

INSTRUCTIONS TO AUTHORS

by the SEG Editor¹

EDITORIAL POLICY

Material published in *GEOPHYSICS* should show relevance of a geophysical method to petroleum, mining, geothermal, groundwater, environmental, or engineering applications. A predominantly mathematical paper should be illustrated by a data example. Case histories, tutorials, and interpretation papers are of special interest. Manuscripts on fundamental geophysical principles that are relevant for exploration are also welcome. *GEOPHYSICS* should have broad appeal, ranging from practical field studies to more theoretical treatments.

Authors are strongly encouraged to include at least one example of recorded data in the manuscript to illustrate the technology or concept being proposed.

Technical papers, case histories, discussions, tutorials, and *GEOPHYSICS* Letters are welcome. Technical papers, case histories, tutorials, and *GEOPHYSICS* Letters require an abstract. With the exception of *GEOPHYSICS* Letters, which are short (see the section on *GEOPHYSICS* Letters later in these guidelines), authors ordinarily should confine their papers to ten (10) journal pages or fewer, including figures. Papers that exceed ten (10) journal pages may be subject to page charges (see the following section on page charges). The Editor may request that they be shortened. The intent of the length restriction is to improve clarity by encouraging authors to organize and focus their writing. Concise reporting also permits *GEOPHYSICS* to publish a larger number of papers.

All contributions submitted in English are considered regardless of whether the author is a member of the Society of Exploration Geophysicists; however, nonmembers generally incur mandatory page charges. A technical contribution is accepted for review with the understanding that (1) it has neither been accepted for publication nor published elsewhere either in whole or in part and (2) it is neither currently being considered by another journal nor will be submitted to another journal either in whole or in part while under consideration for *GEOPHYSICS*. If prior submission or publication has been to a publication with a very limited audience significantly different from the readership of *GEOPHYSICS*, the Editor may choose to waive these restrictions. It is the authors' responsibility to inform the Editor of any variance from the status described in (1) or (2) above.

GEOPHYSICS encourages authors of SEG Technical Program Expanded Abstracts and other papers originally presented at SEG meetings to submit expanded, journal-quality versions of their work for consideration. Information about the initial paper presentation must accompany the submission. Translations of non-English papers that have been published in or have been submitted to another journal will not be accepted unless specifically solicited by the Editor.

Please limit the mention of any commercial product or service to once per paper and include such mention only if it is absolutely necessary to identify the product or service. Excessive references to commercial products or services may result in a revision request or rejection of the paper. All authors are required to follow all other ethical policies stipulated by the Society, including the Ethical Guidelines for SEG Publications (<http://seg.org/pubethics>).

These guidelines apply to all submissions, including papers and software.

To check the status of a submitted manuscript, authors should check the "Author Center" at <https://mc.manuscriptcentral.com/geophysics>. If necessary, authors may e-mail geopapers@seg.org to contact members of the Publications Department of the SEG Business Office.

PAGE AND COLOR CHARGES

To support the high cost of publication, technical papers and research letters published in *GEOPHYSICS* usually incur page charges. Publication of a paper is independent of voluntary page-charge payments, but it is important for each author to honor the page-charge request. Members are requested but not required to pay the charges for the first ten (10) pages; however, they must pay all other charges. If none of the authors of a paper is an SEG member in good standing, payment of nonmember page charges is mandatory.

For SEG members in good standing, there is a voluntary page charge of US\$100 for the first ten (10) pages and a mandatory charge of US\$150 for each additional page. For nonmembers, the mandatory charge is US\$200 per page for all pages.

Color charges of US\$450 per page are mandatory for papers submitted since 15 May 2009. This applies to members and nonmembers. Case histories are exempt from the mandatory color charge, but tutorials and discussions are not.

Case histories, tutorials, and discussions do not have mandatory page charges. However, authors of papers published in those categories are asked to pay charges voluntarily at member rates.

In addition to these charges, there may be charges for changes requested in the typeset proofs that alter the text or figures in the accepted manuscript. The SEG Publications Department staff will determine such charges from the proofs that reflect the changes.

Billing will take place after composition of the paper is complete. No charges are assessed if a submitted manuscript is not published.

It is SEG's policy to suspend publication privileges of any author who has a past-due account with the Society.

The exact number of pages in an article cannot be confirmed until shortly before printing. However, a reasonable estimate is the number of words in the text divided by 1000 plus 35% of the number of figures and tables.

WRITING ABOUT GEOPHYSICS

Write to inform. Before beginning to write, organize your material carefully. Include all the data necessary to support your conclusions, but exclude redundant or unnecessary data.

Choose the active voice more often than the passive. The passive usually requires more words and sometimes obscures the meaning. Use the first person, not the third person; for single-author papers, the usage of *I* is preferred, but *we* will be accepted as well.

Prepare a first draft that includes all the data, arguments, and conclusions that you had planned to cover. Then edit your

¹Revised January 2011. "Instructions to Authors" is also available on SEG's Web site at <http://seg.org/geoinstructionstoauthors>.

manuscript carefully. Ask yourself whether the reader will find the text clear and the figures thoroughly integrated with the text. Go through this process at least twice, preparing a new draft each time.

When you are satisfied, ask a colleague — preferably someone not well acquainted with the subject matter — to read your draft. Be prepared for criticism. If one reader does not understand parts of your text, others will have the same problem. Remember, you are thoroughly acquainted with your subject, but your reader is not.

How To Write and Publish a Scientific Paper, sixth edition (2006, Greenwood Press), by Robert A. Day and Barbara Gastel, is a useful guide for preparing and organizing a technical paper.

For details on style and usage, such as capitalization, punctuation, etc., refer to the University of Chicago Press' *The Chicago Manual of Style*, 16th edition.

The dictionaries you should use are *Webster's Third New International Dictionary* and *Merriam-Webster's Collegiate Dictionary*, 11th edition.

The Encyclopedic Dictionary of Applied Geophysics, fourth edition, by R. E. Sheriff, is SEG's standard for terms particular to geophysical technology. It also contains the preferred SI units and abbreviations for units. A revised version of the fourth edition was published in 2006.

ORGANIZATION OF A SCIENTIFIC PAPER

A scientific paper can be divided into sections: title, abstract, introduction, methods, results, discussion, conclusion, acknowledgments, appendices, and references. There is some flexibility in labeling these components, but they should be clearly identifiable and should follow in order.

Title and title page

The title is a label, not a sentence. Choose as few words as possible to describe the contents of the paper adequately. Use proper syntax. The first word should be significant and helpful both for classifying and indexing the paper. Company names should not be included in the title. If the title is longer than 38 characters, you must provide (on the title page of the paper) a shortened form of 38 characters or fewer to appear as a running head above alternate pages of the published paper.

