THE GROUNDWATER PROJECT

MAKING GROUNDWATER UNDERSTANDABLE

Online Platform for Groundwater Knowledge

Building the human capacity for sustainable development and management of groundwater.

FORMATTING GUIDE

FOR GROUNDWATER PROJECT BOOKS

JUNE 2025

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https://gw-project.org/↗

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Preface

Many important global organizations have concluded that there is a global freshwater crisis. In the past few years both the UN and UNESCO have convened major conferences on the crisis. The freshwater crisis is exacerbated by global warming, yet, in the short term, water scarcity with impacts on food and poverty are the most immediate threat to civilization. The global water crisis is in fact a groundwater crisis because groundwater makes up 99% of all liquid fresh water and in times of drought, groundwater is the only freshwater available in many regions. Yet much of the educational material needed to solve the crisis exists behind expensive paywalls and global university programs are at present inadequate to address the issue. The Groundwater Project (GWP) was founded to raise the level of awareness of and understanding about groundwater to make, through education, the invisible become visible.

The GWP is a non-profit charity registered in Canada, committed to making available online free high-quality groundwater educational material for all. Led by Dr. John Cherry, recipient of the 2020 Stockholm Water Prize, and managed by a twelve-member board of directors, drawn from an international community of groundwater scientists and professionals and a small staff base of two including one Director and one translation coordinator.

This document serves as a guide to formatting the information presented in Groundwater Project (GWP) books. If you have any questions about the formatting guidelines, please contact the GWP Director of Operations, Amanda Sills (amandasills@gw-project.org)↗.

Please check the website to be sure you have the latest version of this formatting guide↗.

This information is intended for the final formatting stage of a book project.

For authors in the early stages of writing their books, please read Guidance for Authors and Reviewers↗.

1 Introduction

1.1 What to Expect from this Guide

This formatting guide includes eight basic tenets designed to make GWP books accessible to a wide audience (*see Section 2 for the Tenets*). In this guide, you will find instructions on the following:

- how to set up a GWP book, the materials required, the fonts to install, and how to use the book template;
- the structure of a GWP book;
- the formats for tables, figures, boxes, and equations/reactions/periodic table elements;
- how to address issues such as abbreviations, spelling, and captions for tables and figures, among other items;
- how to use GWP Styles so your book follows the theme of other GWP books;
- how to reference and cite your sources; and
- how to link internal elements (e.g., links between an Exercise and its Solution) and external elements (e.g., DOIs, URLs, videos).

1.2 If You Need Help

If you have questions, you can always contact the GWP staff. Their email addresses are found on the GWP *About* page (https://GWP.org/about/↗).

1.3 Other Resources

We invite you to consult the handbook that accompanies this formatting guide for further tips and resources for writing the text: Guidance for Authors and Reviewers↗. For example, your Preface should include the following:

- A clear description of the intended audience and level of assumed knowledge;
- A clear and concise learning outcome (what is the purpose of this book? i.e., the "why") and associated learning objectives (what will the reader be understand, be able to do, and/or feel after reading this book?). Guidance for Authors and Reviewers↗ includes resources to help you craft this important element of your book as well as more general tips about writing your Preface.

2 Tenets for Authoring GWP Books

The GWP tenets of book writing express the philosophy that underlies GWP books and how these resources will democratize knowledge about groundwater. As GWP books are primarily educational in nature, these tenets express how GWP books achieve that objective.

1. **Ample Visualizations**. Support every important concept with visualization**:** a photograph, diagram, schematic such as a freehand sketch or drawing, video, or interactive software. *Visualizations underpin the aim of GWP books* to tell the story primarily through visual means. You'll notice that GWP books include many more figures and tables than other educational books.
2. **Original Visualizations.** Preferably, visualizations will be original to the GWP. That is, they are created or adapted by the author(s) or are from other GWP books. Visualizations from other publications should be redrawn or modified. *Concise and easily understood visualizations are essential to convey important concepts and ideas.* Aim for one key message per visualization.
3. **Descriptive Figure Captions**. Captions should be sufficiently descriptive in pointing out specific attributes of the figure. A figure and corresponding caption should contain enough information that they can stand alone from the text. *A descriptive caption strengthens the understanding and effectiveness of a visualization.*

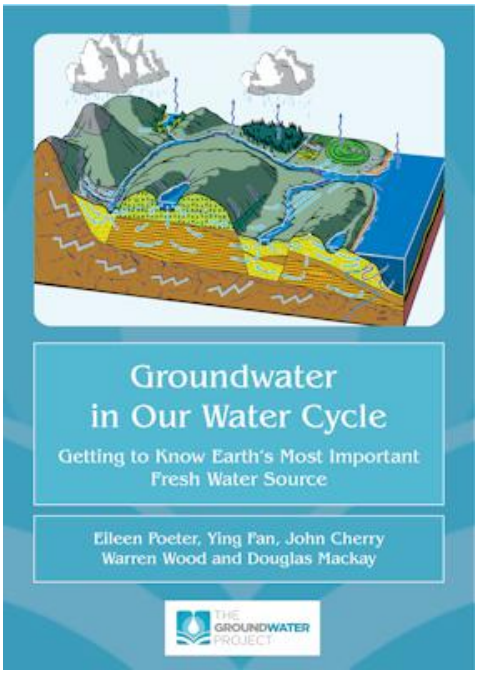
4. **High Quality Graphics.** Visualizations must be of *high quality* in terms of pixel size, resolution, font size, among others (depending on the type of visualization). This may require recreating visualizations to obtain the desired quality. It also means using *colors in figures and tables to clarify the key message.* ★★★
5. **Captivating Content.** The book should be fascinating to read—a page turner—and *stimulate a reader to want to learn more* about the topic or groundwater in general. Real-world examples, presented as case studies with ample visualizations will make the book more interesting as will placing a concept or scientific information in its historical context**.**
6. **Focus on a Global Audience**. Include examples, statistics and/or case studies from more than one country to make the book *more inclusive and global in appeal*, and to *enrich the learning experience* for readers. If possible, include examples from different economic regions of the world. Highlight a variety of regions by adding photographs so readers can "see" the landscape.
7. **Highly Readable.** This is essential to *absorbing information and requires a balance between text and visualizations*; pages with only text should be avoided. Tell most of the story through visualizations by making use of diagrams to summarize concepts and relationships. Break up long sections by means of bullets and/or subheadings. Tables in the main text should be short (two pages or less). Tables longer than two pages should be inserted as Boxes, a section that follows the Exercises.
8. **Includes Exercises and Solutions.** The focus of each book is on education, thus *exercises with worked solutions* that highlight key concepts should be included to allow readers to evaluate their understanding of the topic. The exercises may be mathematical or thought exercises that challenge the reader to apply their learning. Exercises are linked to specific sections of the text.

