

2016 Scientific Ocean Drilling Bibliographic Database Report

Covering records related to the Deep Sea Drilling Project,
Ocean Drilling Program, Integrated Ocean Drilling Program,
and International Ocean Discovery Program
from 1969 through June 2016

Produced by
International Ocean Discovery Program
Publication Services

September 2016

Introduction

This Scientific Ocean Drilling Bibliographic Database Report demonstrates the impact of publications from the Deep Sea Drilling Project (DSDP), Ocean Drilling Program (ODP), Integrated Ocean Drilling Program, and International Ocean Discovery Program (IODP). The number of bibliographic records indexed by the American Geosciences Institute (AGI) in the Scientific Ocean Drilling Bibliographic Database (previously named the Ocean Drilling Citation Database) as of June 2016 and “cited-by” statistics obtained through CrossRef and Google Scholar in July 2016 are presented in tables and charts that demonstrate trends for both authorship and usage.

Report categories

Data collected for the annual Scientific Ocean Drilling Bibliographic Database Report are divided into two main categories:

- **Program** records: publications produced and published by DSDP, ODP, the Integrated Ocean Drilling Program, or IODP. These records include but are not limited to the *Initial Reports of the Deep Sea Drilling Project*; the *Initial Reports* and *Scientific Results* volumes of ODP; the *Proceedings* volumes of the Integrated Ocean Drilling Program and IODP, the report and technical note series from each Program, and *Scientific Drilling*.
- **Non-Program** records: Program-related scientific research published in the open literature.

Non-Program publications are further categorized into three groups:

- **Serial** records: drawn from any periodically produced analytic or monographic journal or report, especially those that are peer reviewed, but may also include reports from universities, organizations, or government entities (e.g., *Open-File Reports—U.S. Geological Survey*).
- **Theses and dissertations**: Bachelor’s and Master’s theses and Ph.D. dissertations.
- **Miscellaneous** records: books, reports, monographs, maps, abstracts, posters, newsletters, videos, and CD-ROM/DVD-ROMs.

Overview

The Scientific Ocean Drilling Bibliographic Database is a subset of AGI’s GeoRef database. To generate the GeoRef database, AGI indexes and records bibliographic data from approximately 3,800 domestic and international publications. AGI also has arrangements to acquire metadata with many publishers, including Springer, Elsevier, the American Association for the Advancement of Science, Copernicus,

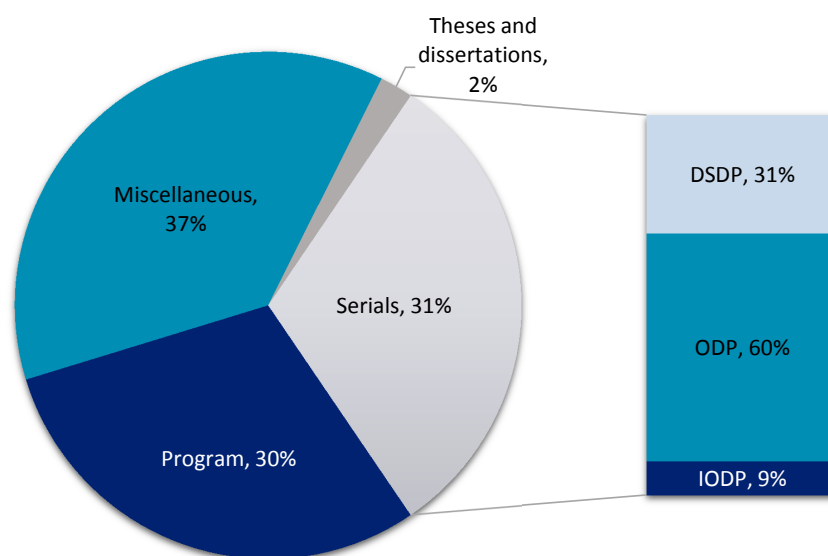
Wiley/Blackwell, the American Geophysical Union, and most of the Geoscience World publishers. In addition, IODP Publication Services notifies AGI when Program publications are released.

AGI produces the Scientific Ocean Drilling Bibliographic Database in collaboration with IODP. AGI uses a series of keywords to extract bibliographic records related to Program research from the GeoRef database. The database resides on the AGI server (<http://iodp.americangeosciences.org/vufind>) and is updated weekly. Metadata associated with each record can be saved to a personalized list, texted or emailed, or exported into common bibliographic software. The database also generates references in several formats.

