

# Is Grey Literature Ever Used?

Using Citation Analysis to Measure the Impact of GESAMP,\*  
an International Marine Scientific Advisory Body

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**\*IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts  
on the Scientific Aspects of Marine Environmental Protection**



# Presentation Outline

- Background on GESAMP
- Reasons for doing this study
- Broader relevance
- Discussion of Grey Literature and GESAMP publications
- Locating GESAMP citations
- Analysis of the results
- Impact of the study

# GESAMP

- **IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP  
Joint Group of Experts on the Scientific Aspects of Marine  
Environmental Protection**
  - sponsored by the UN and seven of its agencies
  - active since 1969
- is a committee of volunteer scientific experts
  - working groups address specific questions
- internal and external peer review of reports
- gives advice on marine environmental protection
  - to the agencies
  - through them, to their member governments
  - to scientists, managers, other organizations

# Why was this study done?

- GESAMP was being reviewed
  - needed evidence that its work is used
- Citation indexes are an available tool
  - locate references in journal articles
- Citation analysis used elsewhere for measuring impact of organizations

# Broader Relevance

- GL is a large but undervalued genre
- Citation studies can show that GL is used
  - Few have been published
- Developed strategies for locating citations of a complex body of GL

# Grey Literature is...

“that which is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers”

*(Fourth International Conference on Grey Literature, October 1999)*

“literature which is not readily available through normal book selling channels, and therefore difficult to identify and obtain”

*(C. P. Auger, 1998, Information Sources in Grey Literature, p. 3.)*

also called “report literature”

# Grey Literature (GL) Spectrum

## **White**

Commercially published books and journals.

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## **Light grey**

Theses, standards, patents

**Technical reports in numbered series**

**Electronic documents on the Internet**

Government documents

## **Medium grey**

Corporate annual reports, directories

Product information, catalogues

Newsletters, conference proceedings, pre-prints

Consultants' reports, bibliographies

## **Dark grey**

Brochures, non-commercial translations

**Background documents, drafts of technical reports**

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## **Black**

Internal documents of organizations, other inaccessible items



# Grey Literature Features of GESAMP Reports and Studies

- Inconsistencies in
  - Corporate author name, series title, report title
  - Inclusion of ISSN, ISBN, date
  - Indexing
- Eight publishing agencies
  - Two “Report # 11”s
  - Some reports reprinted in other series
- Difficult to locate in catalogues and indexes



# Locating GESAMP Citations

- Web of Science
  - an interdisciplinary citation index
  - compact format for representing citations
  - no standard way of entering GL citations
- Multiple searches required
  - searches based on GESAMP, sponsoring agencies, report series, titles
  - searches for books and papers

# IMO\*FAO\* in *Cited Work*

	Hits	Cited Author	Cited Work	Volume	Page	Year
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# “J\*GR\*EX” in *Cited Author*

