

Instructions to Authors

Canadian Journal of Earth Sciences

Scope of journal

The *Canadian Journal of Earth Sciences* (Can. J. Earth Sci.) publishes articles, communications, and discussions in English or French.

Types of papers

An **article** is a report that describes the results of research in Earth Sciences. Articles are subject to the Journal's referee system, with originality and excellence being the main criteria for acceptance. Authors should convey their messages in the shortest form possible. **The normal page limit is 30 double-spaced typewritten pages (or approximately 8000 words)**, including the title page, abstract, main body of text, acknowledgements, references, and figure captions. Longer articles may be accepted, but the Editor must be assured by the referees and appropriate Associate Editor that the unusual length is warranted by the quality and quantity of science in the contribution. Articles should be directed at an informed peer group; therefore, authors should not try to present their work in a form comprehensible to all of our readers. **Communications** are short, innovative papers of interest to a broad spectrum of Earth scientists and should not exceed 15 pages in length. Review and publication of such papers are expedited. When submitting a communication, authors must explain why its importance or timeliness justifies accelerated processing. Authors will be expected to complete revisions rapidly. **Discussions** of papers in recent (within the past 6 months) issues of the Journal may be accepted for publication, if they are brief and of a technical or interpretative nature. **Replies** to such discussions are invited from the original authors and are generally published in the same issue.

Language

Papers must be clearly and concisely written in **good English or French**. Authors whose native language is not English or French should consult someone fluent in English or French prior to submission of the manuscript. Good writing improves the speed and effectiveness of review and publication.

Abstracts should be submitted in the language of the paper. They will be translated into the other official language by the journal translator. However, authors able to submit abstracts in both fluent English and French are encouraged to do so.

Page charges

There are **no page charges** for publication in the *Canadian Journal of Earth Sciences*.

Purpose of these instructions

To **facilitate publication**, authors must check symbols, abbreviations, and technical terms for accuracy, consistency,

and readability. NRC Research Press maintains the right to preserve the technical quality of the Journal. Authors are requested to refer to a recent issue of the Journal for details of layout, especially for tables and reference lists. **Manuscripts and illustrations must meet the requirements outlined below; otherwise, publication may be delayed.**

To submit

Manuscripts can be submitted either by mail or via the web.

Submission by mail

Number of copies

Authors should submit the **original copy and three duplicates of their manuscript (including tables)** directly to the Editors. Please do not insert papers in folders, plastic sleeves, duotangs, individual envelopes, etc. **Original figures should not be submitted at this time, but will be requested when the manuscript is returned for revision. However, all copies must be of similar quality to the originals, otherwise the review process may be compromised. When submitting photographs, SUBMIT FOUR SETS OF ORIGINALS. Manuscripts with substandard photographs or photocopies will be returned or held until suitably high-quality images are provided.**

Address

Dr. Brian Jones, Editor, *Canadian Journal of Earth Sciences*, Department of Earth and Atmospheric Sciences, University of Alberta, Edmonton, AB T6G 2E3, Canada (780-492-3197; fax: 780-492-8594; e-mail: cjes.editor@ualberta.ca).

Customs declaration

International authors sending manuscripts to the Editorial Office via courier, please attach a **customs declaration** to the shipment, indicating a monetary value of \$CAN10 (this amount represents the average assembly and packaging cost per submission package).

Revised manuscripts

The revised manuscript (original and one copy **on paper and on disk or by e-mail**, indicating the word processing software used) and the original illustrations plus one duplicate set (photocopy is acceptable) must be sent to the Associate Editor together with a covering letter outlining the precise disposition of all comments and criticisms.

Accepted manuscripts

Authors are requested to provide the **final accepted manuscript only, both in hard-copy format and in electronic format (on disk or by e-mail)**. If providing files on disk, text files and figure files should be submitted on separate disks. All disks must be labeled clearly with the authors' names, software used, version number, and platform (IBM or Macintosh). **Text** (including tables) should be provided in a word-processing format (any form of WordPerfect, Microsoft Word, or TeX is

preferable, IBM compatible or Macintosh). TeX macros for preparing papers for submissions are available at <ftp://ftp.tex.ac.uk/tex-archive/macros/latex/contrib/nrc/>, <ftp://ftp.dante.de/tex-archive/macros/latex/contrib/nrc/>, and <ftp://ctan.tug.org/tex-archive/macros/latex/contrib/nrc/>. For **figures**, see the section Preparation of electronic graphic files. Include a statement in the letter accompanying the manuscript that the version on the disk exactly matches the final hard-copy version.