3 Know the Final Product Before You Start

It's always better to know how the end product should look when you begin a project. To see how your book should look in the end, please check the books already published by the GWP by clicking here↗. Books are available in both PDF and webbook formats. Older books may look slightly different because the guidelines are improved from time to time as needed.

GWP books are formatted using GWP Styles, which you access from *Home* > *Styles* as shown in Box 1 Appearance of GWP Styles↴.

3.1 Sample Cover of a GWP Book



Here is an example of a GWP book cover for the book *Groundwater in Our Water Cycle*↗. Although the cover illustration is a diagram, other book covers have photographs. This book was co-authored by the GWP founders Eileen Poeter and John Cherry and three members of the Board of Directors. Originally released in 2020, the book was updated in 2022. It has been translated into Turkish and Catalan by GWP volunteers. It is an introductory-level book intended for readers who are unfamiliar with the water cycle.

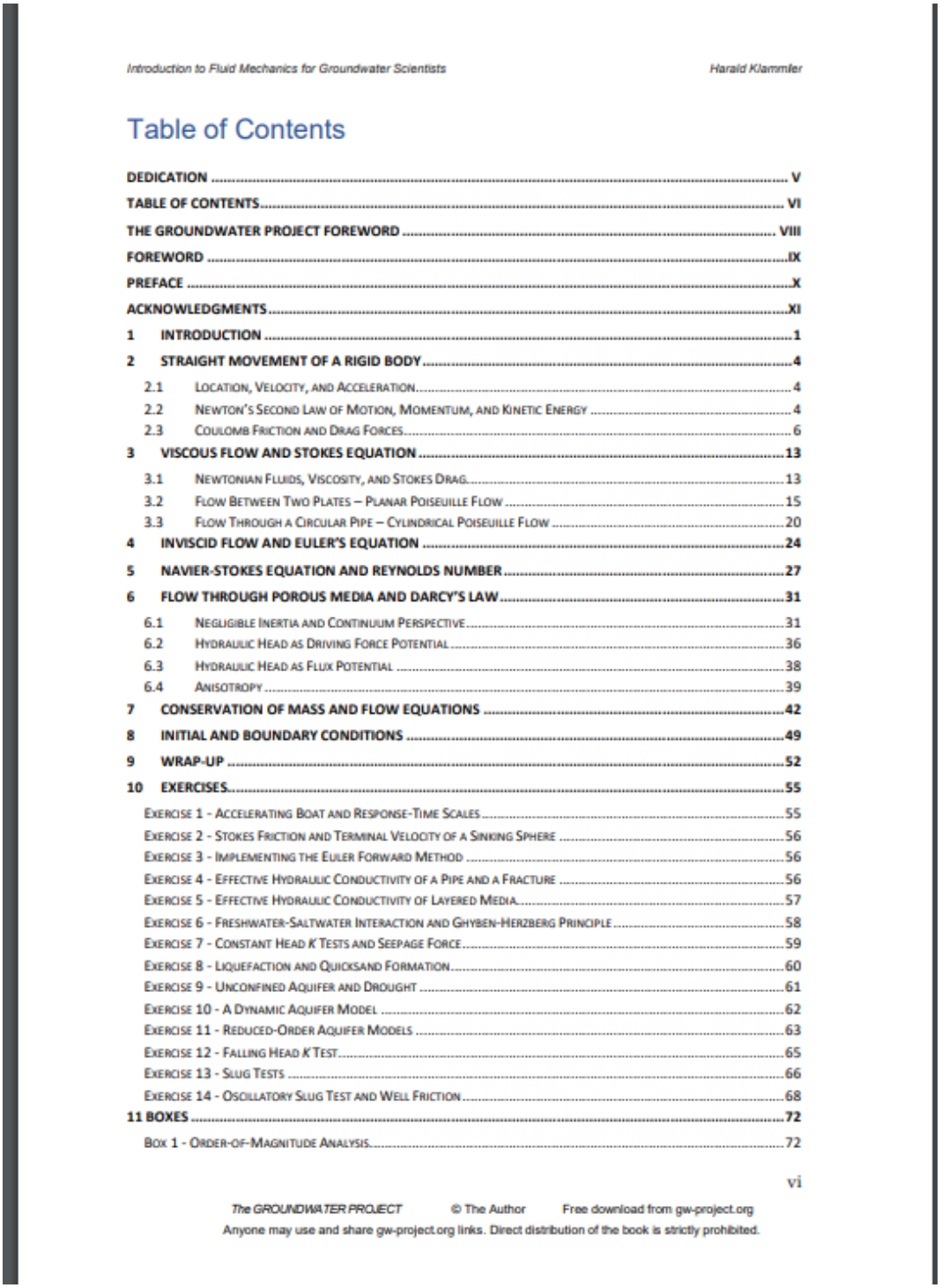
The authors are expected to provide an image for the front cover, although the GWP Formatting Team can help. Each element of GWP books' covers is standardized, from the various fonts used to the placement of elements and use of capitalization. This gives GWP books an immediately identifiable look.

3.2 Sample Table of Contents

This section provides an example of a table of contents taken from a GWP 2023 publication—*Introduction to Fluid Mechanics for Groundwater Scientists*↗ by Harald Klammler—that shows how the Table of Contents looks in its published form (Figure 1). Note how the book is structured. The key elements in the front matter are the Title Page, Author Page, Copyright Page, and so on up to the Acknowledgments section, and remain in the same sequence from book to book. The Groundwater Foreword is updated annually and remains the same in each book published in a given year. The Foreword is written by John Cherry when the book is near completion. The Preface that follows the Foreword includes learning objectives and a statement about the "why" of the book (tips for writing the Preface are provided in the Guidance for Authors and Reviewers↗).

