Lecture 10
Citation and Bibliography Management

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Citation in scientific papers

Science is an accumulative process that builds on work done before yours. It is necessary that you refer to those previous work relevant to your study. This is where citation occurs.

Citation in scientific paper is comprised of two parts: in-text citation and full citation information in the reference list.

In-text citation

In-text citation typically takes two styles: **information prominent citation** and **author prominent citation**.

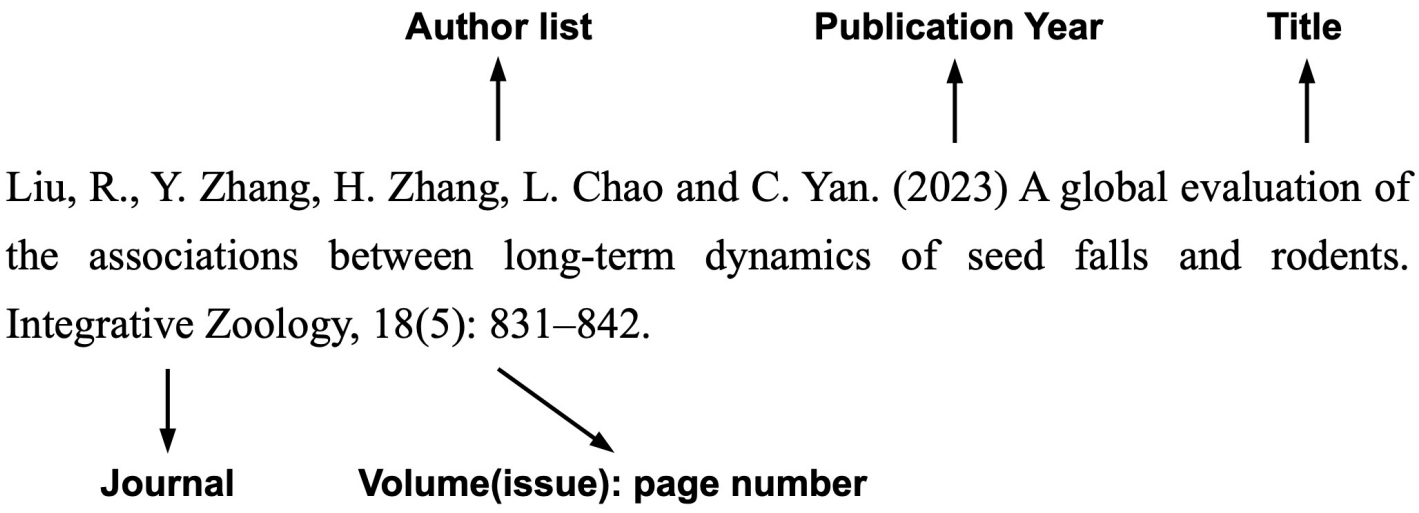
> Nitrogen addition typically increased plant productivity in terrestrial and aquatic ecosystems (Elser et al. 2007)
>
> Elser et al. (2007) found that nitrogen addition often increased plant productivity in terrestrial and aquatic ecosystems.

Information prominent citation is most common because we usually want to emphasize the content when writing. However, when it is important to highlight who the author is, you can use the author prominent citation style.

> For well over a half century, aquatic gross primary production and ecosystem respiration have been estimated from open–water dissolved oxygen measurements. Odum (1956) first proposed using diel changes in DO concentration to parse the autotrophic and heterotrophic components of whole ecosystem metabolism.

Full citation information

Full citation information usually contains author list, publication year, paper title, journal, volume, issue, and page numbers.



Full citation information

The format of full citation information differs from journal to journal. Consult the author guidelines for formatting requirement prior to submission. In general, format may differ in:

- format of author names, e.g., Song, C. or C. Song, or C Song;
- whether publication year is in parenthesis or not;
- whether journal name is abbreviated;
- whether journal name and/or volume number is in bold;
- whether DOI is required in citation information.