Depending on the source from which AGI acquires its information, there may be a significant delay after publication before a record is included in the GeoRef database and later in the Scientific Ocean Drilling Bibliographic Database. There is no guarantee that all publication venues for Program research are included in GeoRef or the Scientific Ocean Drilling Bibliographic Database, but scientific publications throughout the world are represented.

As of June 2016, the database contains 32,259 records containing metadata from publications published from 1969 to 2016, including ~70% non-Program records and ~30% Program records (Figure 1). Since the 2014 report (published in 2015), 1,059 records have been added to the database. Figure 1 highlights the ~2% theses and dissertations (total = ~650) in the database, illustrating early career scientific research relating to the Program, and breaks out serial publications related to IODP and its predecessor programs. The IODP portion of this graph includes only Integrated Ocean Drilling Program records, as publications for the International Ocean Drilling Program are negligible to date.

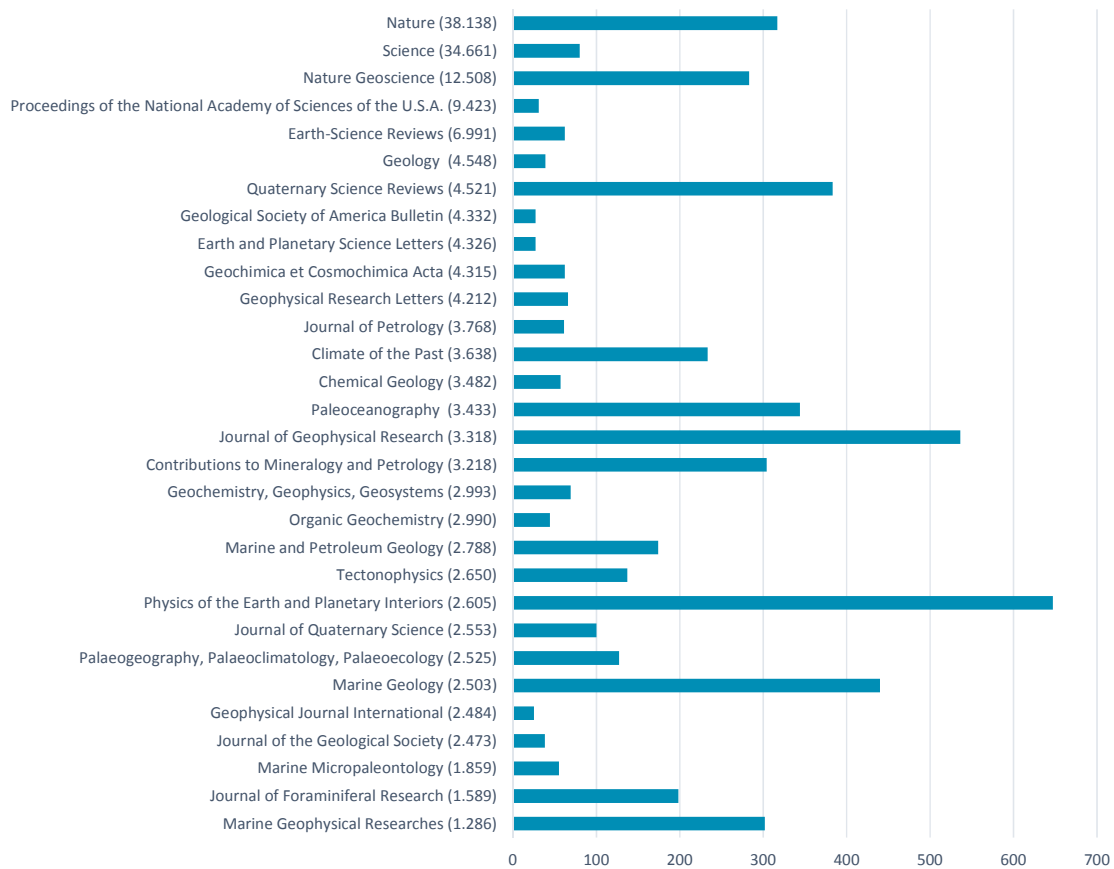
Figure 1. Overview of records in the Scientific Ocean Drilling Bibliographic Database (total = 32,259).