Similarly, following the Wrap Up (concluding chapter), the sequence of the back matter stays the same in each book: Exercises, Boxes, References, and so on to the last page, About the

Author(s). A Boxes section would be inserted after the Exercises section and is comparable to an appendix. A Notations section or Glossary or List of Abbreviations would be inserted between the Exercise Solutions and About the Author. In a GWP book's Table of Contents, the page numbers appear stacked on the right margin.



Introduction to Fluid Mechanics for Groundwater Scientists *Harald Klammler*

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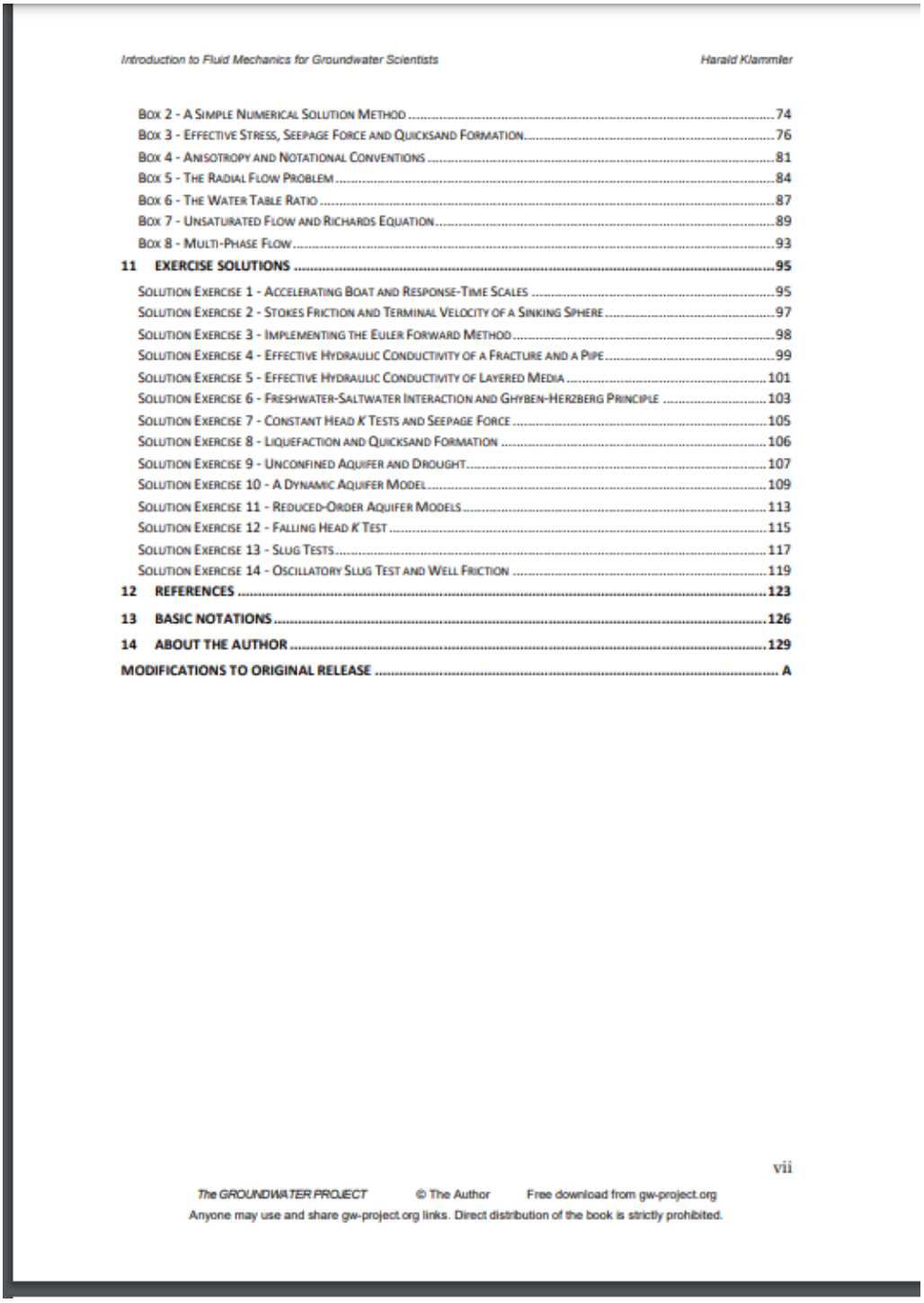

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Figure 1 – Example of a Table of Contents for a GWP book.

3.3 Figure Example with Caption

Here is an example of a figure with a caption. You will notice the following:

1. The caption is highly descriptive.
2. The figure is labeled as having three parts—a), b), and c)—that are referenced in the caption.

3. The figure can be understood on its own (i.e., can be understood separately from the running text).
4. The caption is *below* the image.
5. Did you notice how the margins of the caption align with the margins of the figure?

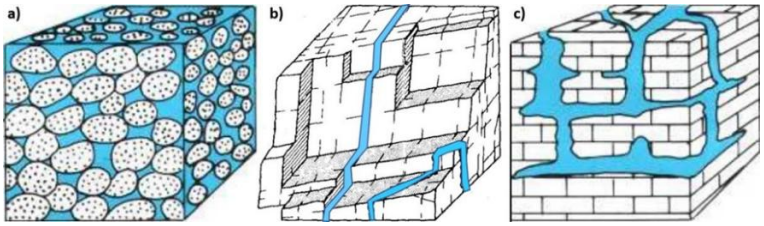


Figure 3 - Below the water table, water fills subsurface materials including within: a) the pores between particles of sediments; b) fractures of rocks; and c) caverns of carbonate rocks known as karst (a) and c) adapted from Heath, 1983; b) adapted from Gale, 1982).

The caption in this example identifies the source of the figure and that one part (b) has been adapted from another source. For figures original to your book, no citation to source is required. A note will be added to the Acknowledgments section to tell the reader that figures and tables without citation to source are original to this book.