Citation format

Below are examples of different citation format.

Song, C., S. D. Peacor, C. W. Osenberg, and J. R. Bence (2020) An assessment of statistical methods for nonindependent data in ecological meta-analyses. Ecology, 101(12): e03184.

Song, C., S. D. Peacor, C. W. Osenberg, and J. R. Bence 2020. An assessment of statistical methods for nonindependent data in ecological meta-analyses. Ecology, **101**(12): e03184.

Song, C., S. D. Peacor, C. W. Osenberg, and J. R. Bence. An assessment of statistical methods for nonindependent data in ecological meta-analyses. Ecology, **101**(12): e03184 (2020).

Song C, SD Peacor, CW Osenberg, and JR Bence (2020) An assessment of statistical methods for nonindependent data in ecological meta-analyses. Ecology, 101(12): e03184, doi: 10.1002/ecy.3184.

Reference management software

You do not need to enter all reference information manually. Bibliography management software may help you **organize references** and **format citation** in papers.

Typical functionalities of reference management software include:

- Import citation information from database;
- Organize papers into collections or libraries;
- Store and annotate PDFs of the papers;
- Synchronize papers to online storage spaces;
- Produce formatted citation in a variety of styles;
- Work with word processing software to facilitate in-text citation.

Reference management software

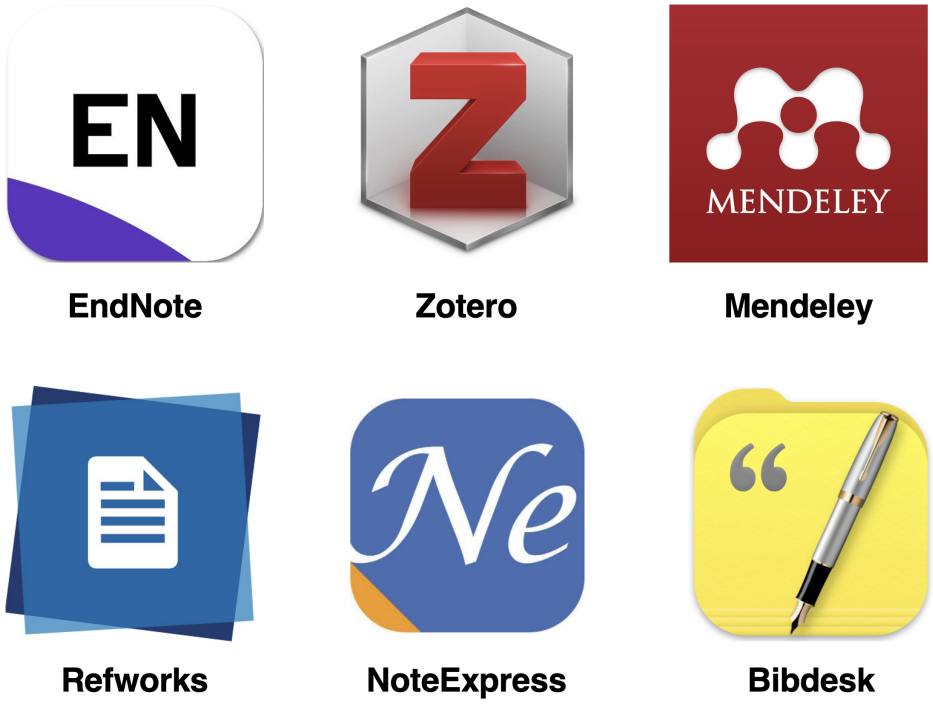
Bibliography information can often be imported directly from journal website or database, but manual curation is often needed for accuracy.

Common caveats include:

- imcomplete page numbers;
- upper or lower case letter;
- text format, e.g., species name, chemical formula
- journal name abbreviation (List of journal abbreviation)

Reference management software

Many citation management software are available. They often share similar functionalities. Try them and choose one that works for you.