Publications from top-ranking peer-reviewed journals

Database records indicate that 9,933 Program-related papers have been published in non-Program, primarily peer-reviewed serial publications. A total of 5,546 of these research papers (more than 50% of the serial publications in the database) were published in 30 highly rated peer-reviewed journals, based on Thompson/Reuters ISI impact factor (see Figure 2). Starting in 1996, ODP permitted scientists to fulfill their ODP publication obligation by publishing postcruise research results in English language peer-reviewed journals. Approximately 70% of the papers illustrated in Figure 2 are Program-related research results that have been published in top-rated journals since 1996, the year the publication policy change took effect.

Figure 2. Highly rated peer-reviewed serials publishing Program-related expedition research results (1969–2016). Thompson/Reuters impact factor is given in parenthesis for each title.



Publications by authors from current member countries

Of the 9,933 Program-related papers published in serial publications, 8,774 (88%) are first-authored by scientists from current IODP member countries (Table 1). First authors are those who are listed first in the authorship of a paper. Contributing authors are those listed after the first authors. In Table 1, “Serial

contributions by country” shows the number of serial papers for which each country’s researchers are listed as contributing authors. The country is counted once per paper regardless of the number of authors from that country. “Serial contributions by author” shows the number of times researchers from each country are listed as contributing authors, including multiple contributors from a single country per paper. The column “Total contributions” shows the total number of times researchers from each country are included in the authorship of peer-reviewed serials, including first and contributing authors and multiple contributors from a single country per paper.

Table 1. Serial publication authorship by first author, contributing country, contributing authors, and total contributions (1969–2016).

Member country or consortia	First authors of serials	Serial contributions by country	Serial contributions by author	Total contributions
Australia/New Zealand Consortium	279	254	310	589
Australia	164	169	194	358
New Zealand	115	85	116	231
Brazil	20	15	15	35
China	311	108	129	440
ECORD	3,755	2,851	3,650	7,405
Austria	8	17	17	25
Belgium	41	42	46	87
Canada	311	216	265	576
Denmark	44	64	68	112
Finland	8	5	5	13
France	570	456	635	1,205
Germany	882	577	763	1,645
Ireland	5	11	13	18
Israel	21	6	6	27
Italy	247	205	264	511
Netherlands	193	133	145	338
Norway	126	104	117	243
Poland	15	4	4	19
Portugal	8	21	23	31
Spain	119	126	151	270
Sweden	96	70	70	166
Switzerland	125	99	107	232
United Kingdom	936	695	951	1,887
India	159	30	31	190
Japan	580	485	1,168	1,748
Republic of Korea	35	42	47	82
United States	3,648	1,545	3,207	6,855
Total papers:	8,787			17,344

Table 2 expands on the first author column reported in the table above to show the breakdown of first author country or consortium affiliation for all non-Program publication types in the database. Note that theses and dissertations are underreported to AGI and are not fully represented.

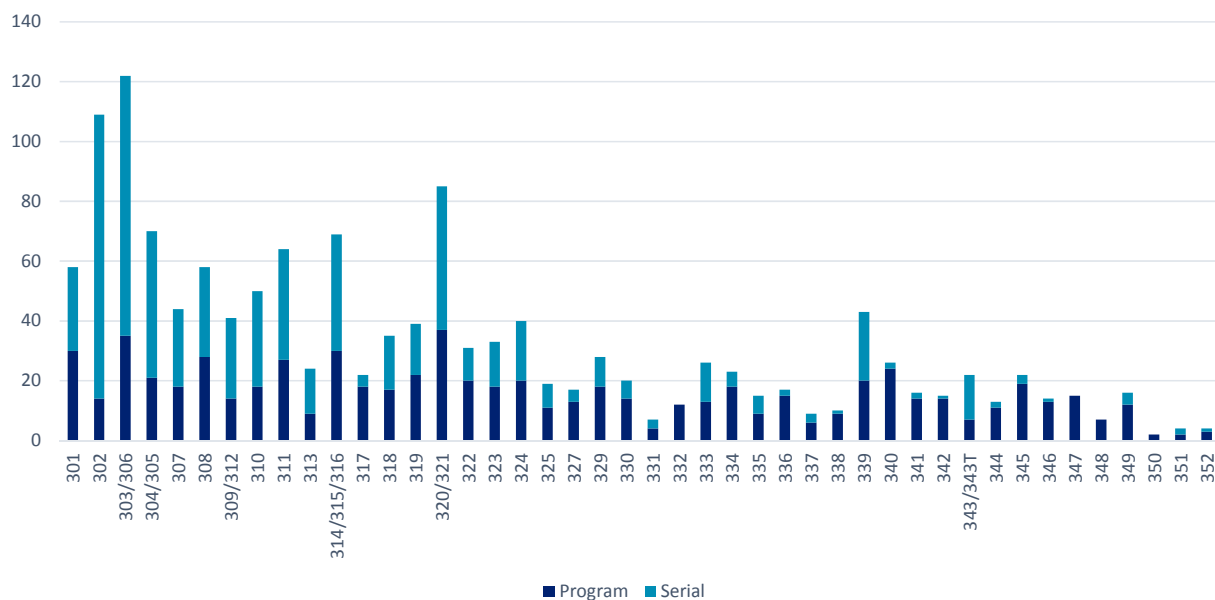
Table 2. First-authored non-Program publications by type and funding consortium (1969–2016).