GWP_Figure_Image and GWP_Figure_Caption should be selected from the GWP Styles list for image and figure, respectively—click on the image, then select GWP_Figure_Image; click on the caption, then select GWP_Figure_Caption. The caption's font is Helvetica 9 pt. It includes a nonbreaking space on either side of the dash that follows Figure 3. The label, number, and dash are **bold**: **Figure 3 -** . The dash is a nonbreaking hyphen (described in Sections 9.8, 10, and 19).

3.4 Table Example with Caption

The table shown here illustrates GWP's in-house formatting style for tables. The caption is *above* the table. The label, number, and dash are in **bold**: **Table 1 -** . As with figure captions, the dash in table captions is a nonbreaking hyphen surrounded by nonbreaking spaces; however, a nonbreaking space is added between the word Table and the table number (Sections 9.8 and 10).

The table includes horizontal borders only (rows), and column headings are left-justified and **bold**. The caption includes the citation for the source of the data presented in the table. Notice the following about the format for GWP Tables:

1. The caption is concise and descriptive and includes a label, number, and dash.
2. The caption font is Helvetica 9 pt.
3. Column headings are **bold** and left-justified.
4. Only the first word in a column heading is capitalized.
5. Decimal points in numbers are lined up vertically.

From the GWP Styles list, GWP_Table_Caption, GWP_Table_Contents, and GWP_Table_Footnotes are applied for these parts of tables (further instructions are provided in Sections 10 and 19).

Table 1 - Frequency of method of production for Alberta Basin data (from Hitchon & Brulotte, 1994).

Flag	Method of production	Percent	Flag	Method of production	Percent
0	Unclassified	19.2	11	Swabbing	2.3*
1	Drill stem test	73.6	12	Flowing	2.5
2	Formation wireline test	< 0.1*	13	Absolute open flow test	0.2*
3	Constant rate test	< 0.1	14	Production tank	< 0.1*
4	Pumped	0.8	15	Stock tank	< 0.1*
5	Bailed	0.5*	16	Formation interval test	< 0.1
6	Battery (multiple wells)	< 0.1*	17	Repeat formation test	0.1*
7	Separator	0.2	18	Blow down	< 0.1*
8	Treater	< 0.1	19	Formation test	< 0.1
9	Wireline test	0.1*	20	Frac-n-test	< 0.1*
10	Production test	0.5	21	Gas lift	< 0.1*

* = Rejected as an excluded method of production (flag 10).

3.5 Section Breaks

Your book's cover page is followed by an MS Word section break (*Layout* > *Breaks* > *Section Breaks* > *Next Page*) to start the title page numbering with a lower-case Roman numeral "i." The page numbers after the section break continue in lower-case Roman numerals through to the Acknowledgments. Immediately after the Acknowledgments text, another section break is added that allows the body—main or running text—of the book to begin with Arabic numbering, starting at page 1. The book's numbering continues in this way to the back cover.

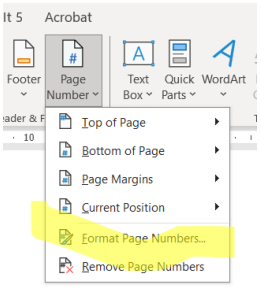
However, section breaks are also introduced between the main sections (level 1 headings) in GWP books. It is important to check that page numbering is set to be continuous from one section to another. Remember to use the *Section Break* option, not the *Page Break* option, and check the page numbering is set to change from Roman to Arabic in the new section, starting with "1."

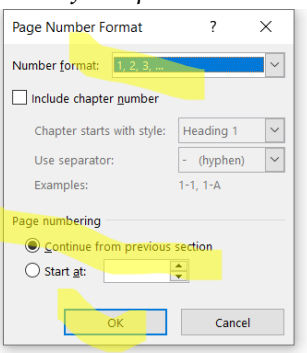
MS Word section breaks may be needed if the book includes a page that needs to be oriented as landscape rather than portrait—for example, to accommodate a wide table or image. This change is introduced to accommodate a larger-sized figure or table. Go to *Layout* > *Breaks* > *Section Breaks* > *Next Page* and select *Orientation* > *Landscape* from the *Layout* tab. Immediately following the figure caption or after a table, insert a new secton break and check that the page numbering is continuous. Reset the page orientation to Portrait.

3.6 Page Breaks

Page breaks are also used to keep captions with their tables or figures, to ensure tables or figures are on the same page in portrait orientation, and to avoid orphaned[1] or widowed[2] lines and headings. However, as the page numbering will continue from the previous section, check that the page numbering is set to continuous so that the numbering doesn't reset to "1" after the break.

Select *Insert* > *Header & Footer* > *Page Number* > *Format Page Numbers*. Then in the *Page Number Format* tab, select *Number format (1,2,3…)*, *Continue from previous section*, and *OK*.





In some very short books such as mini-books, page or section breaks between section may not be included to avoid having a surplus of white space in the book. *Darcy's Law in Variable Density Groundwater Systems*↗ by Fred Marinelli (2024) is an example of a mini-book published in this style.

3.7 Serial Comma

To further ensure the clarity and precision of your work, GWP books use the *serial comma* (sometimes called the Oxford comma). For example, in the phrase "pencil, eraser, and notebook," the serial comma is placed after the word "eraser" and before the word "and."

The reason GWP books use the serial comma is to improve clarity and precision in GWP books and avoid misunderstandings. A classic example is, "I love my parents, my dog and my cat." In this case, the lack of a serial comma implies that your dog and cat are your parents! Insert a serial comma ("I love my parents, my dog, and my cat.") and the enigma disappears.

3.8 Equations, Reactions, and Periodic Table Elements

Equations, reactions, and periodic table elements are included in most GWP books. We show you how these must be formatted—for example, how to include a list of defined

[1] An orphaned line is the first line of a paragraph or a heading that is stranded at the bottom of a page, separated from the rest of the paragraph by a page break (Einsohn & Schwartz, 2019, p. 472).