Submission via the World Wide Web

Authors may submit manuscripts via **OSPREY** Online Submission and Peer Review system (<http://pubs.nrc-cnrc.gc.ca/cjes/osprey>). **OSPREY** is best viewed in Netscape 7.0 or higher or Internet Explorer 6.0 or higher. Authors may register at any time on the site, but should register only once. During registration, authors choose a username/password. The security of manuscripts is protected by the username/password system.

For technical support at any point during submission, contact Louis Lafleur (613-998-9432; louis.lafleur@nrc-cnrc.gc.ca) from 8:00 am to 4:00 pm EST.

A user manual with full instructions is available on the Web site.

Authors must submit at least a cover letter and manuscript; tables and figures may be included in the manuscript file, or may be uploaded separately. **OSPREY** accepts files in most common text and graphics formats (see complete list of formats on the Web site). When submitting, authors should be working at a computer where all of the relevant files for their paper are available. Submission of a typical manuscript requires about 10 minutes, but upload time depends on the speed of the Internet connection.

All correspondence about manuscripts submitted through **OSPREY** will be sent to the person listed as the corresponding author during submission. Correspondence is by e-mail.

For revisions, the corresponding author will be contacted by e-mail and asked to submit a revision; the process is very similar to initial submission. For accepted manuscripts, the author will be contacted to advise him or her of acceptance, and to ask him or her to upload via **OSPREY** the final accepted manuscript and all associated files for tables, figures, and supplementary data.

Other information regarding submission (both by mail and via the Web)

Cover letter

The corresponding author should send a cover letter with the submission, signed by all authors, that

- (i) states the type of paper being submitted (e.g., article, communication, discussion),
- (ii) includes the full name and complete contact information (including e-mail address) for each co-author,
- (iii) warrants that the manuscript represents original work that is not being considered for publication, in whole or in part, in another journal, book, conference proceedings, or government publication with a substantial circulation (see Ethics section, Duplicate and prior publication),
- (iv) warrants that all previously published work cited in the manuscript has been fully acknowledged (see Publication process section, Permission to reproduce copyright material),
- (v) warrants that the manuscript is one of a kind, or part of a study or thesis from which other manuscripts may be generated,

- (vi) warrants that all of the authors have contributed substantially to the manuscript and approved the final submission,
- (vii) explains any real or perceived conflicts of interest (see Ethics section, Conflict of interest and disclosure),
- (viii) provides the names of colleagues who have reviewed the manuscript in the final stages, and
- (ix) lists the names, addresses, telephone and fax numbers, and e-mail addresses of three to five persons who are qualified to act as referees. The Editor will use one of these reviewers providing that they are not in a position of conflict with the author(s) and are willing to serve in this role. Other reviewer(s) will be selected by the Editor.

Copyright forms

The submission package must include copyright release forms signed by all authors (see Publication process section, Copyright transfer).

Preprints

To facilitate the review process, the author(s) must also provide two **preprints** of any relevant papers that have been submitted, are in press, or have been recently published. This is especially important if such papers are referred to in the manuscript. If deemed necessary for the review process, these will be copied to the reviewers. To facilitate the review process, the author(s) must also provide copies of related manuscripts not already published, publications containing significant overlap with the submission, as well as a written explanation for the overlap (see Ethics section, Duplicate and prior publication).

Groups of manuscripts submitted at the same time and long manuscripts

Authors wishing to submit more than two manuscripts in a group or a paper that is substantially longer than 30 manuscript pages must contact the Editor before submission to ensure that preparations can be made to expedite evaluation of such papers. Any overlap of contents between related papers should be minimal, and normally confined to the introductory section.

Resubmitted manuscripts

Authors resubmitting a manuscript after previous rejection or withdrawal must indicate the manuscript number assigned to the previous submission and the Associate Editor who managed its evaluation. Resubmitted manuscripts are treated as new papers. An original and two complete copies must be submitted together with a letter outlining the precise disposition of all points raised during the previous evaluation.

Packaging

Packaging of manuscripts and illustrations should be robust enough to resist damage in transit. Cardboard that is difficult to bend should be used as backing within the envelope. The manuscript should not slide within the package. Loose figures should be placed in small envelopes, and the whole package should be well sealed with adhesive tape.

Editorial process

Receipt of manuscripts

Receipt of each manuscript is acknowledged by e-mail to the corresponding author within three working days. The manuscript is read and examined for conformity to these *Instruc-*

tions to Authors by the technical editor. Failure to meet the criteria outlined may result in return of the manuscript for correction before evaluation.

Correspondence policy

Authors, Institutional Directors, and Editorial Managers should note that it is the strict policy of the *Canadian Journal of Earth Sciences* to correspond only with the authors through the designated corresponding author of a paper. The Editor regards a submitted manuscript as a confidential document and seeks to ensure that the authors retain control of the reports obtained during the evaluation process.