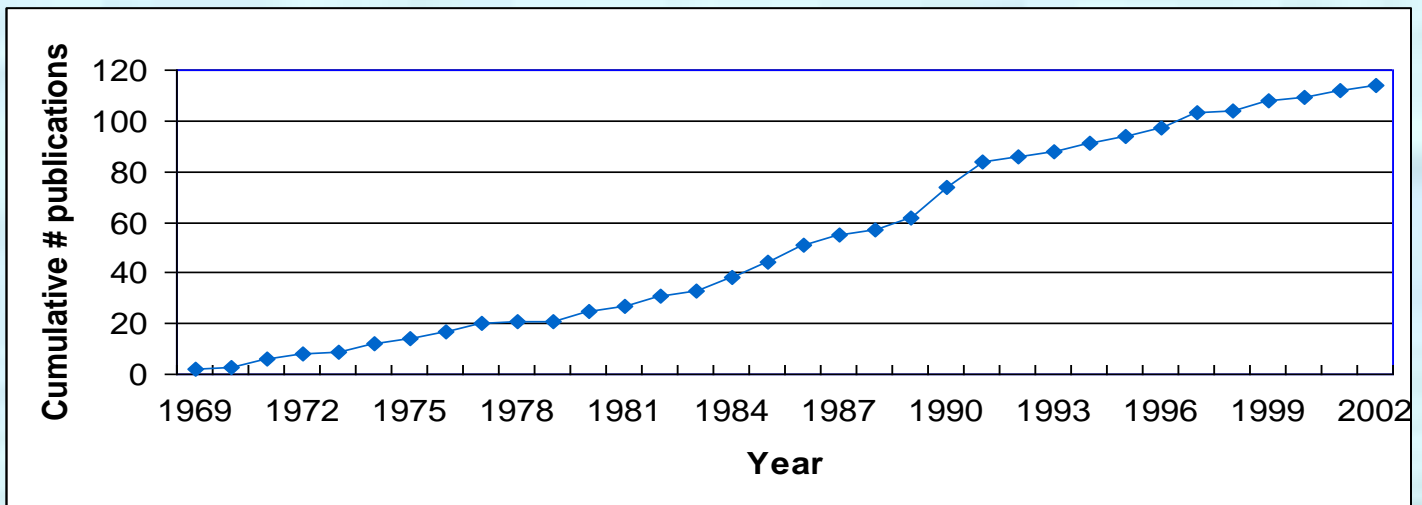
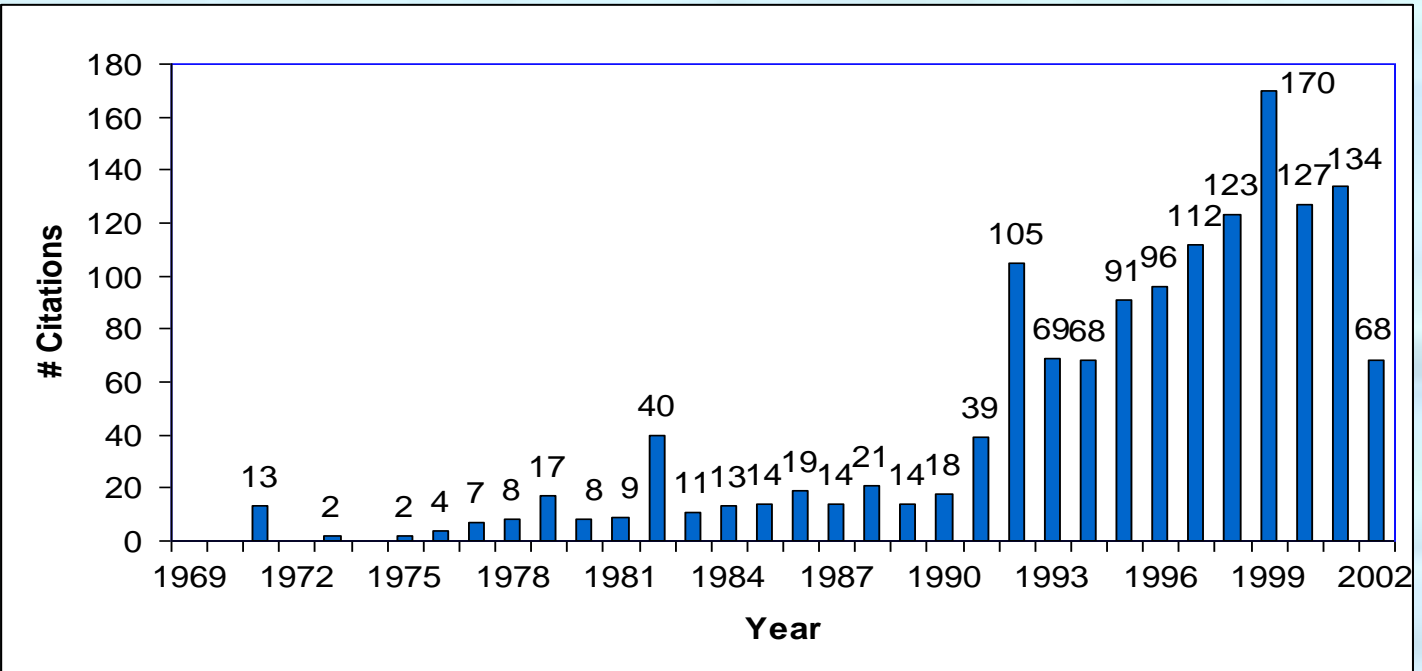
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# Search Results