List the authors on the title page by full names whenever possible. **Please be absolutely sure you have spelled your coauthors' names correctly. Be sure also to use the form of the names that your coauthors prefer.** Include only those who take intellectual responsibility for the work being reported, and exclude those who have been involved only peripherally. The author list should not be used in lieu of an acknowledgments section.

On the title page, also include the authors' affiliations, including e-mail addresses, and the dates of submission of the original paper and of the revised paper.

Abstract

Please pay particular attention to the preparation of your abstract; use the material in this reference as a guide. Every manuscript other than a discussion must be accompanied by an informative abstract of no more than **one paragraph** (200 to 300 words). The abstract should be self-contained. **No references, figures, tables, or equations are allowed in an abstract.** Do

not use new terminology in an abstract unless it is defined or is well known from prior publications. SEG discourages the use of commercial names or parenthetical statements. The abstract must not simply list the topics covered in the paper but should (1) state the scope and principal objectives of the research, (2) describe the methods used, (3) summarize the results, and (4) state the principal conclusions. **Do not refer to the paper itself in the abstract.**

The abstract must stand alone as a very short version of the paper rather than as a description of the contents. Remember that the abstract will be the most widely read portion of the paper. Various groups throughout the world publish abstracts of GEOPHYSICS papers. Readers and occasionally even reviewers may be influenced by the abstract to the point of final judgment before the body of the paper is read.

Introduction

The purpose of the introduction is to tell readers why they should want to read what follows the introduction. This section should provide sufficient background information to allow readers to understand the context and significance of the problem. This does not mean, however, that authors should use the introduction to rederive established results or to indulge in other needless repetition. The introduction should (1) present the nature and scope of the problem; (2) review the pertinent literature, within reason; (3) state the objectives; (4) describe the method of investigation; and (5) describe the principal results of the investigation.

For additional guidelines, see J. F. Claerbout, 1991, "A scrutiny of the introduction," *THE LEADING EDGE*, **10**, 39.

Methods

The methodology employed in the work should be described in sufficient detail so that a competent geophysicist could duplicate the results. More detailed items (e.g., heavy mathematics) often are best placed in appendices. For complex mathematical articles, authors are strongly encouraged to include a table of symbols.

Results

The results section contains applications of the methodology described above. The results of experiments (either physical or computational) are data and can be presented as tables or figures and analyses. Whenever possible, include at least one example of recorded data to illustrate the technology or concept being proposed. Case-history results are usually geologic interpretations.

Selective presentation of results is important. Redundancy should be avoided, and results of minor variations on the principal experiment should be summarized rather than included. Details appearing in figure captions and table heads should not be restated in the text. In a well-written paper, the results section is often the shortest.

Discussion

The discussion section should be separate from the conclusion section. If they are combined, the copy editor of your manuscript is instructed to ask you to separate them. This can result in delays in production. See below for a description of the conclusion section.

Some papers may not require a discussion section. If this is the case with your paper, do not include a discussion section.

Conclusion

The conclusion section should include (1) principles, relationships, and generalizations inferred from the results (but not a repetition of the results); (2) any exceptions to or problems with those principles, relationships, and generalizations, as indicated by the results; (3) agreements or disagreements with previously published work; (4) theoretical implications and possible practical applications of the work; and (5) conclusions drawn (especially regarding significance). In particular, with reference to item (1) above, a conclusion that only summarizes the results is not acceptable.

The conclusion should not include figures, tables, equations, or reference citations.

Figures and tables

Each figure and table must be called out (mentioned) sequentially in the text of the paper. Each figure must have a caption, and each table must have a heading. Captions and headings should be explicit enough that the reader can understand the significance of the illustration or table without reference to the text.

Each illustration and table should be given an Arabic number and should be referred to by that number in the text. In the caption and text, spell out the word *Figure* and capitalize it when a number follows it. In table headings and text, spell out the word *Table* and capitalize it when a number follows it.

Footnotes

Footnotes should be avoided unless absolutely essential and then should be held to a minimum. All footnotes introduced in the text of a paper should be numbered consecutively from beginning to end of the manuscript, including the footnotes for the author affiliations. In the manuscript, each footnote must be inserted at the bottom of the page where the reference appears.

Acknowledgments

If the author includes an acknowledgments section, it is placed after the conclusion and before the appendices (if any) and reference list.

Appendices

An appendix should not be cited in the text in such a way that the appendix is essential to a reader's understanding of the flow of the main text. See section 1.82 in *The Chicago Manual of Style*, 15th edition, for further explanation of the content of an appendix. Each appendix should be called out (mentioned) sequentially in the text of the paper by name, i.e., "Appendix A."

Each appendix should have a label such as "Appendix A" on the first line and a subtitle such as "Mathematical Considerations" on the second line. In each appendix, number equations and figures beginning with 1: A-1, B-1, etc.

Appendices are placed after acknowledgments and before the reference list.

Reference list

The reference list is placed last in a manuscript, after the acknowledgments and appendices (if any). See the "References" section under "Manuscript Preparation" below for details on reference style.

HOW TO SUBMIT A MANUSCRIPT

Papers submitted to GEOPHYSICS should meet the requirements detailed in this guide. If certain requirements are not met, a paper may be prevented from being accepted for review. Papers most likely to be delayed include those not submitted in double-spaced format and those written in poor English. In such cases, the paper will not be reviewed until the necessary basic requirements are satisfied. To facilitate processing and review, authors are urged to read and carefully follow the procedures described below.

Checklist to avoid common mistakes

- Is the entire paper double-spaced?
- Are all pages numbered?
- Have I followed the requirements for the abstract?
- Have I followed the style instructions for the reference list?
- Have I followed the instructions for labeling figures?
- Does each figure appear on a separate page and are the figures grouped at the end of the manuscript?
- Is a list of figure captions included after the reference section?
- Have I properly numbered equations and followed style guidelines for vectors, matrices, and tensors?
- Have I submitted tables as separate files and not embedded them in the body of the manuscript?

Electronic submission of manuscripts

Manuscripts should be submitted online at <https://mc.manuscriptcentral.com/geophysics>.

GEOPHYSICS uses ScholarOne Manuscripts for online submission, peer review, and tracking. During the review process, authors use the online system to check paper status, communicate with editors, and submit revisions.

Prepare the manuscript by following these instructions carefully, and save the text of the manuscript in one PDF, PostScript, or Microsoft Word file. Figures may be submitted as TIFF, EPS, or Word files. **(Figures submitted in Word, however, are allowed for reviewing purposes only. If the paper is accepted for publication, TIFF or EPS files at a resolution of at least 300 dpi will be required for production.)**

Log on at <https://mc.manuscriptcentral.com/geophysics>. On the right side of the screen, click "User Tutorials" to obtain the "Author's Quickstart Guide," tips for uploading files in ScholarOne Manuscripts, and other online help for uploading to the system.