Peer review/evaluation

The Editor assigns management of the peer review process to an Associate Editor responsible for the subject area of the paper. However, the Editor will return unreviewed those manuscripts that do not fall within the Journal's scope or character and those that exceed the Journal's guidelines for prior publication. Papers submitted for inclusion in Journal supplements are treated with the same rigor of review as articles in regular issues.

The Associate Editor selects a minimum of two reviewers selected for their knowledge of, and their experience in, the subject treated in the manuscript. Reviewers are invited, in confidence, to recommend on the suitability of the submission and provide comments for the authors and the Associate Editor. The Associate Editor retains full responsibility, however, for all decisions regarding the manuscript. Authors must suggest names of three to five potential referees who are competent to examine their manuscript, but the Associate Editor is not limited to such suggestions. Reviewers are informed that they have received privileged documents for assessment of scientific merit and are expected to provide reasonable arguments to support their evaluations. Identities of reviewers will not be released to authors without the written consent of the reviewer. The review process is expected to be complete within eight weeks, but conflicting recommendations and other unpredictable events may cause some delay.

Recommendations for acceptance, revision, and rejection

Associate Editors and reviewers are asked to make one of four recommendations: accept, accept after minor revision, accept after major revision, do not accept. Except where remarks are professionally inappropriate, all reviewers' comments are sent to authors.

The decision to accept a paper is made primarily on scientific content. However, authors should recognize that unclear writing and (or) data presentation often contributes to refusal of manuscripts. The decision to ask for revisions is made in light of the reviewers' comments and recommendations, and after evaluation by the Associate Editor. Authors are allowed 28 days to undertake revisions. Revised manuscripts that do not meet this deadline will be treated as new submissions and may be subject to further review. Papers requiring new experimental work or major rewriting will be rejected, and the authors will be encouraged to submit a new manuscript when the required amendments have been completed. Authors should attempt to meet all the objections raised by reviewers, especially where clarification is sought. Editorial items must be completed as directed.

The final decision on acceptance or rejection is made by the Editor on the advice of the Associate Editor. This decision, together with any relevant reasons, will be communicated by letter from the Editor to the corresponding author. One copy

of the original submission is retained by the Editor. In the case of papers that are not acceptable or are withdrawn, this manuscript and a copy of all reviews and correspondence are retained, for reference (in case of resubmission), for one year after the date of submission.

Publication process

The Editorial Office checks all accepted manuscripts for conformation to the *Instructions to Authors* and to ensure that all necessary paperwork is present. Any areas that are identified as problematic will be addressed by the Editorial Office in consultation with the corresponding author. Once the Editorial Office has resolved any problems with the manuscript and the original signed Assignment of Copyright forms have been received from all authors, the manuscript is forwarded to NRC Research Press in Ottawa for publication. The papers are prepared for publication by a professional copy editor responsible for ensuring that the final printed work is consistent in form and style. NRC Research Press may make editorial changes as required, but will not make substantive changes in the content of a paper without consultation with the author and the Editors.

Once the paper has been accepted, all correspondence should be with NRC Research Press, National Research Council of Canada, Ottawa, ON K1A 0R6, Canada (fax: 613-952-7656; e-mail: pubs@nrc-cnrc.gc.ca; URL: <http://pubs.nrc-cnrc.gc.ca>).

Galley proofs

A galley proof, illustration proofs, the copy-edited manuscript, and a reprint order form are sent to the corresponding author. **Galley proofs must be checked very carefully, as they will not be proofread by NRC Research Press** and must be returned within 48 hours of receipt. The proof stage is not the time to make extensive corrections, additions, or deletions, and the cost of changes introduced at the proof stage and deemed to be excessive will be charged to the author. Questions concerning galley proofs should be addressed to Stephen Thirlwall (613-993-4538; fax: 613-952-7656; e-mail: stephen.thirlwall@nrc-cnrc.gc.ca).

Reprints

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Ethics

The ethical standards expected of authors, referees, and editors are described in the NRC Research Press Publication Policy (published in the January 1996 issue of the *Canadian Journal of Earth Sciences*, on the Journal Web site at http://pubs.nrc-cnrc.gc.ca/cgi-bin/rp/rp2_cust_e?pubpolicy, OR available upon request).