- 1436 citations in 1178 papers
- 88.2% of papers contain a single citation
- Maximum 17 citations in one papers
- 928 (64.6%) to Grey Literature items
- 1381 (96.2%) to thematic report versions

# Annual Citations & Cumulative Publications

VS  
Time  
  
(1969 –  
July 2002)

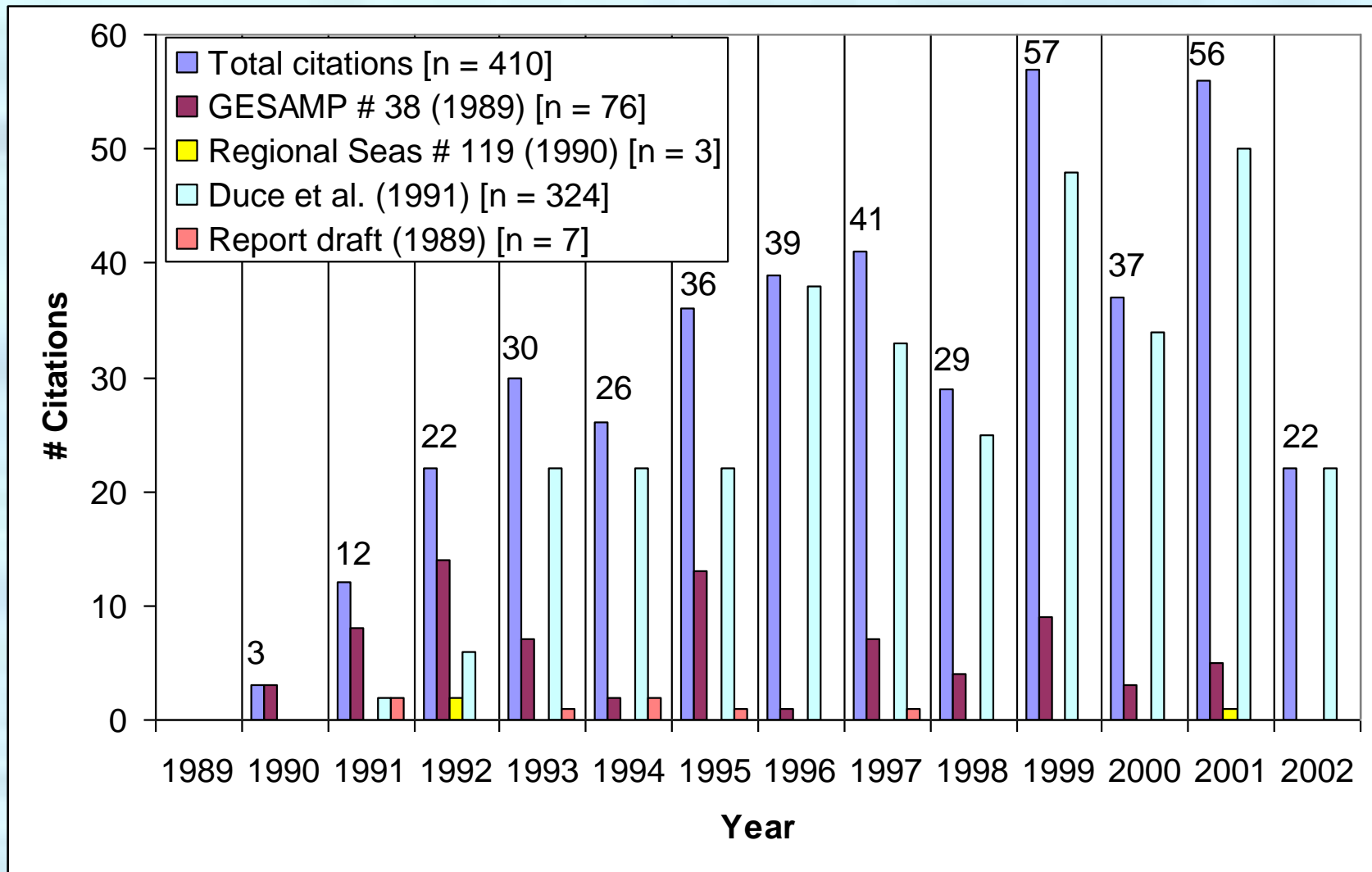


# Most Highly Cited Reports

<b>Title</b>	<b>Year</b>	<b># citations GESAMP version</b>	<b># citations UNEP version</b>	<b># citations book / journal</b>	<b># citations draft version</b>	<b>Total # citations</b>	<b>Total # citing papers</b>
<b>The Atmospheric Input of Trace Species to the World Ocean</b>	<b>1989 1990 1991</b>	<b>76</b>	<b>3</b>	<b>324</b>	<b>7</b>	<b>410</b>	<b>394</b>
<b>The State of the Marine Environment</b>	<b>1990 1990 1991</b>	<b>54</b>	<b>85</b>	<b>26</b>		<b>165</b>	<b>164</b>
<b>Technical Annexes to the Report on the State of the Marine Environment</b>	<b>1990</b>		<b>11</b>	<b>67</b>		<b>78</b>	<b>78</b>
<b>Land/Sea Boundary Flux of Contaminants: Contribution from Rivers</b>	<b>1987</b>	<b>57</b>			<b>3</b>	<b>60</b>	<b>60</b>
<b>The Review of the Health of the Oceans</b>	<b>1982 1982</b>	<b>20</b>	<b>27</b>			<b>47</b>	<b>47</b>
<b>Impact of Oil on the Marine Environment</b>	<b>1977</b>	<b>44</b>				<b>44</b>	<b>44</b>
<b>Review of Potentially Harmful Substances: Arsenic, Mercury and Selenium</b>	<b>1986 1988</b>	<b>36</b>	<b>7</b>			<b>43</b>	<b>43</b>