[2] A widowed line is the last line of a paragraph that is stranded at the top of a page, separated from the rest of the paragraph by a page break.

parameters for equations. MS Equations Editor is to be used for formatting equations, reactions, and periodic table elements. The details are provided in Sections 9, 15, and 20. For example, while the names and abbreviations of periodic table elements are in regular font, parameters are always italicized. Equations, reactions, and chemical formulas are to be written with unbolded font.

Equations Editor uses Cambria Math font, which you will need to raise to 12 pt in the running text of your book (and to 10 pt in Tables). We do this so the fonts appear as close to Palatino Linotype 11 pt font (in the main text) or Helvetica 9 pt font (in the captions and tables). You will be shown how to input equations, reactions, and formulas in a later section of this guide (Section 20 *Equations*).

3.9 No Call Out Boxes or Appendixes

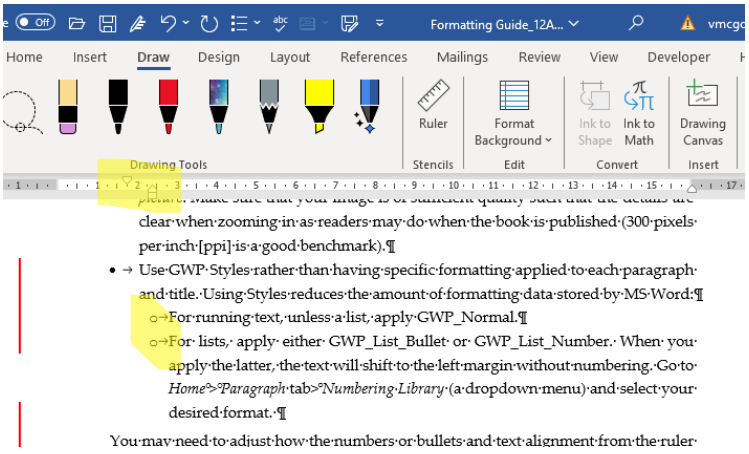
The GWP Style does not include call-out boxes within the main text, nor do GWP books include appendixes. Instead, we place all call-boxes or appendixes in one section of the book called Boxes and insert internal links from the text to the boxes (and back). We do the same for the Exercises and Solutions, which are required elements all GWP books.

3.10 Reducing the File Size

There are several ways to reduce the file size of your book to allow for easier sharing through email. These tips may not be necessary if there are no issues with sharing your file; however, they can help us use file space more efficiently.

- When inserting images into the MS Word document, place the cursor at the location where the image is to appear in the book, then use the *Insert* tab and select *Picture*. This requires less space than copy and paste.
- If a file is still quite large, you may need to compress the images in the file. This can be done by selecting the picture and in the *Picture format* tab selecting *Compress picture*. Make sure that your image is of sufficient quality such that the details are clear when zooming in as readers may do when the book is published (300 pixels per inch [ppi] is a good benchmark).
- Use GWP Styles rather than having specific formatting applied to each paragraph and title. Using Styles reduces the amount of formatting data stored by MS Word:
    - For running text, unless a list, apply GWP_Normal.
    - For lists, apply either GWP_List_Bullet or GWP_List_Number. When you apply the latter, the text will shift to the left margin without numbering. Go to *Home* > *Paragraph* tab> *Numbering* (a dropdown menu) and select your desired format.

You may need to adjust how the numbers or bullets and text alignment from the ruler as shown here to align the secondary indents, shown as highlighted on the ruler and in the bullet list:



More information can be found online at this link↗. Although many other steps can reduce file sizes slightly, the most significant reductions in file size result from the practices listed here.

4 Content Checklist

Before you start to write your book, check if you have the following items:

1. A high-quality cover image in a separate file (please check Section 18.1 *Figure Images)*. The cover will be made later with Adobe Illustrator by the GWP staff.
2. Cover image credits (where, who, when).
3. Each authors' full name and detailed information (found in the Vision document↗).
4. Dedication, if desired.
5. Preface. The contents of this section can be the same as the web summary with the addition of learning objectives and a "why" statement. This section can be added at the end of the publication process before the book undergoes its final editorial review.
6. Book contents including your introduction, main body, conclusion (wrap up), exercises, references, boxes (if desired or needed), solutions, notations.
7. Authors' biographies and profile photos.

More details about book contents and how a GWP book is structured are provided in Section 3.2 *Sample Table of Contents* and Section 7 *The Parts of a Groundwater Project Book*.

Note for Book Formatters

If you are doing the formatting and do not have all the items listed here, please contact the GWP staff who will reach out to the authors for the missing items.

5 Installing Font Files

Before you start writing your GWP book, please install the standard font files provided on the link below. This will prevent loss of formatting during the process of producing your book.

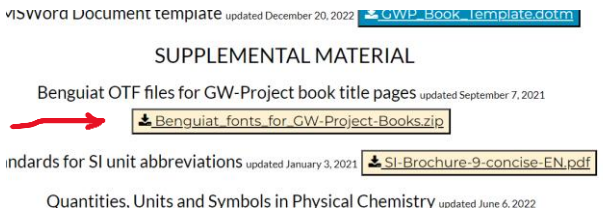
The fonts used for GWP books are Benguiat BQ, Helvetica, Palatino Linotype, Cambria, and Cambria Math. All but Benquiat font are included in MS Word, so you only need to install Benquiat. GWP books use the following fonts:

- Benquiat font for the title page and author page.
- Palatino Linotype 11 for the running text.
- Helvetica 9 pt font for tables and figure and table captions.
- Equations, reactions, and chemical names are created in MS Equations Editor, which by default uses Cambria Math 11 pt font. In this case, you will need to increase the font to 12 pt in the equation and running text.

Benquiat BQ
Helvetica
Palatino Linotype
Cambria
Cambria Math

The steps to download the Benquiat fonts are the same for both Windows and Mac users.

1. Click here↗ to download the font files to your computer from the GWP books formatter web page. This will take you to the page shown in the screen shot below.