When you are ready to upload your manuscript files, enter your "Author Center." Click on "Click here to submit a new manuscript," enter the data required, and follow the steps for submitting a manuscript. Be sure to click "Submit" when you finish uploading the files and have previewed the PDF file. When you have completed the uploading process successfully, you will see a confirmation screen that includes the manuscript ID number assigned to your submission. You also will receive an e-mail confirmation within a day, to be saved for future reference.

If you need additional help, click the "Get help now" button in the upper right corner. This link brings up a new win-

dow that contains instructions, answers to frequently asked questions, and a method to send a question to the ScholarOne Manuscripts support team. If necessary, e-mail geopapers@seg.org to contact a member of the SEG staff, but first you should contact the ScholarOne Manuscripts support team for assistance.

Authors are requested not to address the Editor, Assistant Editors, or Associate Editors directly unless the communication is of a personal nature or is an appeal. Routine communications are handled more efficiently electronically through the peer-review system or the SEG Business Office.

After a paper has been edited, composed, and proofread, it will be published online in advance of print publication.

NOTE: Please bear in mind that the online version of your paper is not another version of the author proof or an opportunity for the author to revise the paper. The online version is the version of record. It is an exact representation of the version that was approved for publication in print. Changes in the online or printed version should be limited to factual or typographical errors serious enough to warrant publication of an erratum. Changes in the online version can result in the paper being withdrawn temporarily from the online site.

Acceptable forms of the manuscript

Manuscripts reviewed online are circulated as PDF documents, although the original files also can be viewed by referees. Authors should submit the manuscript text as a single document in PDF, PostScript, or Microsoft Word. Figures may be submitted as TIFF, EPS, or Word files. (Figures submitted in Word are allowed for reviewing purposes only. If the paper is accepted for publication, TIFF or EPS files at a resolution of at least 300 dpi will be required for production.) The online-submission software automatically combines the Word document with the figure files to create a single PDF file. Creating high-quality PostScript and PDF files from LaTeX files can be problematic. Some helpful suggestions on how to do this are available on the GEOPHYSICS page of the SEG Web site.

Once a paper is approved for publication, the author is required to upload the final document (and the completed publication forms) through the “Author Center” at <https://mc.manuscriptcentral.com/geophysics>. The publication forms are located at <http://seg.org/publications/geophysics/pubforms.shtml>. Please complete the forms, scan them, and upload them to the system. If necessary, you may fax the forms to 1-918-497-5557. The paper is not considered accepted until the final documents are uploaded and approved by the DigitalExpert check in the online system.

Accepted manuscripts are located under “Manuscripts accepted for First Look” in the “Author Center.” The authors will click the “Submit updated manuscript” link to update data as needed and upload final documents. When submitting final documents, please check the following:

- Are author names and affiliations on the title page of the paper correct and listed exactly as they should be published?
- Is the right running head listed on the title page of the paper? The right running head is a short version of the title, 38 characters or fewer (including spaces), to be used on pages following the first page of the article.

- Are references formatted correctly?
- Do figures meet resolution requirements?
- Are figure files named as the correct figure numbers (Figure 1, Figure 2, etc.)?
- Have you submitted all figures in the color space in which you expect them to be published? Color figures must be submitted in color, and grayscale or black-and-white figures must be submitted in grayscale or black and white, accordingly.
- Is the manuscript void of linking or highlighting as required?
- If you are uploading TIFF files, have you enabled LZW compression while saving?
- If you are uploading color figures, are they formatted in CMYK (cyan-magenta-yellow-black)?

Preferred formats for production are Microsoft Word and LaTeX, in that order. The preferred math program for Word papers is MathType 5.1 or greater. If you do submit a paper in LaTeX, please use the updated SEG/TeX macro (http://reproducibility.org/wiki/Main_Page). If using BibTeX to create references, authors must run BibTeX before submitting the .tex file and read in or paste the resulting contents of the generated .bbl file within the bibliography section of the .tex file. All LaTeX manuscripts must include the .tex file and a PDF generated by that file. LaTeX files will be converted to Microsoft Word documents in the production process.

When submitting your final files, please identify software used.

SUBMISSION, REVIEW, AND ONLINE PUBLICATION OF ESSENTIAL MULTIMEDIA FILES

GEOPHYSICS authors may submit movie, sound, and other types of ancillary files for publication along with the manuscripts they are intended to augment. These files should be uploaded to the online peer-review system along with the manuscript. A note accompanying the submission should indicate that an ancillary file has been submitted for review with the intention that it be published online with the paper. If the manuscript and the ancillary file are accepted for publication, the file will be published online in conjunction with the paper.

Essential multimedia

Essential multimedia files are peer-reviewed and are considered to be necessary to an article to support the science presented in the article. In addition, it is believed that a complete understanding of the article is not possible without viewing or hearing the multimedia file. Because of this, essential multimedia files must be archived with the article and are therefore subject to a set of policies and procedures designed to ensure the archival integrity of these files.

When preparing multimedia files as essential multimedia, authors need to understand that for proper archiving, limitations must be placed on the types of files that can be submitted with the manuscript. Acceptable essential multimedia files can be QuickTime Nonstreaming, MPEG, or DV files. AVI files are not acceptable at this time as essential archival multimedia files. Detailed information is provided below.

Video submissions

GEOPHYSICS accepts video submitted only as digital files. Acceptable file formats include QuickTime Nonstreaming (.qt or .mov), MPEG (.mpg), and DV (.dv). The preferred formats are .mov and .mpg. Details about each of these file formats are outlined below.

Video files should be named [filename.xxx].

In addition, a representative “still” image taken from the video is required for use as a placeholder for the video file in PDFs and print. This still image is not intended to convey meaning about the content of the video; rather, it will be used as a static representation of the video file. Care should be taken to extract an image from the video which has reasonable clarity of fine lines and details. Acceptable file formats for still images are EPS (.eps) and TIFF (.tif). Still images should be named [filename.xxx].

Important note about AVI (.avi) video files: Multimedia files typically are created and encoded in a compressed format. Many of the compression algorithms used to create AVI files are proprietary and result in files that do not pass archival policies and procedures of SEG’s online publications host. At present, AVI video files are not considered acceptable for essential multimedia because they do not pass the platform’s archival tests. Most applications offer the option of saving multimedia in a variety of formats. When saving a video file, authors should use the “Save as...” option and select .qt, .mpg, .mov, or .dv as the file type.

Audio submissions

GEOPHYSICS also accepts digital audio files as essential multimedia. Acceptable file formats include PCM (.pcm), WAV (.wav), AIFF (.aif), and MP3 (.mp3) at 128 KB or greater. Audio files should be named [filename.xxx].