Member country or consortia	Serials	Misc.	Theses and dissertations		
			B.S.	M.S.	Ph.D.
Australia/New Zealand Consortium	279	376	3	5	3
Brazil	20	24	0	0	0
China	311	82	0	0	0
ECORD	3,755	4,092	14	17	100
India	159	38	0	3	3
Japan	580	610	0	0	0
Republic of Korea	35	34	0	0	0
United States	3,648	5,777	20	214	302
Totals:	8,787	11,033	37	239	408

Publications by expedition

Figure 3 shows Program (Initial Reports, Scientific Reports, Expedition Reports, post-expedition research data reports, and Scientific Drilling papers) and non-Program serial publications for all completed Integrated Ocean Drilling Program and IODP expeditions at the end of June 2016 (Expeditions 301–352). Note that the publication tail for postcruise expedition research in both Program and serial publications extends for several years after the end of the expedition; hence, more recent expeditions have fewer publications credited to them, as illustrated in the figure.

Figure 3. Publication records for Expeditions 301–352 (2003–2016).



Publications by Science Plan theme

Figure 4 shows Program and non-Program (all types) records related to Integrated Ocean Drilling Program expeditions (Expeditions 301–348) and sorted by Integrated Ocean Drilling Program Initial Science Plan themes. Initial Science Plan themes are tied to the primary objectives of each expedition as listed in *Developments in Marine Geology 7: Earth and Life Processes Discovered from Subseafloor Environments (A Decade of Science Achieved by the Integrated Ocean Drilling Program [IODP])*.

- Deep Biosphere: Expeditions 308, 313, 314/315/316, 319, 332–336, 339, 341, and 342.
- Environmental Change, Processes and Effects: Expeditions 309/312, 310, 318, 320/321, 323, 324, 330, 344, 346, and 347.
- Solid Earth Cycles and Geodynamics: Expeditions 311, 317, 322, 325, 357, 329, 331, 337, 338, 340, 343, and 345.

Figure 4. Integrated Ocean Drilling Program publication records by Initial Science Plan theme (2006–2016).