Duplicate and prior publication

The Editorial Board considers a paper not eligible for publication if most of the content of the paper (*i*) is under consideration for publication or is published in a journal, or book chapter; (*ii*) *is under consideration for publication or is published in a conference proceedings or a government publication, with a substantial circulation (distributed to 100 or more individuals over a wide area)*. Authors may place a draft of a submitted article on their Web site or their organization's server, provided that the draft is not amended once accepted for publication. We encourage authors to insert hyperlinks from preprints to the final published version on the NRC Research Press Web site (<http://pubs.nrc-cnrc.gc.ca>). Abstracts or extended abstracts related to conferences do not constitute prior publication. Extended abstracts are usually under 2000 words and do not include presentation of detailed tables and graphics of the results of the study.

Conflict of interest and disclosure

The Editor recognizes that authors and peer reviewers may have real or perceived conflicts of interest arising from intellectual, personal, or financial circumstances of their research. Submitted manuscripts should include full disclosure of funding sources for the research and the letter of transmission should include an explanation of any real or perceived conflicts of interest that may arise during the peer review process. Failure to disclose such conflicts may lead to refusal of a submitted manuscript.

Photo manipulation

Authors should be aware that the Journal considers digital images to be data. Hence, digital images submitted should contain the same data as the original image captured. Any manipulation using graphical software should be identified in the methods, including both the name of the software and the techniques used to enhance or change the graphic in any way. Such a disclaimer ensures that the methods are repeatable and ensures the scientific integrity of the work. The removal of artifacts or any (nonintegral) data held in the image is discouraged.

The manuscript

Format and organization

The manuscript should be typewritten, **double-spaced**, on

paper 8.5 × 11 in. (or ISO A4). Typing should be on one side of the page only. Each page should be numbered, beginning with the title page. For material that is to be set in italics, use an italic font; do not underline. Use capital letters only when the letters or words should appear in capitals.

Articles should contain a title page (p. 1), an abstract (p. 2), followed by the body of the paper (including **Introduction, Results, Discussion, and Acknowledgements** sections), plus references, tables, figure captions, and appendices, in that order. (See descriptions of each part of the manuscript, below.) Tables and captions for illustrations should be on separate pages.

Primary **headings** indicate the major sections of the paper (i.e., Introduction, Materials and methods, Results, Discussion, Acknowledgements, References). Secondary headings indicate major divisions within a primary section. Tertiary headings indicate divisions within a secondary heading.

Organize the manuscript on the basis of the purpose or scope of the study as stated in the Introduction. Ensure that the title and headings are in harmony with the statement of purpose.

Organize tables and figures to facilitate comparisons, grouping related data in as few tables and figures as feasible. As far as possible, make the tables and figures clear without reference to the text.

Begin sections and paragraphs with topic sentences containing generalizations that lead readily to the particulars. Giving a conclusion first and then supporting it not only improves readability but also facilitates assessment by other scientists. Failure to give the most newsworthy generalizations first is one of the most prominent shortcomings in presentation of manuscripts.

Assure that everything in each section is relevant to the heading and that everything in each paragraph is relevant to the topic (opening) sentence.

Before writing any paragraphs, try writing the topic sentences for all of them and arranging these in appropriate order.

Title

Both titles and abstracts provide information for contemporary **alerting and information retrieval services**, and should therefore be informative but brief.

Limit the **title** to what is documented in the manuscript. It is the key to the article and should clearly and concisely reveal what appears in the paper itself. The title serves two functions: (*i*) it allows the reader to judge whether the article is of potential interest and (*ii*) it should provide enough information to permit the reader to judge the scope and potential importance of the article. Words in the title should convey a maximum amount of information and identify the nature of the research. Titles should not begin with a numeral or introductory prepositions such as "On" or "Towards" or expressions such as "A contribution to..." or "Investigations on..." Good titles greatly assist scientists and librarians in using scientific literature and aid indexers in preparing titles for keyword indexes. Series titles should be avoided.

Title page

The **title page** should contain the following. (*i*) The full title of the paper. (*ii*) Authors listed in the order in which they are to appear at the head of the printed article. (*iii*) Affiliation and address (including e-mail address) for each author. This should reflect the affiliation and address at the time of the study. Indicate current affiliations and addresses (including e-mail addresses) that differ from those in the by-line in a

footnote. (iv) Name, address, telephone number, fax number, and e-mail address of the author responsible for correspondence. (v) Any necessary footnotes to the title (e.g., contribution numbers).

Abstract

An **abstract** is required for every contribution and should contain accurate descriptive words that will draw the reader to the content. This is particularly important because contemporary alerting services and search engines will search this text. Article abstracts should not be more than 250 words and should be shorter for communications. The abstract should appear on a separate page. The concise abstract should present the paper content accurately and should supplement, not duplicate, the title in this respect. Authors able to submit abstracts in both fluent English and French are encouraged to do so. Abstracts submitted in one language will be translated into the other official language by the journal translator. References should not be cited in the abstract unless they are absolutely essential, in which case full bibliographic information must be provided.

