI establishes citation thresholds for hot papers, which are selected from the highly cited papers in different fields, but the time frame for citing and cited papers is much shorter—papers must be cited within 2 years of publication and the citations must occur in a 2-month time period. Papers are assigned to 2-month periods and thresholds are set for each period and field to select 0.1% of papers.

Using the hot paper thresholds established by *ESI* as a benchmark, three hot papers, representing 1.8% of the AMAD publications, were identified in the fields of Engineering and Environment/Ecology. The number of AMAD hot papers is 18 times higher than expected. The hot papers are listed in Table 12.

Table 12. Hot Papers Identified Using *ESI* Thresholds

Field	*ESI* Hot Papers Threshold	No. of Cites in 2-Month Period	Paper
Engineering	3	3 cites in February 2004	Vette A, et al. Environmental research in response to 9/11 and homeland security. *EM: Air and Waste Management Association's Magazine for Environmental Managers* 2004;FEB:14-22.
	5	7 cites in November-December 2007	Byun D, Schere KL. Review of the governing equations, computational algorithms, and other components of the Models-3 Community Multiscale Air Quality (CMAQ) modeling system. *Applied Mechanics Reviews* 2006;59(2):51-77.
Environment/ Ecology	7	8 cites in March-April 2008	Lindberg S, et al. A synthesis of progress and uncertainties in attributing the sources of mercury in deposition. *AMBIO* 2007;36(1):19-32.

Author Self-Citation

Self-citations are journal article references to articles from that same author (i.e., the first author). Because higher author self-citation rates can inflate the number of citations, the author self-citation rate was calculated for the AMAD papers. Of the 908 total cites of the 168 journal publications, 49 are author self-cites—a 5.4% author self-citation rate. Garfield and Sher[3] found that authors working in research-based disciplines tend to cite themselves on the average of 20% of the time. MacRoberts and MacRoberts[4] claim that approximately 10-30% of all the citations listed fall into the category of author self-citation. Kovacic and Misak[5] reported a 20% author self-citation rate for medical literature. Therefore, the 5.4% self-cite rate for the AMAD papers is well below the range for author self-citation.

Highly Cited Researchers

A search of Thomson's *ISIHighlyCited.com* revealed that 13 (2.9%) of the 448 authors of the AMAD papers are highly cited researchers. *ISIHighlyCited.com* is a database of the world's most influential researchers who have made key contributions to science and technology during the period from 1981 to 1999. The highly cited researchers identified during this analysis of the AMAD publications are presented in Table 13.

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[3] Garfield E, Sher IH. New factors in the evaluation of scientific literature through citation indexing. *American Documentation* 1963;18(July):195-210.

[4] MacRoberts MH, MacRoberts BR. Problems of citation analysis: a critical review. *Journal of the American Society of Information Science* 1989;40(5):342-349.

[5] Kovacic N, Misak A. Author self-citation in medical literature. *Canadian Medical Association Journal* 2004;170(13):1929-1930.

Table 13. Highly Cited Researchers Authoring NERL AMAD Journal Publications

Highly Cited Researcher	Affiliation	*ESI* Field
Carter, William Parker Lyon	University of California-Riverside	Environment/Ecology
Chow, Judith C.	Desert Research Institute	Environment/Ecology
Cosby, Bernard Jackson	University of Virginia	Environment/Ecology Engineering
Driscoll, Charles T.	Syracuse University	Environment/Ecology Engineering
Holloway John R.	Arizona State University	Geosciences
Lindberg, Steven E.	Oak Ridge National Laboratory	Environment/Ecology
Lioy, Paul J.	University of Medicine & Dentistry of New Jersey	Environment/Ecology
Parrish, David D.	National Oceanic and Atmospheric Administration	Geosciences
Sachse, Glen W.	National Aeronautics and Space Administration	Environment/Ecology
Schwartz, Stephen E.	Brookhaven National Laboratory	Geosciences
Singh, Hanwant B.	National Aeronautics and Space Administration	Geosciences
Watson, John G.	Desert Research Institute	Environment/Ecology
Winer, Arthur M.	University of California-Los Angeles	Environment/Ecology
Total = 13		

Non-Journal Publications (Book Chapters, Proceedings, and Reports)

Nineteen book chapters, 3 conference proceedings, 1 report, and 1 poster produced by AMAD from 2003 to 2008 were included in the analysis. Only 1 of the 24 non-journal publications was cited in journals covered by *Web of Science* and Scopus, and that book chapter was cited 4 times. One of the four cites was an author self-cite.

When applying the *ESI* benchmark for journal publications to these 24 non-journal publications, none of them met the criteria for highly cited when using the *ESI* thresholds for the top 10%, 1%, 0.1%, or 0.01%.

Acknowledgement

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12.3 AMAD Publications (FY2004-FY2008)

Wu, Y., B. Brashers, **P.L. Finkelstein**, **J.E. Pleim**. **A multi-layer bio-chemical dry deposition model 1. Model formulation.** *Journal of Geophysical Research*, 108(D1): ACH1-1-ACH1-12, (2003).

Wu, Y., B. Brashers, **P.L. Finkelstein**, **J.E. Pleim**. **A multi-layer bio-chemical dry deposition model 2. Model evaluation.** *Journal of Geophysical Research*, 108(D1): ACH2-1-ACH2-16, (2003).

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