2. Click on the link labeled Benquiat fonts for GW-Project Books.zip as indicated in the screen shot.
3. Download that zip file and unzip it to see its contents.
   a. Click on the *Benquiat* files link here↗.
   b. A *Downloads* window will appear with the Benguiat fonts as a zip file. Click on *Open File*.
   c. Select *Extract all* from the File window that opens across the top of the screen.
   d. Select a *Destination* and *Extract Files*. Click on *Browse* to choose a destination.
   e. Also check *Show extracted files when complete*.
   f. Then click on *Extract*.
   g. You should now see Benquiat BQ in the alphabetized list of fonts when you click on *Home*

6 Using the Project Templates

We provide two template options for writing your book. You can begin writing directly in a GWP template that can be downloaded from here↗ using the *.docm template. Alternatively, if you have your book partially written in an existing MS Word document, you can convert it to conform to GWP formatting (our in-house style) using the *.dotm template. Both options are described in this section.

Whichever option you use, be sure to format the copyright page as shown in the template with respect to indentation and line spacing. Avoid having the material spill over onto the next page unless absolutely necessary (e.g., if extensive text is warranted to explain the cover images such as in the *Introduction to Karst Aquifers*↗ book where that text extends to a second page; Kuniansky et al., 2023).

6.1 Start Writing Your Book Directly in the GWP Template (*.docm)

Start by downloading the MS Word template file with the built-in macros file titled *GWP_Book_Template.docm*:

1. Click here↗. This link takes you to a list of downloadable resources for authors.
2. Open the *GWP_Book_Template.docm* template file in MS Word.
3. Follow the instructions provided.

The file is ready to use and you can apply all the GWP styles included in the template as needed.

6.2 A Note about Macros

The extension ".docm" (instead of ".docx") is used to maintain the recorded macros for ease of use. After completing your book, you must save it as a.*docm file* to keep the macros;.docx or other.doc* extensions will delete macros from file. I

In the event that macros have been lost from the template, directions for recreating the macros are described in Box 2 – Adding Macros↴.

6.3 Convert an Existing Document to a GWP Book Template (*.dotm)

If you have begun writing and thus have an existing MS Word document, you *must import* Styles from the file titled *GWP_Book_TemplateT.dotm* by clicking here↗, which will take you to the list of downloadable resources for authors. If you have applied Styles in your document, this step (i.e., *Import Styles*) will convert the items to which you applied Styles. This

will include, for example, headings, titles, captions and so on, so they will conform to GWP formatting. However, if you did not use styles in your document, importing the template will put the GWP formats into your document, ready to be applied as needed.

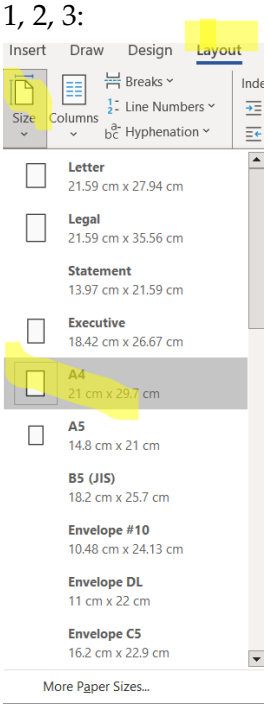
6.4 Changing the Page Layout

The page layout of GWP books is A4 paper with 1-inch (2.54 cm) margins on all but the right side. The right margin is 1.18-inch (2.9972 cm).

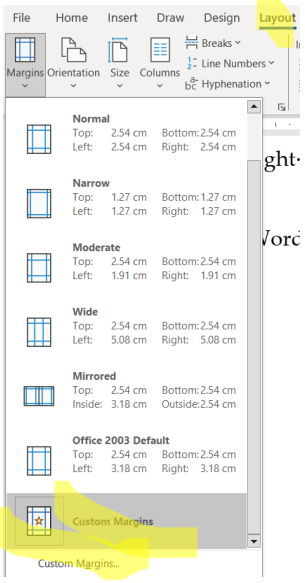
The templates have this layout. However, to create the same layout in another MS Word document, follow these steps:

1. Go to MS Word ribbon *Layout* tab.
2. In *Page Setup*, find the in the lower right corner, click on the arrow to expand that tab.
3. Go to the *Size* tab, choose A4 as the paper size from the dropdown menu, with a width of 8.27 inches (21.0058 cm) and a height of 11.69 inches (29.6926 cm).
4. Go to the *Layout* > *Margins* tab.
5. Select *Custom margins* and specify 1 inch (2.54 cm) for the top, bottom, and left margins. Set the right margin at 1.18 inch (2.9972 cm).
6. In the same window, select *Portrait Orientation*, and *Apply to Whole Document*. Click on *OK*.

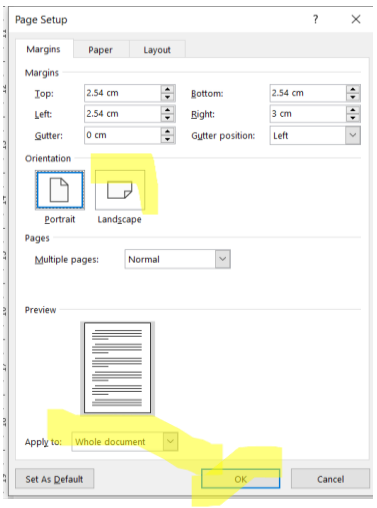
1, 2, 3:



4:



5, 6:



Note: When using landscape orientation for figures or tables, make sure that the header is repositioned to align properly within the top margin of the rotated page.

Select the header, then deactivate the option >*Link to Previous*< and align the header

with the figure or text.

- For landscape pages, the maximum width for a figure is 9.51 and so for the header.
- Ensure that the book title and author names in the header remain visible and properly aligned in the new layout orientation.

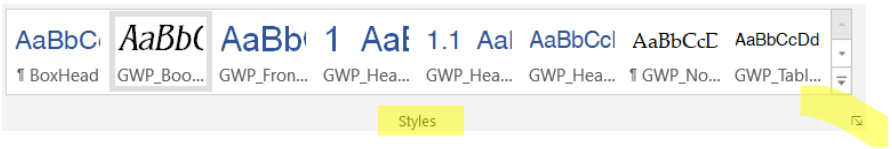
6.5 Importing GWP Styles Using the DOT Template

GWP books have a consistent appearance because a GWP Styles Gallery is used throughout. This section provides step-by-step instructions on how to import the correct styles for your book. Box1 – Appearance of GWP Styles shows how each style looks and Section 6 *Using the Project Template* provides further guidance. Once the GWP Styles template has been imported, you can easily access the styles list via *Home* > *Styles*.