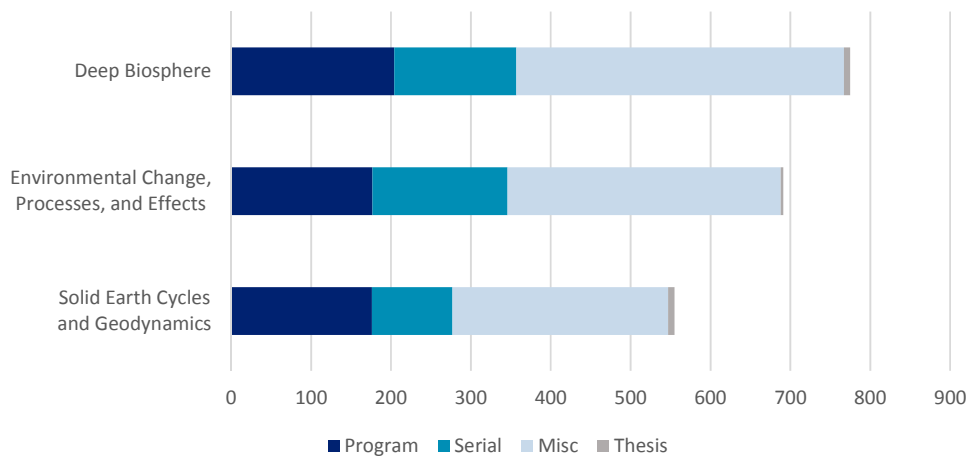
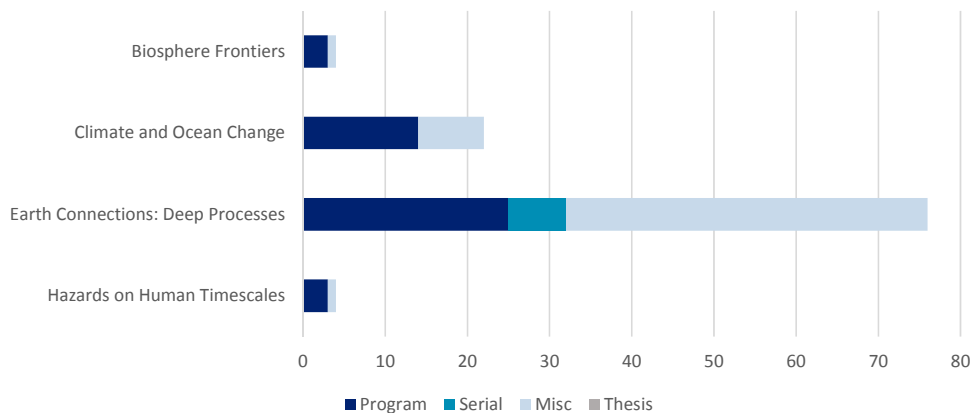


Figure 5 shows Program and non-Program (all types) serial, miscellaneous, and thesis/dissertation publication records related to IODP (Expeditions 349 and beyond) and sorted by IODP Science Plan themes.

- Biosphere Frontiers: Expeditions 357, 360, and 364.
- Climate and Ocean Change: Expeditions 353–356, 359, 361, 363, and 369.
- Earth Connections: Deep Processes: Expeditions 349–352, 355, 360, and 366–368.
- Hazards on Human Timescales: Expeditions 357, 362, and 365.

Figure 5. International Ocean Discovery Program publication records by Science Plan theme (2013–2016).



Cited-by statistics

As indexing and interconnectivity of scientific research results increase, it is now possible to illustrate through “cited-by” data how often scientific publications are cited in other research articles. Cited-by data, in the form of number of times an article has been cited, can be accrued through several venues: Science Direct, SCOPUS, CrossRef, Web of Science, Web of Knowledge, and others. Comprehensive cited-by results are unavailable at this time, as not all publishers utilize cited-by data compilers. For this report, we collected cited-by data in June 2016 through Google Scholar (which seems to have the most comprehensive data). Review of these cited-by data shows that Program publications and non-Program serial publications containing research results from Integrated Ocean Drilling Program and IODP expeditions have been cited in other research articles more than 20,000 times between 2003 and 2016. Figure 6 includes available cited-by counts for completed expeditions as of June 2016.

Using the same method, cited-by data were collected for Program-related research articles published in top-rated scientific journals. Figure 7 shows that articles published in *Nature*, the highest rated journal on the list, have the most citations to Program and non-Program publications containing expedition-related research.

In 2013, IODP instituted a web-based cited-by linking function that parses metadata from CrossRef’s Cited-by Linking service to provide links from *Proceedings* table of contents pages to scientific articles or books that cite a Program publication. Cited-by results are continually updated (<http://publications.iodp.org>). Note that these cited-by results include cites only from publishers that participate in CrossRef DOI services.

Figure 6. Number of times Program or non-Program serial publications from Integrated Ocean Drilling Program and IODP expeditions were cited by other research articles (2003–2016).