Like the title, the abstract enables readers to determine the paper's content and decide whether they need to read the entire paper. Begin the abstract with the main conclusion from the study, and support it with the relevant findings. Limit details of methods to those needed in understanding what was done and work them into statements of findings. Avoid using phrases such as "...is discussed" or "...was found"; be specific. As the abstract is often divorced from the main body of the paper by abstracting and indexing services and is the only part of a paper some readers ever see, it is important that it accurately reflect the paper's contents and be completely self-contained in a retrievable form.

Text

The **text** should be written and arranged to ensure that the observations reported may be reproduced and (or) evaluated by readers. Sources of biological materials, experimental methods, geographical locations, and statistical methods should be described. Precise locations of rare and endangered organisms should not be divulged. Sources of commercially available laboratory or field equipment and fine chemicals should be indicated in parentheses; list the company name, city, and country. Material taken from research theses must be thoroughly edited for brevity and must conform to these *Instructions to Authors*.

Introduction

Limit the **introduction** largely to the scope, purpose, and rationale of the study. Restrict the literature review and other background information to that needed in defining the problem or setting the work in perspective. Try beginning with the purpose or scope of the work, defining the problem next, and adding guideposts to orient the reader. An introduction generally need not exceed 375–500 words.

Results

Limit the **results** to answers to the questions posed in the purpose of the work and condense them as comprehensively as possible. Give the findings as nearly as possible in the terms in which the observations or measurements were made so as to avoid confusion between facts and inferences. State noteworthy findings to be noted in each table and figure, and avoid restating in the text what is clear from the captions. Material supplementary to the text can be archived in the report literature or a recognized data depository and referenced in the text (see Supplementary material section).

Discussion or conclusion

Limit the **discussion** to giving the main contributions of the study and interpreting particular findings, comparing them with those of other workers. Emphasis should be maintained on synthesis and interpretation and exposition of broadly applicable generalizations and principles. If these are exceptions or unsettled points, note them and show how the findings agree or contrast with previously published work. Limit speculation to what can be supported with reasonable evidence. End the discussion with a short summary of the significance of the work and conclusions drawn. If the discussion is brief and straightforward, it can be combined with the results section.

Acknowledgements

Acknowledgements should be written in the third person and kept to a concise recognition of relevant contributions.

Footnotes

Footnotes to material in the text should not be used unless they are unavoidable, but their use is encouraged in tables. Where used in the text, footnotes should be cited in the manuscript by superscript Arabic numbers (except in the tables, see below) and should be numbered serially beginning with any that appear on the title page. Each footnote should be typed on the manuscript page upon which the reference is made; **footnotes should not be included in the list of references**.

Equations and list of symbols

Equations should be clearly typed; triple-spacing should be used if superscripts and (or) subscripts are involved. Superscripts and subscripts should be legible and carefully placed. Distinguish between lowercase l and the numeral one, and between capital O and the numeral zero. A letter or symbol should represent only one entity and be used consistently throughout the paper. Each variable must be defined in the text or in a **List of symbols** to appear after the reference list. Variables representing vectors, matrices, vector matrices, and tensors must be clearly identified. **Numbers identifying equations must be in square brackets and placed flush with the left margin**. In numbering, no distinction is made between mathematical and chemical equations.

References

The author is responsible for verifying each reference against the original article. Each reference must be cited in the text using the surnames of the authors and the year, for example, (Walpole 1985) or Green and Brown (1990). Depending on the sentence construction, the names may or may not be in parentheses, but the year always is. If there are three or more authors, the citation should give the name of the first author followed by et al. (e.g., Green et al. 1991). If references occur that are not uniquely identified by the authors' names and year, use *a*, *b*, *c*, etc., after the year, for example, Green 1983*a*, 1983*b*; Green and Brown 1988*a*, 1988*b*, for the text citation and in the reference list.

Unpublished reports, private communications, and in press references

References to unpublished reports, private communications, and papers submitted but not yet accepted are not included in the reference list but instead must be included as footnotes or in parentheses in the text, giving all authors' names with initials; for a private communication, year of communication should also be given (e.g., J.S. Jones (personal communication,

1999)). If an unpublished book or article has been **accepted for publication**, include it in the reference list followed by the notation "In press". Do not include volume, page number, or year in an in-press reference, as these are subject to change before publication.