General guidelines for all multimedia submissions

At this time, the online journal platform (Scitation) on which GEOPHYSICS is published has not specified a maximum file size for submission; however, authors are strongly encouraged to adhere to the following guidelines when they prepare their files:

- The acceptable file formats outlined above are playable using standard media players such as QuickTime and Windows Media Player. Media players should be used to check file properties and image/sound quality prior to submission. Fonts, lines, and image details in video submission should be of sufficient size and weight to be visible when played at half size.
- Attention should be paid to the file size to make download time reasonable because streaming formats are not acceptable for submission at this time. A recommended target size for each multimedia file is 3–5 MB.
- Authors are encouraged to use one of the accepted compression codecs to minimize file sizes.
- Animations must be formatted into a standard video file.

Metadata

When you submit your media file, you will be asked for some information about it. You will be required to submit a

caption or description of the content of the media file. This is similar to a typical figure caption. You are invited to submit optional metadata, as outlined in the table below. Please submit a table with this information along with each submitted media file.

Metadata elements

Name	Description
Caption/description	Textual caption/description of the content of media object. Required.
Type	The nature or genre of the content of the media, such as video or audio. Optional.
Format	This should describe the media file type, such as Quicktime, DV, MPEG, PCM, or WAV. Optional.
Duration	This is the duration of the media-object playing time, in the unit of seconds. It is applicable to video or audio media. Optional.
Frame size	For video only (not still images), the size of the video image, as height × width in pixels. Optional.
Producer	Information about the software used to create the media object. It should include the name and version of the software (e.g., Adobe Premiere Elements v. 2.0). Optional.

Multimedia detailed specifications

Acceptable essential multimedia video file formats

QuickTime nonstreaming (.qt or .mov)

24-bit (millions) color
 video compressor/codec
 uncompressed/none
 animation
 motion JPG (MJPEG)
 DV (NTSC)
 DV (PAL)

audio
 48,000 samples per second
 16 bit
 uncompressed/PCM
 stereo or mono

MPEG

video compressor/codec
 MPG2 (.mpg)
 MPG4 (.mpg or .mp4)
 video data rate 6 MB or greater

audio
 48,000 samples per second
 16 bit
 uncompressed (PCM) or MPEG audio at 224 KB or greater

DV (.dv)

DV (NTSC)
 DV (PAL)

NTSC video parameters

image size (H:V) 720:480 pixels
 frame rate 29.97 frames per second

PAL video parameters

image size (H:V) 720:576 pixels
 frame rate 25 frames per second

Acceptable essential multimedia audio file formats

PCM, WAV, AIFF, MP3 (at 128 KB or greater)
 audio parameters
 44,100 or 48,000 samples per second
 16 bit

MANUSCRIPT PREPARATION**Spacing and paragraphs**

Manuscripts must be double-spaced in 12-point type. Double-space all parts of the manuscript, including the abstract, footnotes, quoted material, references, and figure captions. Each paragraph must be indented.

Page numbers

Page numbers must appear on all pages of text, including references, figure captions, and tables.

Page length, line width, and margins

Each page should have no more than 30 lines of type, with no line exceeding six (6) inches in length. Ample margins should be left at the top, bottom, and sides.

Meeting citations

If your technical paper was presented at an SEG meeting, please note that on the title page. The presentation will be cited on the title page in the journal with the number of the meeting, organization, and date.

Headings

It is necessary for you to distinguish the categories of headings in your manuscript so your intentions will be clear to the editors and typesetters. **Please follow the guidelines below.**

Place principal headings (Category 1 heads) at the center of the page in capital letters.

Place Category 2 heads at the left margin (without indentation) in boldface type, with only the first word of the heading and proper nouns capitalized. Start the text that follows on the next line and indent it.

Place Category 3 heads at the left margin (without indentation) in italics, with only the first word of the heading and proper nouns capitalized. Start the text that follows on the next line and indent it.

If headings of still lower rank are necessary, indent, use boldface type, place a period and dash after the heading, and follow with text on the same line.

Do not number sections of the text. Refer to sections by name or content, e.g., "Discussion on deconvolution."

Figures and tables

In the manuscript, figures should not be embedded in the text but should be collected at the end of the manuscript, with each figure on a separate page (see the section "Preparation of

Illustrations"). Figure captions should be listed at the end of the manuscript on a separate page before the first figure page.

Tables, including their headings, should not be included within the text but should follow the manuscript, with each table in a separate digital file. Other types of lists may be run within the text.

Examples of style for terms

acknowledgments
 air gun*
 airwave
 antialias
 audio frequency*
 back projection*
 band limited*
 band-pass
 bandwidth
 borehole
 CDP (common depth point)
 CMP (common midpoint)
 CRP (common reflection point)
 Chebychev
 crosscorrelation
 crosshole
 crossline
 cross section*
 crosswell
 database
 data set
 far-field
 finite difference*
f-k filter
 free space*
 groundwater
 half-space
 high resolution*
 inline
 least squares*
 mis-tie
 near-field
 noncollinear
 passband
 plane wave*
 poststack
 prestack
 pseudosection
 P-wave
Q filter
 raypath
 rms (root mean square)
 semi-infinite
 subbottom
 S/N (signal-to-noise ratio; do not add the word "ratio" to S/N when the abbreviation is used)
 S-wave
 3D
 time slice*
 travelttime
 2D
 wavefield

waveform
 wavefront
 waveguide
 wavelength
 wavenumber
 wave stack
 wave test
 wavetrain
 wide band*
 z-plane

* Hyphenate as an adjective; e.g., finite-difference method.

Examples of style in text

- Use American English spelling, e.g., modeling, color, analyze, behavior, etc.
- Each sentence must begin with a capital letter. Lowercase Greek letters, mathematical symbols, or numerals may not be used to begin a sentence.
- Use a semicolon before the adverbial conjunctions *however*, *thus*, *hence*, *therefore*, etc., in compound sentences.
- Use a semicolon between independent clauses not joined by a conjunction.
- Do not use a colon when an equation or list comes immediately after a verb or preposition.
- Operator symbols serve as verbs.
- Equations are punctuated as sentences and should be numbered.
- The abbreviations et al., i.e., and e.g. are set off with commas, except when et al. is used in a text reference. In that case only, the preceding comma is omitted.
- Extensive use of italics in text is discouraged; use them only for the most necessary emphasis.
- Do not use italics for foreign and Latin words that have become common in English usage, e.g., a priori, et al. Check *Webster's Third New International Dictionary* or *Merriam-Webster's Collegiate Dictionary*, 11th edition, to determine if the term is in common English usage.
- Use quotation marks to refer to a special term only the first time the term appears.
- Hyphens are not generally used in words formed with prefixes; e.g., antisymmetric, multidip, nonlinear, semimajor, subbottom, prestack, poststack, pseudosection, etc. Check *Webster's Third New International Dictionary* or *Merriam-Webster's Collegiate Dictionary*, 11th edition.
- Hyphens are not used between adverbs ending in *ly* and the words they modify, e.g., horizontally layered.
- Do not use newly invented acronyms or trade names to describe your technique. Widely used trade names that appear in the *Encyclopedic Dictionary of Applied Geophysics*, fourth edition (e.g., microlog), are acceptable.
- Use symbols for percent (%) and degree (°) in the text as well as in mathematical expressions, tables, or figures.
- Spell out points of the compass, e.g., north-northwest.
- In a series of three or more items, a comma (or a semicolon, where appropriate) follows each item, including the one that precedes *and*.