Common bibliography management software

Accurate citation

Reference should be in accordance with the statement or findings made by the citing author. Accurate citation is part of being a rigorous researcher;

Citation allows the reader to trace the flow of evidence, serving as a gateway to relevant literature. Accurate citation ensures that your paper is useful to readers; Reviewers also evaluate whether references are cited correctly.

Table 4 Citation inaccuracies

Citation inaccuracies	Total, *n* (%)	Feasibility study, *n* (%)	Verification set, *n* (%)
Inaccurate citations, *n* (%)	688/7438 (9.2)	183/2,526 (7.2)	505/4,912 (10.3)
Articles with inaccurate citations, *n* (%)	620/4535 (13.7)	171/1,540 (11.1)	449/2,995 (15.0)
Type of citation error, *n* (%)*			
Citation of nonexistent finding	264 (38.4)	86 (47.0)	178 (35.2)
Inaccurate interpretation of findings	106 (15.4)	39 (21.3)	67 (13.3)
Inaccurately cited numerical data/results	114 (16.6)	16 (8.7)	98 (19.4)
Wrong context	41 (6.0)	15 (8.2)	26 (5.1)
Citation of quoted findings of another source	104 (15.1)	11 (6.0)	93 (18.4)
Inaccurately cited method	34 (4.9)	9 (4.9)	25 (4.9)
Citation of nonexistent numerical data/results	18 (2.6)	6 (3.3)	12 (2.4)
Reference listed in bibliography but not cited in the text	6 (0.9)	1 (0.5)	5 (1.0)

(Pavlovic et al 2021, Clinical Science)

Accurate citation

Always go back to and check the original reference when citing. Chain of inaccurate citation is a major source of improper citation.

Tip 8 - References: always go back to the original source!

Best practices for citation

Recommended practices for citation:

- Read and understand a paper before citing it;
- Statements should be verified against the original paper, not indirect sources;
- Cite original research instead of abstracts or narrative reviews;
- When multiple supporting citations are available, cite the more informative studies with stronger designs.

Where do I find relevant papers?

Search in citation index databases

- Web of Science;
- Scopus
- China National Knowledge Infrastructure (CNKI).

Search engine tools designed for academic research

- Google Scholar;
- Microsoft Academic Search;
- Crossref.

Follow social media sites for scientists

- Researchgate;
- ResearcherID.

Search strategy

Use the following operators to specify a search:

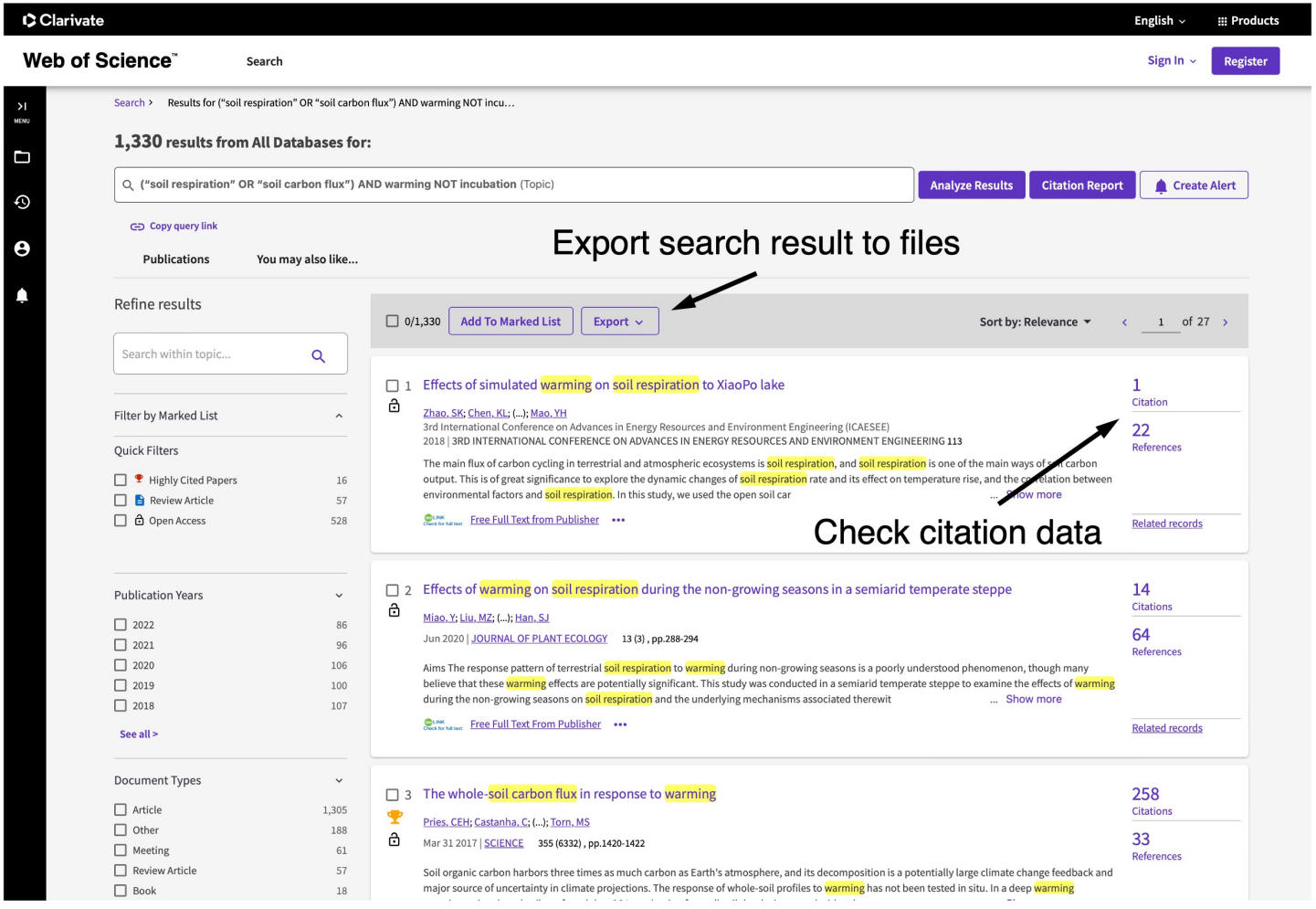
- Boolean operature: AND, OR, NOT
- Wildcard (*): use wildcard in pace of unspecified characters
- Exact match: enclose in quotation marks
- Parenthesis: group conditions together.

Example: (“soil respiration” OR “soil carbon flux”) AND warming NOT incubation. This will give references that

- contains the term “warming”, and
- contains the term “soil respiration” or “soil carbon flux”, and
- do not contain the term “incubation”.

Web of Science

Web of Science is the most common tool for formal literature search, e.g., in a meta-analysis. It offers multiple functionals to handle the search results.



Reading papers

Typical procedures of reading a paper:

- **Skim**: Get the big picture by reading the title and abstracts; this will tell you major findings and why they matter;
- **Re-read**: read the article again and ask yourself questions such as: what problem is the study trying to solve? Are findings supported by evidence? How was the study done? What factors might influence the results?
- **Interpret**: examine the tables and figures carefully and form your own interpretation of the results;
- **Summarize**: reflect on the take home messages of the paper; take notes on the key points of the paper.

Reading papers

A few tips for effectively reading papers:

- **Set a reading time**: reserve a few hours per week designated for reading papers;
- **Organize literature**: organize the papers valuable to you. Having a personalized library of relevant papers is handy when you need to revisit them or writing papers;
- **Take notes**: write down useful information you came across in papers to form you own notes. Organizing them as assays centered around topics is extremely useful when you write papers;
- **Read with a theme**: a common difficulty for beginning graduate student is forming a “big picture” of a research topic. Search and read relevant papers with a common theme help you gain a broad and general understanding of a chosen topic.