Presentation of the list

The **reference list** must be double-spaced and placed at the end of the text. References must be listed in alphabetical order according to the name of the first author and not numbered. References with the same first author are listed in the following order. (i) Papers with **one author only** are listed first in chronological order, beginning with the earliest paper. (ii) Papers with **dual authorship** follow and are listed in alphabetical order by the last name of the second author. (iii) Papers with **three or more authors** appear after the dual-authored papers and are arranged chronologically. (iv) References should follow the form used in current issues of the Journal. **All reference information should be written out in full, using no abbreviations beyond the authors' initials.**

Examples of types of references, including electronic references

Journal article:

Kovanen, D.J., and Slaymaker, O. 2003. Lake Terrell upland glacial resurgences and implications for late-glacial history, northwestern Washington State, U.S.A. *Canadian Journal of Earth Sciences*, **40**: 1767–1772.

Report:

Sanders, W.W., Jr., and Elleby, H.A. 1970. Distribution of wheel loads in highway bridges. National Cooperative Highway Research Program Report 83, Transportation Research Board, National Research Council, Washington, D.C.

Book:

Williams, R.A. 1987. Communication systems analysis and design. Prentice-Hall, Inc., Englewood Cliffs, N.J.

Part of book:

Healey, M.C. 1980. The ecology of juvenile salmon in Georgia Strait, British Columbia. *In* Salmonid ecosystems of the North Pacific. *Edited by* W.J. McNeil and D.C. Himsworth. Oregon State University Press, Corvallis, Oreg. pp. 203–229.

Paper in conference proceedings:

Whittaker, A.A., Uang, C.-M., and Bertero, V.F. 1990. Experimental seismic response of steel dual systems. *In* Proceedings of the 4th U.S. National Conference on Earthquake Engineering, Palm Springs, Calif., Vol. 2, pp. 655–664.

Institutional publications and pamphlets:

Dzikowski, P.A., Kirby, G., Read, G., and Richards, W.G. 1984. The climate for agriculture in Atlantic Canada. Available from the Atlantic Advisory Committee on Agrometeorology, Halifax, N.S. Publ. ACA 84-2-500. Agdex No. 070.

Corporate author:

American Public Health Association, American Water Works Association, and Water Pollution Control Federation. 1975. Standard methods for the exami-

nation of water and wastewater. 14th ed. American Public Health Association, American Water Works Association, and Water Pollution Control Federation, Washington, D.C.

Thesis:

Keller, C.P. 1987. The role of polysaccharidases in acid wall loosening of epidermal tissue from young *Phaseolus vulgaris* L. hypocotyls. M.Sc. thesis, Department of Botany, The University of British Columbia, Vancouver, B.C.

Electronic citation:

Quinion, M.B. 1998. Citing online sources: advice on online citation formats [online]. Available from <http://clever.net/quinion/words/citation.html> [cited 20 October 1998].

Tables

Tables must be typed on separate pages, placed after the list of references, and numbered with Arabic numerals in the order cited in the text. The title of the table should be a concise description of the content, no longer than one sentence that allows the table to be understood without detailed reference to the text. Column headings should be brief, but may be amplified by footnotes. Vertical rules should not be used, except as needed in stratigraphic tables. A copy of the Journal should be consulted to see how tables are set up and where the lines in them are placed. Footnotes in tables should be designated by lowercase italic letters. Descriptive material not designated by a footnote may be placed under a table as a **Note**. For large tables, authors should provide a formatted single-spaced version for review and submit a double-spaced version with the final manuscript for typesetting. Tables should be designed to use Journal space efficiently.

Figure captions

Figure captions should be listed on a **separate page** and placed after the tables. The caption should informatively describe the content of the figure, without need for detailed reference to the text. For graphs, captions should not repeat axis labels, but should describe what the data show. A single caption can be provided for multipart (composite) figures, with necessary details on the separate parts, identified by their individual labels. If the separate parts require enough information to warrant separate captions, then the composite should be separated into individual figures.

Appendices

An **appendix** should be able to stand alone, as a separate, self-contained document. Figures, tables, and equations used in an appendix should be numbered sequentially but separately from those used in the main body of the paper, for example, Fig. A1, Table A1, eq. [A1] etc. If references are cited in an appendix, they must be listed in an appendix reference list, separate from the reference list for the article.

Supplementary material

The National Research Council of Canada maintains a depository in which **supplementary material** may be placed, either at the request of the author or at the suggestion of the Editor. In addition, supplementary material can now be made available in its native file format on the journal Web site. It will be linked from the Web page of the associated article. Such material may include extensive tables of data, detailed calculations, and maps not essential for understanding and evaluating the paper. Such material must be clearly marked

when the manuscript is submitted. Tables and figures should be numbered in sequence separate from those published with the paper (e.g., Fig. S1, Table S1). The supplementary material should be referred to by footnotes. Copies of material in the depository may be purchased from the Depository of Unpublished Data, CISTI, National Research Council of Canada, Ottawa, ON K1A 0R6, Canada.