Examples of style for units

Physical quantities should be expressed in SI units. When field measurements were obtained or equipment was specified with different units, the value of non-SI units can be specified in parentheses following the SI units, e.g., 2200 m/s (7200 ft/s). Do not carry more significant figures in the unit conversion than in the original measurement. For example, note that 7200 ft/s converts to 2200 m/s, not 2195 m/s.

All of the following conform to SI metric standards:

s for second
 Ω m or ohm-m for ohm-meter
 S/m for siemens/meter
 Hz as unit, hertz as word
 A as unit, ampere as word
 F as unit, farad as word
 H as unit, henry as word
 V as unit, volt as word
 J as unit, joule as word
 N as unit, newton as word
 W as unit, watt as word
 Pa as unit, pascal as word
 m/s for meter per second (not ms⁻¹)
 1000 (no comma)
 times sign (×) instead of dot for multiplication
 space between number and unit (10 m, not 10m)
 mGal (not mgal) for abbreviation, milligal for word
 ms for millisecond
 GHz for gigahertz
 MHz for megahertz
 kHz for kilohertz
 cm for centimeter
 mm for millimeter
 μ m for micrometer
 μ s for microsecond
 nm for nanometer
 pm for picometer

The exceptions to SI units listed below are acceptable if SI units follow them in parentheses:

bar as pressure unit
 darcy as permeability unit
 ft
 ft/s
 gamma as magnetic-field intensity unit
 mi
 ms/ft

Mathematical material

One of the most complicated and expensive operations in publishing GEOPHYSICS is typesetting mathematical formulas. Because GEOPHYSICS is now tagged in XML to facilitate online delivery, some rerendering of equations may occur. However, every effort is made to ensure that all mathematical symbols and terms appear in the galley proof just as the author created them (see the section "Acceptable forms of the manuscript" for instructions on submitting manuscripts in LaTeX). You can help reduce these costs by writing equations in their simplest forms. Often, a complicated expression can be simplified if various terms are assigned symbols that are defined individually. For some good examples, see the paper by Nelson in GEOPHYSICS, 53, 1088–1095.

Fractional exponents should be used instead of radicals wherever feasible. Radicals are preferred, however, for simple square roots, e.g., $\sqrt{2}$ rather than $2^{1/2}$.

When there is any doubt that subscripts and superscripts will be clear to the typesetter, they should be indicated by carets and inverted carets, for example,

$$q_{ij}; p^{w^2}$$

To standardize space and time coordinates, use lowercase letters x , y , z for Cartesian space coordinates. Designate corresponding axes by x -axis, y -axis, and z -axis, and designate the time coordinate by t . To represent traveltime and finite changes in traveltime, use t and Δt rather than T and ΔT . All axis coordinates on figures must be indicated and should be consistent with the text.

Equations that cannot be placed on one line must be broken only at the operator symbols. The sign should be placed at the start of the second line.

Terms in equations are grouped with the following symbols: parentheses (), brackets [], and braces { }. For example, $X = \{2R + [(k + 1)(k + 2)]^2\}^{1/2}$.

The typesetter is instructed to set all mathematical symbols and all isolated letters in the text in italic type if there are no markings to the contrary. Use italics for all symbols for scalar quantities, including those represented by Greek letters. **Please note that vectors are set in boldface lowercase roman (regular) letters, whereas matrices and tensors are set in boldface capital roman letters. Uppercase boldface letters also may be used for vectors, and lowercase boldface letters may be used for tensors, if such use is customary. Different fonts may be used to further distinguish scalars, vectors, tensors, and matrices.**

Here are some ways you can facilitate the processing of your article: (1) Set all letters (including Greek) representing scalar quantities in italics. Do not use italics for such items as sin, cos, max, min, etc. Do not use italics for letters representing units of measurement: ms, ft, etc. (2) Set all vector quantities in bold lowercase except as otherwise noted, as in the case of electromagnetic fields.

All displayed equations should be numbered sequentially throughout the manuscript. When referring to an equation in text, please identify it with a phrase that could serve to identify the type of equations throughout the text, as shown in the following example:

Without phrase: “inserting equations 5 and 6 into equation 9 ...”

With phrase: “inserting the form, equation 5, of the electric field E and the Lindhard form, equation 6, of the dielectric function ϵ into the constitutive equation 9 ...”

Equation numbers in the text should not be shown in parentheses, e.g., “As shown in equation 10.” (However, the equation number at the right margin of the column should be enclosed in parentheses.) A mention of the equation number in the text must be accompanied by *equation*, *expression*, or another synonym to identify the number itself. Equations in an appendix should be numbered with the prefix of the appendix, e.g., “equation A-1.” Equations should be punctuated as sentences or parts of sentences. Please consult *The Chicago Manual of Style*, 16th edition, sections 12.18–12.20, for correct punctuation of equations.

For complicated and detailed mathematical papers, authors are encouraged to include a table near the beginning of the paper to define their mathematical symbols. Authors are also strongly encouraged to place complicated and detailed mathematics in appendices.

References

Authors are requested to be meticulous in following instructions for references, which typically require more editing than any other section of the manuscript. In addition, accuracy and proper form are essential so that references in online GEOPHYSICS papers will link to the sources cited. Authors who do not follow guidelines for references can expect a delay in publication because the article may be returned for revision to proper style.

Citation of previous work acknowledges the importance of those investigations and makes available to the reader much more background information than is practical to include in a single paper. However, to be of real value, all references must be readily accessible to the reader. If internal reports with wide circulation constitute an important reference, cite them in the text but not in the reference list, e.g., (G. M. Levy, 1984, Geonics Ltd. Tech., note TN-16). Similarly, citations of personal communications, **including papers submitted to a journal but not yet published**, may be placed in the text but not in the reference list. Cite personal communications with initial(s), surname, and year, e.g. (J. Smith, personal communication, 2006).

In the text, literature citations should show the author’s name followed by the year of publication in parentheses, e.g., Nettleton (1940). If the author’s name is not referred to in the text, it and the year should be inserted in parentheses at the point where the reference applies: (Nettleton, 1940).

If there is more than one reference to the same author at a given point in the text, list the years in chronological order with a comma and space between. When more than one author is referenced at a given point in the text, separate the references by a semicolon and a space. If a specific page is referenced, include the page number within the parentheses, after the year (Nettleton, 1940, p. 142).