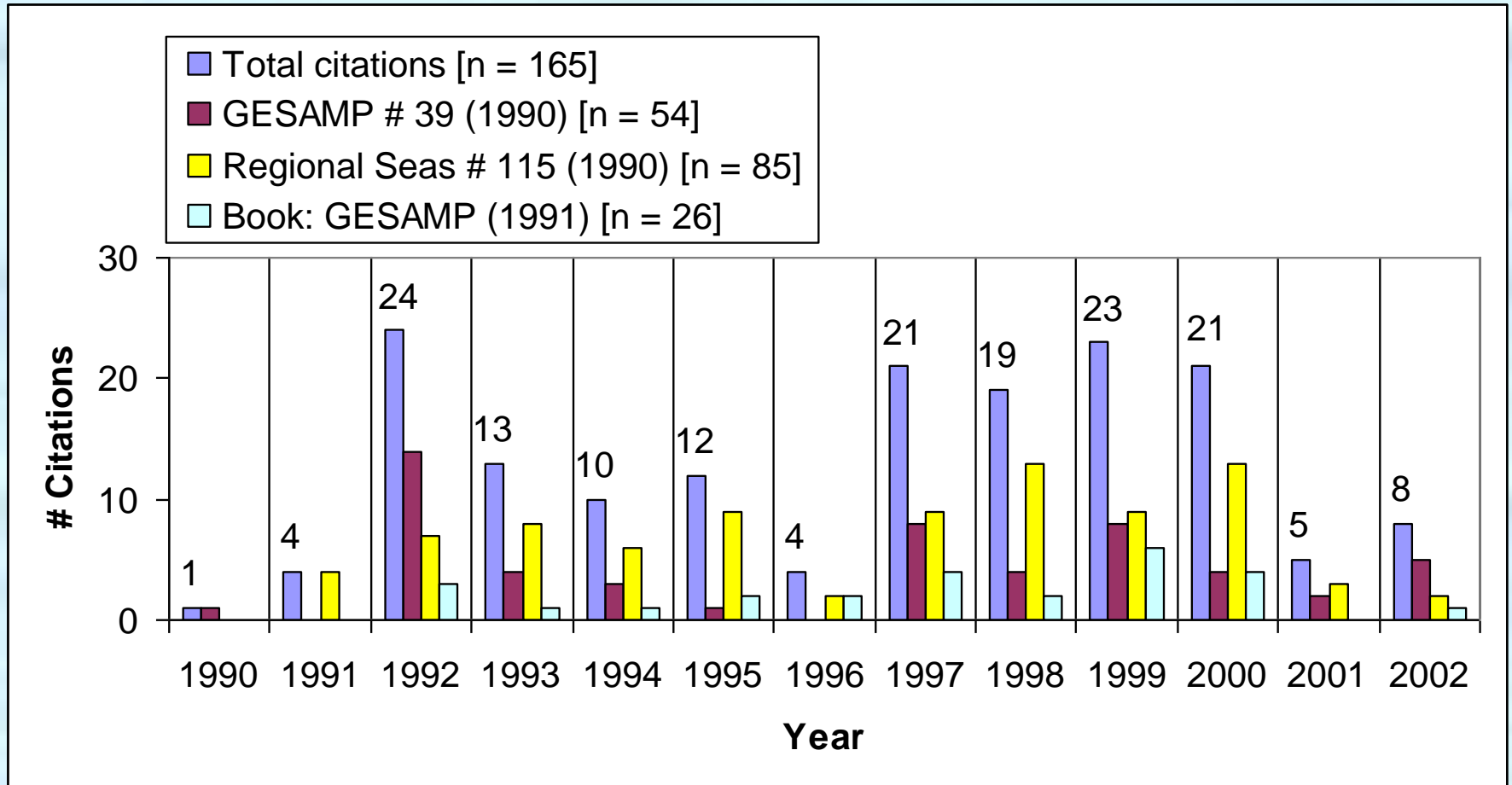


# Citations of Versions of *The Atmospheric Input of Trace Species to the World Ocean*





# Citations of Versions of *The State of the Marine Environment*



# People who Cite GESAMP Most Often

<b>Name</b>	<b>Role</b>	<b># Citations</b>	<b># Papers</b>	<b># Items</b>
<b>P. G. Wells</b>	<b>GESAMP chair 1999 - 2000, Working group chair</b>	<b>48</b>	<b>11</b>	<b>28</b>
<b>T. Hofer</b>	<b>Working group member</b>	<b>40</b>	<b>7</b>	<b>20</b>
<b>R. A. Duce</b>	<b>GESAMP chair 2001 - 2002, Working group chair</b>	<b>32</b>	<b>15</b>	<b>19</b>
<b>J. M. Bewers</b>	<b>GESAMP member, Working group member</b>	<b>23</b>	<b>9</b>	<b>14</b>
<b>J. S. Gray</b>	<b>GESAMP chair 1993 - 1994, Working group chair</b>	<b>23</b>	<b>12</b>	<b>14</b>
<b>S. Boehmer Christianse n</b>	<b>No GESAMP connection</b>	<b>21</b>	<b>5</b>	<b>18</b>
<b>T. D. Jickells</b>	<b>Working group member</b>	<b>21</b>	<b>18</b>	<b>4</b>
<b>R. Arimoto</b>	<b>Working group member</b>	<b>20</b>	<b>17</b>	<b>2</b>

# Self-citation within GESAMP

- Identified 690 people connected to GESAMP
  - members, administrators, observers at sessions
  - working group members, reviewers (6 reports)
  - year when they joined GESAMP
- 146 of them (21.2%) cite GESAMP
- In 363 citing papers (30.8% of 1178)