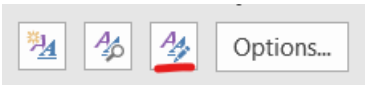
Before importing the template, adjust the paper settings as shown in Section 6.4, *Changing the Page Layout.* Otherwise, the formatting will not work as expected.

Once the layout is properly adjusted, follow these steps:

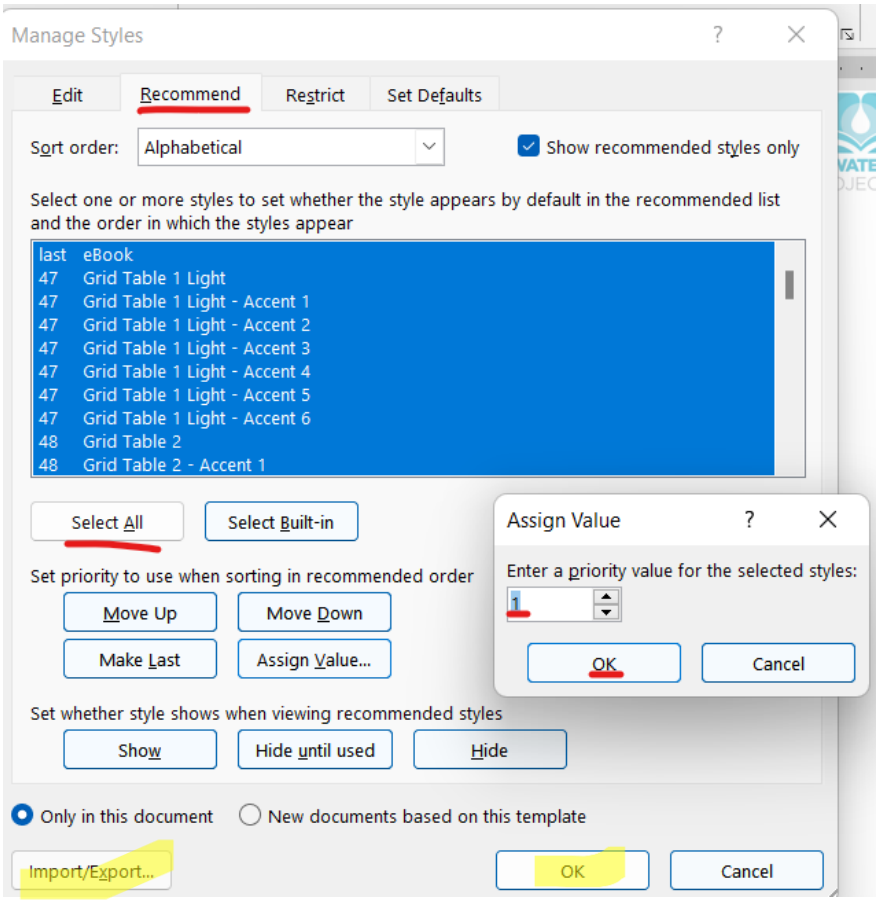
1. Select the MS Word ribbon *Home* tab.
2. Click on the tiny arrow in the lower right corner of the *Styles Gallery* as shown here:



3. MS Word will display the *Styles* pane.
4. Click on *Manage Styles* button at the bottom as shown:



5. Go to *Recommend* tab > *Select All* > *Assign Value* > *1* > *OK*



1. Then go to *Manage Styles* > *Recommend* tab > select *All* > *Hide*.
2. Go to *Manage Styles* > *Recommend* tab > Import/Export button > *Close file* right button > *Open file* right button.
3. Now open the GWP Book Template file wherever it is saved on your computer.
4. From the list, choose the styles listed in Section 6.8 *Hiding Extra Styles*, then click OK.
5. If you have used MS Word built-in styles, they will be replaced by all the GWP Styles.

6.6 If the New Formatting is Not Working

The formats may not change for a number of reasons:

- **You may have used Styles with different names.** If so, now you have imported the GWP template Styles, you can page through your document and select the appropriate styles from the GWP styles menu (*Home* > *Styles)*.
- **You may not have used Styles to create the headings for your documents**. Instead, you may have manually entered section numbers and formatted each heading individually. In this case, you would scroll through your document and place the cursor on each item that needs formatting. Then, select the appropriate Style from the GWP Styles menu. If you had manually created section numbers

you will need to delete those values so that the automated values to their left will provide the numbers.

- **If the heading numbers continue to import the wrong values,** you can copy a heading that has worked properly and paste it in where the macro is not working. Then replace that with the correct heading title and click on the GWP_Heading level that is needed.

6.7 Adding the Front and Back Pages

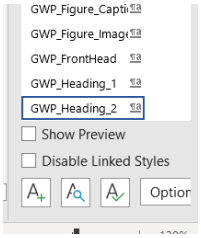
The pages at the front and back of GWP books—that publishers call the front and back matter—will not be imported when you import Styles.

1. Select the front matter pages of the template starting with the Cover, Title Page, and continue through to the Acknowledgments.
2. Then, copy and paste them before the Introduction section.
3. Replace the contents with material specific to your book.
4. Similarly, select, copy, and paste sections for the back matter of the book such as the Boxes, Exercises, References, Exercise Solutions, Notations, and About the Authors. Don't forget the back cover.
5. The appropriate contents can then be replaced.