References should be grouped alphabetically under the heading “References” at the end of the article, after the acknowledgments and appendices (if any). References should be alphabetized according to sections 15.11–15.20 and 16.56–16.93 in *The Chicago Manual of Style*, 16th edition, i.e., a single-author work precedes a multiauthor work beginning with the same author’s name. For a given author referenced more than once for the same year, use the suffixes a, b, etc., after the year of publication to distinguish references. References with identical authorship should be listed in chronological order.

Material in preparation, submitted, or not yet accepted and scheduled for publication should not be included in the references. Material accepted for publication may be cited as a reference if its publication date has been established, but it will be necessary to double-check the status of the material before your article is published. If the material has not yet been published, it should be cited only as a personal communication.

References not cited in the text should not be included in the reference list unless the paper is of a survey or tutorial nature. Under such circumstances, those references should be

grouped separately under the heading “References for General Reading.”

In the reference list, the form and punctuation shown in the examples below will be observed. **Please note that (1) SEG does not abbreviate titles of journals and names of institutions and publishers and (2) initials of secondary authors’ names precede surnames.**

References to electronic material should include (1) the standard information, (2) the format (e-book, CD-ROM, DVD-ROM, etc.), (3) the digital object identifier (DOI) if the material is registered with CrossRef, and (4) the access date if no DOI is available.

For types of references not included below, follow the guidelines for author-date citations in *The Chicago Manual of Style*, 16th edition.

Papers from journals

Kosloff, D. D., and E. Baysal, 1982, Forward modeling by a Fourier method: *Geophysics*, **47**, 1402–1412.

Rouse, W. C., A. J. Reading, and R. P. D. Walsh, 1986, Volcanic soil properties in Dominica, West Indies: *Engineering Geology*, **23**, 1–28.

Guitton, A., 2005, Multiple attenuation in complex geology with a pattern-based approach: *Geophysics*, **70**, no. 5, V97–V107.

Mungall, J. E., and J. J. Hanley, 2004, Origins of outliers of the Huronian Super group within the Sudbury Structure: *Journal of Geology*, **112**, 59–70, doi: 10.1086/379692.

Capitalize only the first word of the title and proper nouns. Do not use quotation marks unless they are actually part of the title. Do not underline or use italics. Show the volume numbers in bold, omit the issue number, and show beginning and ending page numbers or article numbers if the journal does not use page numbers. **For references to GEOPHYSICS papers since the beginning of 2005, however, include the issue number after the volume number because of the use of alphanumeric page numbers.**

Papers from magazines

Castagna, J. P., 1993, Petrophysical imaging using AVO: *The Leading Edge*, **12**, 172–179.

Follow the instructions for papers from journals. If each issue of the magazine begins with page 1, include the issue number after the volume number, e.g., no. 3.

Books

Davis, P. J., and P. Rabinowitz, 1975, *Methods of numerical integration*: Academic Press Inc.

Hellman, H., 1998, *Great feuds in science: Ten of the liveliest disputes ever*: John Wiley & Sons, e-book.

Follow the instructions for papers from journals. Reference the full name of the publisher. Do not reference the city of publication or the number of pages in the book.

Articles in books

Baker, D. W., and N. L. Carter, 1972, Seismic velocity anisotropy calculated for ultramafic minerals and aggregates, *in* H. C. Heard, I. V. Borg, N. L. Carter, and C. B. Raleigh, eds., *Flow and fracture of rocks*: American Geophysical Union Geophysical Monographs 16, 157–166.

Theses and dissertations

Lodha, G. S., 1974, Quantitative interpretation of airborne electromagnetic response for a spherical model: M.S. thesis, University of Toronto.

Reference to a thesis or dissertation requires neither the name of the department nor the number of pages.

Discussions

Zhou, B., 1992, Discussion on: “The use of Hartley transform in geophysical applications,” R. Saatçilar, S. Ergintav, and N. Canitez, authors: *Geophysics*, **57**, 196–197.

Web site (or part of Web site)

Roemmich, D., 1990, Sea-level change, <http://www.nap.edu/books/0309040396/html>, accessed 14 July 2003.

Oral presentations that are not published in a proceedings or abstract volume

Hubbard, T. P., 1979, Deconvolution of surface recorded data using vertical seismic profiles: Presented at the 49th Annual International Meeting, SEG.

Do not include city.

Expanded abstracts

Constable, S. C., 1986, Offshore electromagnetic surveying techniques: 56th Annual International Meeting, SEG, *Expanded Abstracts*, 81–82.

References to proceedings of many conferences are appropriate only if these proceedings are generally available to the reader. Authors are requested to avoid such references to material of limited availability. The *SEG Expanded Abstracts* do qualify as references because of their general accessibility.

Patents

Williams, K. E., 2007, Method and system for combining seismic data and basin modeling: U. S. Patent 7,280,918.

After the name, indicate the year the patent was granted.

Data sets

O’Brien, M., 1994, 1994 Amoco statics test. Data set accessed 20 May 2004 at http://software.seg.org/datasets/2D/Statics_1994/.

PREPARATION OF ILLUSTRATIONS

All illustrations must be submitted in electronic format. Illustrations submitted after the paper is accepted must meet the specifications listed below. Papers may be delayed or rejected if these illustration guidelines are not followed.

Size

- Is each illustration designed for GEOPHYSICS column sizes? (Standard sizes are 20 picas, or 3.33 inches, for one-column figures and 26 picas, or 4.33 inches, for one-and-one-third-column figures at required resolution.)

Type

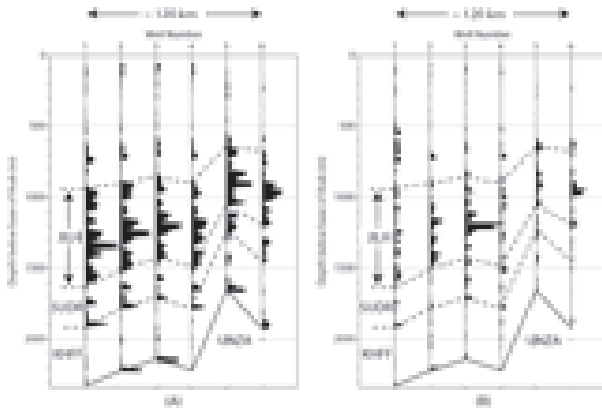
- Are all graph labels in the same eight-point sans serif font such as Arial or Helvetica?

- Is the first letter of graph labels capitalized?
- Are the abscissa and ordinate of each graph labeled and are units denoted in parentheses?
- Is there a title heading for each graph?
- Is an en dash used instead of a hyphen to denote subtraction and negative numbers?
- Are the graph's style, font, and format consistent with those in other figures, especially similar figures?
- Is lettering within figures legible and not too large or too small?
- Do labels on vertical axes read from bottom to top when the page is held vertically (from left to right when you rotate the page clockwise 90°) and are they centered vertically?
- Are scalars italicized consistently in the text, figures, and figure captions?