# Core Journals (containing 477 citations in 360 papers)

	# citations	# papers
Marine Pollution Bulletin	185	135
Science of the Total Environment	56	37
Marine Chemistry	46	39
Marine Policy	42	22
Journal of Geophysical Research – Atmospheres	40	40
Atmospheric Environment	39	38
Ocean & Coastal Management	38	19
Marine Ecology – Progress Series	31	30

# Categories from Journal Citation Reports

## *Top Science Categories*

	<i># citations</i>	<i># journals</i>
• Environmental Sciences	641	58
• Marine & Freshwater Biology	385	43
• Oceanography	223	27
• Geosciences, Interdisciplinary	135	28
• Meteorology & Atmospheric Sciences	115	11

## *Top Social Science Categories*

• International Relations	64	8
• Environmental Studies	52	5
• Law	26	7

## *Other Diverse Science Categories*

• Engineering, Environmental	78	8
• Fisheries	51	14
• Public, Environmental & Occupational Health	17	7
• Food Science & Technology	10	6

# Impact of this Study

- Shows that Web of Science can be used to trace citations of a complex body of Grey Literature
- GESAMP publications are influential, cited
  - over many years after publication
  - mostly by people not directly connected to GESAMP
  - in environmental science journals
  - also in a variety of other disciplines
- Contributed to the review process
  - GESAMP to continue with revised structure





# Links

Web of Science

<http://www.library.dal.ca/databases/dbalpha.htm#W>

GESAMP [www.imo.org](http://www.imo.org)

# GESAMP Publications

Format		Session reports	Thematic reports	Total
Grey Literature	Reports and Studies	25	48	99
	Reprints in other series	1	14	
	Only in another series		1	
	Early documents	6	2	
	Histories	2		
	Working documents, drafts, translations			
White Lit.	Books, Journal articles	7	8	15

# Search Strategies

## Cited Author

- GESAMP\*
- GR\* EX\*  
SCI\*
- IMCO\*FAO\*
- IMO\*FAO\*
- J\* GR\* EX\*
- UN GR\* EXP\*

## Cited Work - Report Titles

- atm\* inp\* t\*
- sta\* mar\* env\*
- sea\* mic\*
- land\*sea\* b\* OR cont\* riv\*
- rev\* h\* oc\* OR hlth oc\*
- imp\* oil mar\*
- imp\* oil rel\*

# Search Strategies – Cited Work

- FAO\* REP\* n\*FAO\* REP\* (n=0,9)
- GESAMP\* i\*GESAMP\* (i=0,9 and A-Z)
- G\* REP\* STUD\* n\*G\* REP\* STUD\* (n=0,9)
- GR\* EX\* SC\* n\*GR\* EX\* SC\* (n=0,9)
- IMCO\*FAO\* or IMCO\* REP\* n\*IMCO\* (n=0,9)
- IMO\*FAO\* or IMO\* REP\* n\* IMO\* (n=0,9)
- J\* GR\* EX\* n\*J\* GR\* EX\* (n=0,9)
- REG\* SEA\* n\*REG\* SEA\* (n=0,9)
- REP STUD\*
- REPORTS STUDIES\* n\*REP\* STUD\* (n=0,9)
- UN ENV\* PR\* n\*UN ENV\* PR\* (n=0,9)
- UN REP\* ST\* n\*UN REP\* ST\* (n=0,9)
- UNEP\* REG\* n\*UNEP\* (n=0,9)
- UNESCO\* REP\* ST\* n\*UNESCO\* REP\* ST\* (n=0,9)
- UNEP\* REP\* ST\* n\*UNEP\* REP\* ST\* (n=0,9)
- WHO\* REP\* ST\* n\*WHO\* REP\* ST\* (n=0,9)
- WMO\* REP\* ST\* n\*WMO\* REP\* ST\* (n=0,9)

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SELECT PAGE or select specific references from list.

SEARCH to find articles that cite selected references.

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References 1 -- 18

Navigation: [ < ] >

	Hits	Cited Author	Cited Work	Volume	Page	Year
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