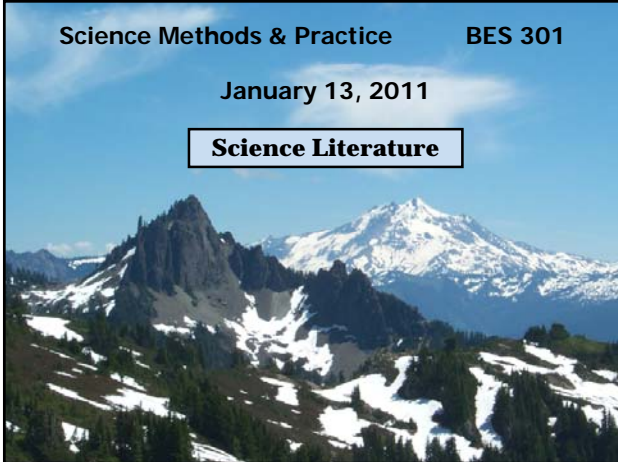


Science Methods & Practice BES 301

January 13, 2011

Science Literature



Scientific Literature

1. Primary research journals
2. Review journals
3. Scholarly synthesis volumes / scientific assessments
4. Theses & dissertations
5. Technical reports
6. Textbooks
7. Popular literature
8. The Web

Scientific Literature

1. Primary research journals

- Peer-reviewed, original research

How to tell if something is peer reviewed?
Rob will provide some strategies & sources

- Occasionally include review articles or methods reviews
- Examples: Science, Nature, Ecology, Northwest Science
- Can be available "on web" (e.g., in .pdf form)

Still considered primary research literature – not "web source"

Scientific Literature

Web sources vs. Research articles

Gold & Bliss 1995

Citing journal articles obtained off the web

YES!

Gold W.G. and L.C. Bliss. 1995. Water limitations and plant community development in a polar desert. Ecology 76:1558-1568.

NO!

Gold W.G. and L.C. Bliss. 1995. Water limitations and plant community development in a polar desert. Ecology 76:1558-1568.
<http://www.jstor.org/stable/pdfplus/1938157.pdf?acceptTC=true>

Scientific Literature

Web sources vs. Research articles

Gold & Bliss 1995

Web of Science

Wikipedia soil ecology


PNW Labs soil crust information

USGS soil crust information

Scientific Literature

2. Review journals

- Examples:
 - Annual review of ecology and systematics
 - Annual review of biophysics
 - Annual review of environment and resources



Scientific Literature

3. Scholarly synthesis volumes /scientific assessments

- Compilations of reviews / syntheses from various perspectives, scales
- Often from meetings, symposia, workshops
- Expert panels of scientists convened by NAS, NSF, etc. to assess the state of knowledge and understanding of critical topics: "scientific assessments"
- Examples:
 - IPCC Reports
 - North American Terrestrial Vegetation
 - Arctic Ecosystems in a Changing Climate

Scientific Literature

4. Theses & Dissertations

- Peer-reviewed original research (though often without external review)
- Long & detailed – pros and cons

[Search for English Ivy in UW Library catalogue](#)

Scientific Literature

5. Technical Reports

- Management perspective / applied ecology
- Land management & regulatory agencies
- Examples:
 - EIS; DEIS; EA
 - Intergovernmental Panel on Salmon Recovery Report
 - USFS Mt Baker-Snoqualmie management plan

Scientific Literature

6. Textbooks

- Large scale synthesis with educational objective
- Provides view of the structure of a field as well as information
- Often sections are peer reviewed, though perhaps with less rigor
- Good place to start becoming familiar with a topic & terminology

Scientific Literature

7. Popular Literature

- Usually NOT peer reviewed
- Hidden or not-so-hidden agendas
- How do you distinguish these from peer-reviewed sources?
 - ✓ Examine the "instructions to authors" section of the journal
 - ✓ For further perspectives see:
<http://library.uwb.edu/guides/sources.html>

Scientific Literature

8. The Web: the good, the bad, and the questionable

A) Searching Tools & Strategies

1. Scientific Societies Ecological Society of America: www.esa.org

2. Journals on-line and e-journals

UW library systems has extensive electronic subscriptions

3. Search Engines

frequency of use: google, bing, ask.com, etc.

clustered results: grokker, vivisimo, etc.

scholarly sources: google scholar

Scientific Literature

8. The Web: the good, the bad, and the questionable

A) Searching Tools & Strategies

4. Source Compilations
Faculty, societies, agencies (e.g., [PNW Ecology Links](#))

5. Land Management / Regulatory Agencies
USFS, BLM, WA-DOE, WA-DNR, EPA, etc.

6. Organizations with an (explicit?) agenda

Scientific Literature

8. The Web: the good, the bad, and the questionable

B) Evaluating Web Information

1. Journals on-line and e-journals: **RELIABLE**
Peer-reviewed articles treated same as hardcopy materials

2. Remainder can be hard to judge: rough rules of thumb

Author / web site associated with university: **yyy.edu**
 Author / web site affiliated with government agency: **yyy.gov**
 Author / web site representing a professional society: **yyy.org**
 Author / web site affiliated with non-profit organization: **yyy.org**
 Author / web site affiliated with for-profit organization: **yyy.com**

Scientific Literature

8. The Web: the good, the bad, and the questionable

C) Citing Web Sources

Nature Conservancy, The. 2001. Plants of the Badger Mountain Reserve. The Nature Conservancy of Washington Web Site: www.tnc.org/wash/veg/bm.htm. Accessed September 22, 2001. Updated February 22, 2001.

1. Determine the author
If no clear individual, use the organization as author

2. Include date site accessed and updated (if available)

3. Base initial year in citation on date site was updated or revised

4. Format generally consistent with other citations – but include web address (URL)