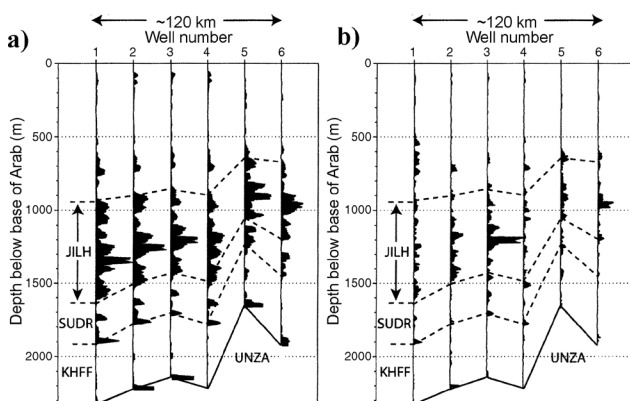
The body of illustrations should not contain titles or other textual material that can be placed in the caption. Exceptions to this rule will be considered only when clarity demands. Use standard GEOPHYSICS abbreviations in labeling scales.

Resolution

- Are all illustrations submitted in EPS or TIFF format with color and grayscale images at a resolution of at least 300 dots per inch (dpi) and line art of at least 600 dpi (1200 dpi is preferred)? A graphics-editing application such as Adobe Photoshop may be helpful for preparing illustrations. Several shareware or freeware applications are available.



Sample figure at low resolution



Sample figure at high resolution

Color

- Are color figures formatted using CMYK (cyan-magenta-yellow-black), not RGB (red-green-blue)?
- Are grayscale or black-and-white figures submitted in grayscale or black and white?

If figures are submitted in color, they will appear in color in print and online, and authors will be charged according to the color charges specified in the Page and Color Charges section.

General preparation tips

- Is the figure number included in the margin of each figure for identification?
- Is the correct orientation of the printed figure indicated? Use an upward-pointing arrow to show orientation.
- Is each figure submitted in a separate digital file named according to the figure number? A figure can be labeled when uploading a figure file to ScholarOne Manuscripts in the caption/legend area.
- Are TIFF files saved with LZW compression enabled?

Do not embed figures in documents. Do not submit figures in Microsoft Word or PowerPoint. Please do not produce figures by making straightforward screen dumps of the graphic output of a software package. This usually results in unnecessary decorations, gray background, unreadable axes and labels, overlapping labels, or low resolution. If the software has no other way of generating graphic output, high-resolution screen-dump images are allowed as part of the figures if unnecessary details are removed, proper axes and labels are added, and consistent formats are used for similar figures.

Black-and-white and color bars that accompany image and contour plots should be labeled with units denoted in parentheses. In the case of multiple plots, if the variables have the same unit and scale, for instance, the three components of the magnetic field, then one bar is enough, indicating a vector \mathbf{H} (nT) and specifying the components as (a), (b), and (c) in the caption. If the plots represent different field variables, use additional bars, depending on the units and the scale limits of each variable.

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REVIEW AND EDITING PROCEDURES

Legal status of papers in review

A submitted manuscript, including any associated code or essential multimedia, is legally the property of the author until the copyright assignment to SEG is executed and received by the Society. Copyright assignment does not occur until shortly before the paper is accepted for publication. Until then, reviewers

and other members of the editorial staff cannot legally use the paper for any purpose other than the review process. It may not be shown, copied for personal use, or commercialized in any way. In the interest of personal protection for Associate Editors and SEG, these guidelines should be followed. SEG is not aware of any instances in which papers under review have been misused.

Peer review

If the SEG Editor or an Assistant Editor decides that a submitted manuscript is relevant for *GEOPHYSICS*, it is sent to an appropriate Associate Editor, who selects two or three knowledgeable, unbiased people to review the paper in detail. The reviewers send their comments to the Associate Editor, who forwards them, along with a recommendation, to an Assistant Editor. After considering the reviewers' comments and the Associate Editor's opinion and recommendation, the Editor or an Assistant Editor corresponds with the author. The Editor accepts, rejects, or requests modifications in the paper and sends the reviewers' and Associate Editor's comments to the author. (Reviewers are anonymous unless they choose to be identified.)

Because few papers are accepted for publication without author revisions, a second review is usually necessary (except in the case of *GEOPHYSICS* Letters, which will be discussed below). Depending on the extent of the revisions, the Associate Editor may check the changes or seek additional reviews. To keep *GEOPHYSICS* timely, the Editor, Assistant Editors, and Associate Editors ask reviewers to submit comments promptly. If a reviewer cannot meet this schedule or decides not to review a paper after its receipt, Sheral Danker (geopapers@seg.org) in the Publications Department should be notified immediately.

Online peer review

Associate Editors invite reviewers via e-mail through the online peer review system (<https://mc.manuscriptcentral.com/geophysics>).

Manuscripts are distributed in PDF format through the system, although original files are also available to reviewers. Reviewers download the manuscript for review. In the online review form, there is a space for comments directed to the author(s). This is a required field. These comments are also available to the Associate Editor. There is also a space for confidential comments to the editors, if needed. In addition, reviewers can upload separate documents to be viewed by the author(s) and editors.

If a reviewer's comments include equations or figures, they must be uploaded as a separate document because the online review form cannot accommodate complex equations or figures.

Reviewers can create a PDF file bearing their annotations and upload it as a separate document. If the author's paper was submitted in Word, reviewers can annotate it in Word and upload the annotated file. Alternatively, reviewers can use Adobe Acrobat editing tools for annotating an electronic copy of the manuscript and then upload that. Reviewers may choose to annotate a hard copy of the manuscript, scan it to a PDF, and then upload the PDF. If they lack the resources to scan a paper to PDF, they may annotate a hard copy of the manuscript and mail it to Sheral Danker at the SEG Business Office. These

annotated hard copies will be scanned and uploaded as separate documents to be viewed by Associate Editors and authors. Reviewers should use black ink and should write legibly when making annotations.

Reviewer's responsibilities

A reviewer has the following equally important responsibilities:

- *To evaluate the work's importance and relevance to geophysics.* If the work is fundamental research, has the author clearly demonstrated why others in our community should find the results interesting? If the work is applied research or a case study, would readers learn anything from it? Case histories do not need to include new technology, but they should emphasize the impact the geophysical work had on a play, area, commodity, or technique. The impact determines the degree of reader interest and should weigh heavily in a reviewer's evaluation.
- *To critique scientific quality.* Are the author's conclusions supported by the evidence presented? Were sound geophysical principles employed? Is previously published information presented as new material? Are there any flaws in the author's reasoning or mathematics? Was the experiment done carefully and with proper controls? Are all assumptions clearly stated?
- *To ensure that the material is communicated effectively and efficiently.* Is the paper free of ambiguity? Are new concepts explained in sufficient detail? Are redundancies present? Does every part of the paper contribute to its theme? Are figures self-explanatory and well labeled? Are there large gaps in reasoning and mathematical developments? Are appendices needed?