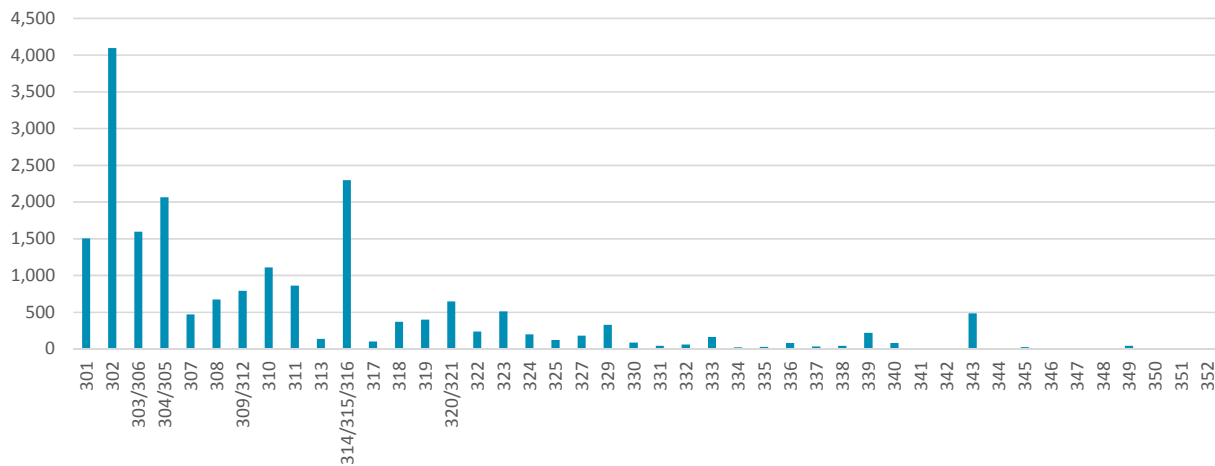
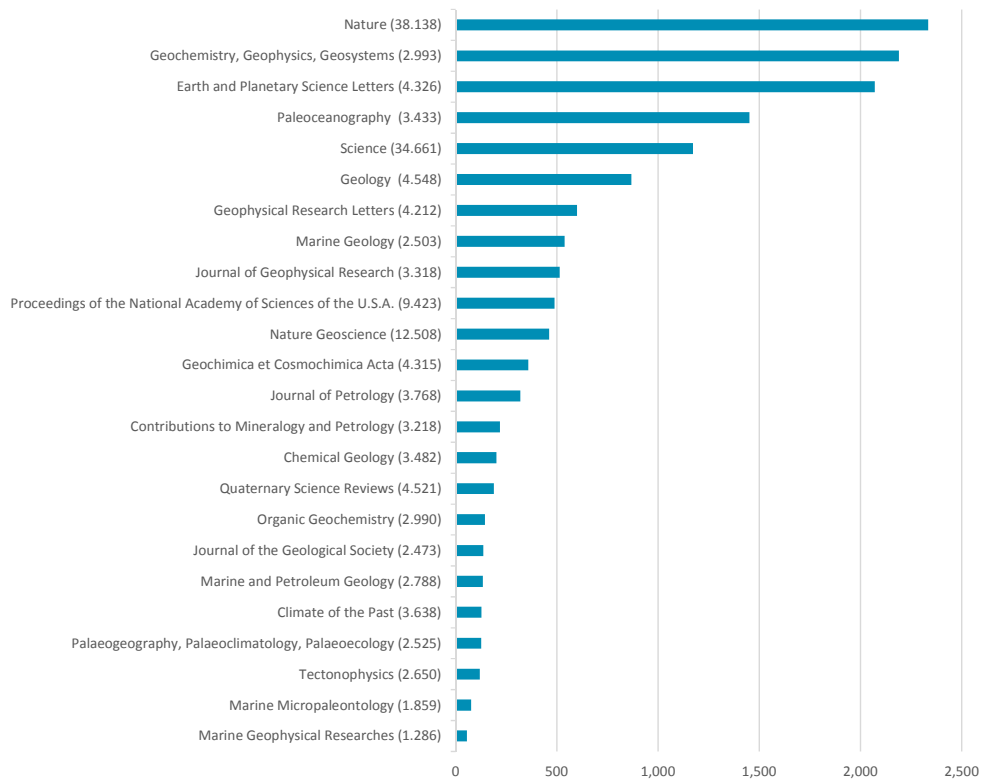


Figure 7. Number of times Program or non-Program serial publications related to Integrated Ocean Drilling Program and IODP expeditions have been cited in papers published in highly rated peer-reviewed serials. Thompson/Reuters impact factor is given in parenthesis for each journal title.



Customized reports

IODP funding agencies, implementing organizations, program member offices, and individual member countries may request customized reports that may include combinations of publication data organized by

- Country or consortia;
- Program (DSDP, ODP, Integrated Ocean Drilling Program, or IODP);
- Leg, expedition, complex science program, or geographic area;
- Publication year; or
- Specific serial publication.

To request a customized report, contact Citations@iodp.tamu.edu.