Computer programs

It is not the policy of the Journal to publish detailed printouts of **computer program** statements. Where the availability of these details enhances the usefulness of the paper, the author should submit two copies of the program for deposit (see Supplementary material section).

Illustrations

Each figure or group of figures should be planned to fit, after appropriate reduction, into the area of either one or two columns of text. The maximum finished size of a one-column illustration is 8.6 × 23.7 cm (3.4 × 9.3 in.) and that of a two-column illustration is 18.2 × 23.7 cm (7.2 × 9.3 in.). The figures (including halftones) must be numbered consecutively in Arabic numerals, and each one must be referred to in the text and must be self-explanatory. All terms, abbreviations, and symbols must correspond with those in the text. Only essential labelling should be used, with detailed information given in the caption. For **hard-copy versions**, each illustration must be identified by the figure number and the authors' names on the back of the page or in the left-hand corner, well away from the illustration area.

Line drawings

All lines must be sufficiently thick (0.5 points minimum) to reproduce well, and all symbols, superscripts, subscripts, and decimal points must be in good proportion to the rest of the drawing and large enough to allow for any necessary reduction without loss of detail. Avoid small open symbols; these tend to fill in upon reproduction. **Lettering produced by dot matrix printers or typewriters, or by hand, is not acceptable.** The same font style and lettering sizes should be used for all figures of similar size in any one paper. Original recorder tracings of NMR, IR, ESR spectra, etc., are not acceptable for reproduction; they must be redrawn. For **hard-copy versions**, line drawings should be made with black ink or computer-generated in black on high-quality white paper or other comparable material; laser prints should be created at the highest resolution available.

Maps

Maps must have very **clear, bold patterns** and must show longitudes and latitudes (or UTM coordinates) and a scale, to ensure proper identification of study locations. On **maps of Quebec**, the official name of municipalities must be used (e.g., Québec, Montréal, Clarke City) and physical features must be in French (e.g., Lac Bienville) except for those that are considered of pan-Canadian significance. Areas of pan-Canadian significance have an official form in English and French (e.g., Atlantic Ocean and Océan Atlantique) and should appear in the language of the paper. Quebec (the province) must also appear in the language of the paper.

Names that should be presented in the language of the paper on a map of Quebec are as follows:

Lake Abitibi / Lac Abitibi
Anticosti Island / Île d'Anticosti
Atlantic Ocean / Océan Atlantique
Chaleur Bay / Baie des Chaleurs

Hudson Strait / Détroit d'Hudson
James Bay / Baie James
Laurentian Mountains / Les Laurentides
Ottawa River / Rivière des Outaouais
Quebec (province) / Québec
Restigouche River / Rivière Ristigouche
Saguenay River / Rivière Saguenay
Saint John River / Rivière Saint-Jean
St. Lawrence River / Fleuve Saint-Laurent
Gulf of St. Lawrence / Golfe du Saint-Laurent
Lake Timiskaming / Lac Témiscamingue
Ungava Bay / Baie d'Ungava

Photographs

Photographs should be continuous tone, of high quality, and with strong contrast. Only essential features should be shown. A photograph, or group of them, should be planned to fit into the area of either one or two columns of text **with no further reduction**. Electron micrographs or photomicrographs should include a scale bar directly on the print. The best results will be obtained if the authors match the contrast and density of all figures arranged as a single plate. **Hard-copy versions** must be printed on glossy paper and be trimmed and mounted on **thin** flexible white bristol board with no space between those arranged in groups.

Colour illustrations and foldouts

Colour illustrations and foldouts will be at the author's expense. Further details on prices are available from Carol McKinley, Managing Editor of the Journal (613-993-9096; fax: 613-952-7656; e-mail: carol.mckinley@nrc-cnrc.gc.ca).

Preparation of electronic graphic files

NRC Research Press prefers the submission of electronic illustration files for accepted manuscripts and will use these electronic files whenever possible.

If electronic files are not available or if those supplied are inadequate for reproduction, hard-copy originals of adequate quality, either previously supplied or requested from the author, will be scanned. Note that the scanner will easily reproduce flaws (e.g., correction fluid, smudges). Submission of noncontinuous (screened) photographs and scanned illustrations printed out on laser printers is not recommended, as moirés develop; a moiré is a noticeable, unwanted pattern generated by rescanning or rescreening an illustration that already contains a dot pattern.