A reviewer is not expected to rewrite a paper that is poorly written and structured; that is the job of the author, with help from the editors. The reviewer should try to identify problem areas, especially those that are difficult to understand and in which the technical information is not communicated clearly. Comments such as "This paragraph is confusing," "This section seems out of place," or "Awkward style" are often appropriate. Whenever possible, reviewers should be specific in identifying what is confusing or questionable.

- *To provide constructive feedback to authors.* Criticism offered objectively can result in effective revisions and consequently a worthwhile paper. Conversely, blunt and brutal statements may insult and discourage an author and result in the loss of a useful contribution. A paper should not be rejected solely because the reviewer does not agree with an author's conclusions, comments, or interpretation. Instead, the reviewer should list objections and ask the author to address them in the revision. The reviewer should refrain from derogatory comments and should make constructive suggestions to improve the paper.

Editing

Accepted manuscripts are edited by an Associate Editor, the reviewers, the Editor, and the copy editor. It is the common goal of these people to improve the effectiveness of communication between the author's work and the reader. It is never the

intention to change the technical nature of the author's paper. The editing is intended to remove ambiguities in wording and generally to improve the clarity of meaning.

A PDF of the edited manuscript will be returned to the author for review to avoid the possibility that the editing changed technical meaning. Final approval by the author is required before the paper is formatted for publication.

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Reprints

A link to order reprints is sent to authors electronically with galley proofs and is also available on the SEG Web site at <http://seg.org/publications/reprints>.

Discussions

Authors of discussion papers are asked to be brief and constructive. Discussions of a paper published in *GEOPHYSICS* are screened by the Editor and then sent to the author of that paper for a reply. To avoid delaying publication, the author is requested not to include any subjects in his reply that are not addressed in the discussion. The authors of the paper being discussed have the right of the last word because no response is allowed to the reply. The discussion and the reply will be published together in the same issue of *GEOPHYSICS*. If no reply is received, the discussion will be published without one. Both the discussion and the reply will be edited to comply with the standards of *GEOPHYSICS*. Galley proofs are sent to the authors of the discussion and reply.

GEOPHYSICS MANUSCRIPT REVIEW AND PROCESSING SCHEDULES

GEOPHYSICS editors and the SEG publication staff have made strong efforts to reduce the review and publication turnaround times. These efforts, including adoption of online manuscript handling, creation of rapid review sections, and implementation of shorter turnaround schedules (since 2005), have produced significant results. *GEOPHYSICS* is now a leader among its peers in efficiency.

The deadlines for editors, authors, and SEG staff are enforced actively. If an author misses deadlines, the paper will be withdrawn. The author still can submit the revised paper as a new manuscript, however. In that case, if the author alerts the SEG staff when submitting the revision shortly after the due date, the staff will try to contact the Assistant Editor and Associate Editor so previous reviews are accounted for. (SEG cannot guarantee that previous reviews will be accounted for, however.) SEG hopes that enforcing a rigorous turnaround schedule and offering assistance for continuity of review of overdue papers resubmitted as new papers are reasonable compromises between flexibility and the need to avoid indefinite delays by some editors and authors. SEG also hopes these steps are worth the extra effort by authors, editors, and the SEG editorial staff

to improve the overall quality and efficiency of the journal.

These are the turnaround times for authors:

- submitting the revision requested by the Assistant Editor: five weeks for a minor/moderate revision, eight weeks for a moderate revision, 10 weeks for a moderate/major revision
- submitting responses to the copy editor's queries: 72 hours
- submitting revisions on the PDF of the proofs: seven business days

For more information about turnaround times in the review cycle, see <http://seg.org/publications/geophysics/schedules.shtml>.

SCHEDULES FOR SPECIAL SECTIONS/SUPPLEMENTS

GEOPHYSICS publishes special sections/supplements with several issues throughout the year. Dates for submission, review, editing, acceptance, and publication are published with the call for papers for that topic. The aim is to publish these papers with a turnaround time close to that of regular technical papers.

Generally, the submission deadline would be three to four months after the call for papers is published. The review and editing process would take no longer than seven months. Papers should be published online and in print within 10 months of the submission deadline.

Information about special sections/supplements is available at <http://seg.org/geophysics/specialsections>.

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Since 2005, *GEOPHYSICS* has published articles classified as "GEOPHYSICS Letters," which are published on an accelerated schedule (typically no more than eight months from submission to publication). These concise articles present important scientific advances likely to have immediate influence on the research of other investigators. In addition to authors in the applied-geophysics research community, scientists in other fields with advances that will affect research in applied geophysical sciences are encouraged to publish in *GEOPHYSICS Letters*.

The guidelines for organizing and submitting any *GEOPHYSICS* article apply to letters also, including the requirement that the paper include an abstract. In addition, the following are requirements specific to *GEOPHYSICS Letters*:

- Authors must designate a *GEOPHYSICS Letters* submission as such when submitting the paper.
- Authors must identify at least four potential reviewers.
- In the cover letter, authors should include a clear statement as to why the manuscript is suitable to be published in *GEOPHYSICS Letters*.

GEOPHYSICS Letters papers cannot exceed four typeset pages. (A general guideline for estimating the length of a printed article is to divide the number of words by 1000 and then add 35% of the number of figures and tables.)

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editorial resources will be available to assist authors in this regard prior to acceptance.

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An Assistant Editor and five Associate Editors will handle papers submitted as GEOPHYSICS Letters. The Associate Editor will have four days to assign reviewers, who will then have 14 days to review the manuscript. An article submitted to GEOPHYSICS Letters typically will receive only one cycle of review. The article can be accepted as is or marked for minor revision. (Papers that need major revision will be rejected.) The author then will have seven days to submit revisions.

Once a GEOPHYSICS Letters manuscript is approved for publication, authors must upload the final documents, as well as the publication forms, to the online system. Digital submission requirements detailed elsewhere in “Instruction to Authors” will be enforced rigorously.

GEOPHYSICS SECTIONS

Below is a list of the GEOPHYSICS sections to serve as an approximate guide for categorizing papers for review and publication. A paper suitable for publication in GEOPHYSICS might not necessarily fit perfectly into any of the existing sections, or it might fit well into more than one section. Categories and their descriptions can change based on the evolving interest in the exploration-geophysics community.

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- Engineering and Environmental Geophysics
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- Gravity Exploration Methods
- Ground-penetrating Radar
- Interpretation Methods
- Magnetic Exploration Methods
- Mining Geophysics
- Passive Seismic Methods
- Poroelectricity
- Reservoir Geophysics
- Seismic Attributes and Pattern Recognition
- Seismic Data Acquisition
- Seismic Interferometry
- Seismic Inversion
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- Signal Processing
- Tutorials and Expository Discussions
- Discussions

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