If sending hard copies, please ensure that electronic files match the hard copies (i.e., figure number and figure content). If sending a disk, on the disk label, identify (i) the software application and version and (ii) file name(s), size, and extension. If you have compressed your files, indicate what compression format was used. PC or Macintosh versions of True Type or Type 1 fonts should be used. **Do not use bitmap or nonstandard fonts.** Electronic graphics can be accepted on the following disks: 3½" disks, 100 MB Zip cartridge, and CD-ROM.

The preferred graphic application of NRC Research Press is CorelDraw! For other applications that can be used, see the electronic graphics list at http://pubs.nrc-cnrc.gc.ca/cgi-bin/rp/rp2_prog_e?cjes_graphics_e.html.

All figures should be submitted at the desired published size. For figures with several parts (e.g., a, b, c, d, etc.) created using the same software application, assemble them into one file rather than sending several files.

Remember that the more complex your artwork becomes, the greater the possibility for problems at output time. Avoid

complicated textures and shadings, especially in vector illustration programs; this increases the chance for a poor-quality final product.

Bitmaps are image files produced using a grid format in which each square (or pixel) is set to one level of black, colour, or grey. A bitmap (rasterized) file is broken down into the number of pixels or picture elements per inch (ppi). Pixels per inch is sometimes referred to as dots per inch (dpi). The higher the resolution of an image, the larger the number of pixels contained within the rectangular grid.

The proper resolution should be used when submitting bitmap artwork. The minimum requirements for resolution are 600 dpi for line art, 1200 dpi for finelines (line art with fine lines or shading), 300 dpi for halftones and colour, and 600 dpi for combinations (halftones with lettering outside the photo area).

All **colour** files submitted must be as CMYK (cyan, magenta, yellow, and black). These colours are used in full-colour commercial printing. RGB graphics (red, green, and blue; colours specifically used to produce an image on a monitor) will not print correctly.

Vector files are image files produced using elements such as lines and shapes. Typically these files are used for line drawings.

Bitmaps can be imported into vector/draw applications only for the purpose of adding and overlaying information, lines, text, etc. Bitmaps should not be resized, cropped, rotated, or otherwise manipulated after importing.

Manuscript guidelines

Spelling

Spelling should follow *Webster's Third New International Dictionary* or the *Oxford English Dictionary*. Authors are responsible for consistency in spelling.

Abbreviations and acronyms

Abbreviations and contractions of the names of rock units, procedures, etc., must be defined the first time that they occur and should be used sparingly. **Acronyms** should be defined when they are first mentioned in the text. Abbreviations and acronyms that are standard in the discipline need not be defined.

Units of measurement

SI units (Système international d'unités) should be used

or SI equivalents should be given. This system is explained and other useful information is given in the *Metric Practice Guide* (2000) published by CSA International (178 Rexdale Blvd., Toronto, ON M9W 1R3, Canada). For practical reasons, some exceptions to SI units are allowed.

Statistical analyses

The assumptions and (or) the model underlying any statistical analysis should be clearly stated. Symbols such as * and **, denoting levels of significance, should *not* be used except in conjunction with the actual values of the associated test statistic; actual *p* values are preferred.

Nomenclature

Geological nomenclature should follow the American Geological Institute's *Glossary of Geology* (1997) except where superseded by international recommendations, such as those of the International Union of Geological Sciences' Subcommittee on the Systematics of Igneous Rocks and of the International Mineralogical Association on the nomenclature of minerals. Stratigraphic nomenclature should follow the North American Stratigraphic Code (*American Association of Petroleum Geologists Bulletin*, **67**(5): 841–875, 1983). Canadian lithostratigraphic units are summarized in the regional *Lexicons of Canadian Stratigraphy* published by the Canadian Society of Petroleum Geologists. Only formal time-stratigraphic and geologic-time units should be capitalized, in accordance with Elsevier Science Publishers' *Geologic Time Table* (1998). Abbreviations for mineral names should follow R. Kretz (*American Mineralogist*, **68**: 277–279, 1983) and should be summarized in a footnote or figure caption. New ¹⁴C dates reported in manuscripts must include the laboratory reference number.

Writing numbers and dates

In **long numbers** the digits should be separated into groups of three, counted from the decimal marker to the left and right. The separator should be a space and not a comma, period, or any other mark, for example, 25 562 987 and not 25,562,987. In English text, the decimal marker should be a point, for example, 0.1 mL and not 0,1 mL. The decimal point in all numbers between 1 and –1, except 0, must be preceded by a 0. The sign × should be used to indicate multiplication, e.g., 3 × 10⁶ and not 3·10⁶.

Dates should be written in the sequence day–month–year without internal punctuation (e.g., On 9 October 1983 the...).