6.8 Hiding Extra Styles

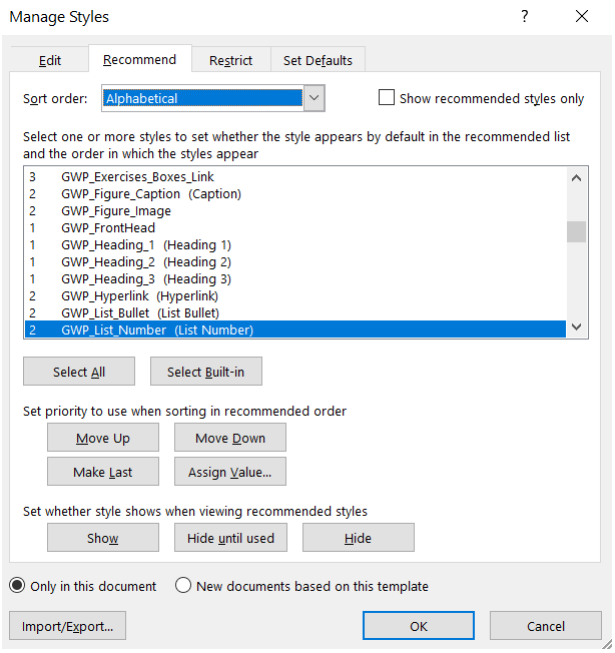
If styles that are no longer needed from your initial MS Word document appear in the Styles Gallery, they may be distracting. If so, they can be hidden by following these steps:

1. Go to MS Word ribbon *Home* tab and locate the *Styles Gallery*.
2. Click on the small down arrow at the lower right ;the *Styles Pane* will open.
3. Select the *Manage Styles* icon located at the bottom of the *Styles Pane*.
4. Go to the *Recommend* tab, then find the *Sort order* dropdown box and select the *Alphabetical* option.
5. Be sure to unselect *Show recommended styles only* check box.



6. Click on the *Select All* button > *Assign Value* button, type *99, then OK.*
7. Repeat the previous step by selecting again all styles and then click on *Hide* button.

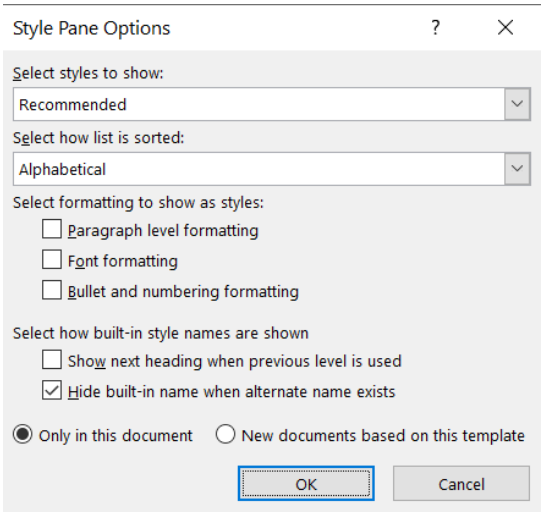
8. While holding the *Ctrl* key down, select all the styles listed below:
   - GWP_Book_Title_Cover



   - GWP_BoxHead
   - GWP_Cambria
   - GWP_Cambria_Sub
   - GWP_Cambria_Super
   - GWP_Exercise_Solution
   - GWP_Exercises_Boxes_Link
   - GWP_Figure_Caption
   - GWP_Figure_Image
   - GWP_FrontHead
   - GWP_Heading_1
   - GWP_Heading_2
   - GWP_Heading_3
   - GWP_Heaging_4
   - GWP_Heading_5
   - GWP_Hyperlink
   - GWP_List_Bullet
   - GWP_List_Number
   - GWP_Long_Quote
   - GWP_Normal

- GWP_Normal_Sub
- GWP_Normal_Super
- GWP_Quote
- GWP_References
- GWP_Table
- GWP_Table_Caption
- GWP_Table_Caption_Center
- GWP_Table_Contents
- GWP_Table_Footnotes
- GWP_Table_Sub
- GWP_Table_Super
- TOC 1
- TOC 2
- TOC 3

9. Click on the *Assign Value* button, and insert *1*, then click on the *OK* button.
10. Click on the *Show* button, then *OK*.
11. The *Style Pane* will be shown. Click on the *Options* button located at the bottom.
12. From *Select Styles to show* dropdown list, select *Recommended*.
13. From *Select how list is sorted* dropdown list, select *Alphabetical*.
14. Select the *Hide built-in name when alternate name exists* check box and unselect the other ones.
15. Select *Only this document* option button and then click on *OK*.

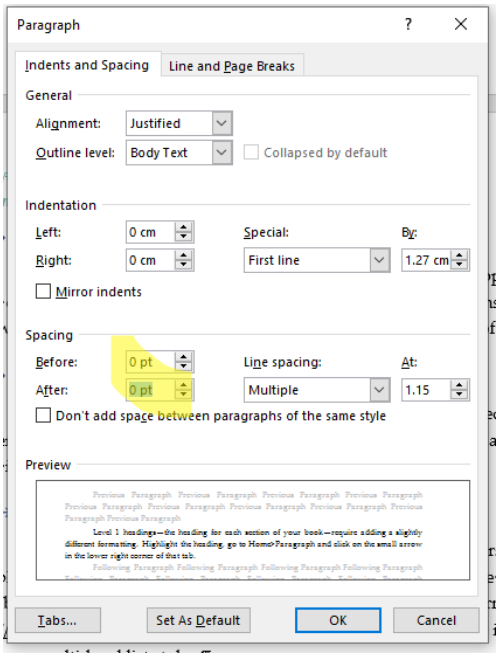


6.9 Assigning Styles

Next, work down through the document assigning the appropriate style to figures, figure captions, table captions, boxes, references, and exercise solutions. Further information on how to assign styles can be found in Section 6 *Using the Project Template* of this formatting guide.

6.10 Level 1 Headings

Level 1 headings—the heading for each section of your book—require adding a slightly different formatting. Highlight the heading, go to *Home* > *Paragraph* and click on the small arrow in the lower right corner of that tab. In the Spacing section, set the values at 0 (zero) for Before and After as shown in the highlighted area of this screenshot. Then click OK to set the Level 1 heading at the correct level on the page.



6.11 Correcting Heading Numbering

At some point, you may find that sub-level heading numbers are not correct. For example, in Section 2 of your book the first second-level heading may be 1.1 instead of 2.1. This may be due to a problem with multi-level lists. The information at this link How to create numbered headings or outline numbering in Microsoft Word↗ is useful for creating the proper multi-level list styles.

Although the web page says the information is for MS Word 2007 and 2010, it also applies to the latest versions of MS Word.

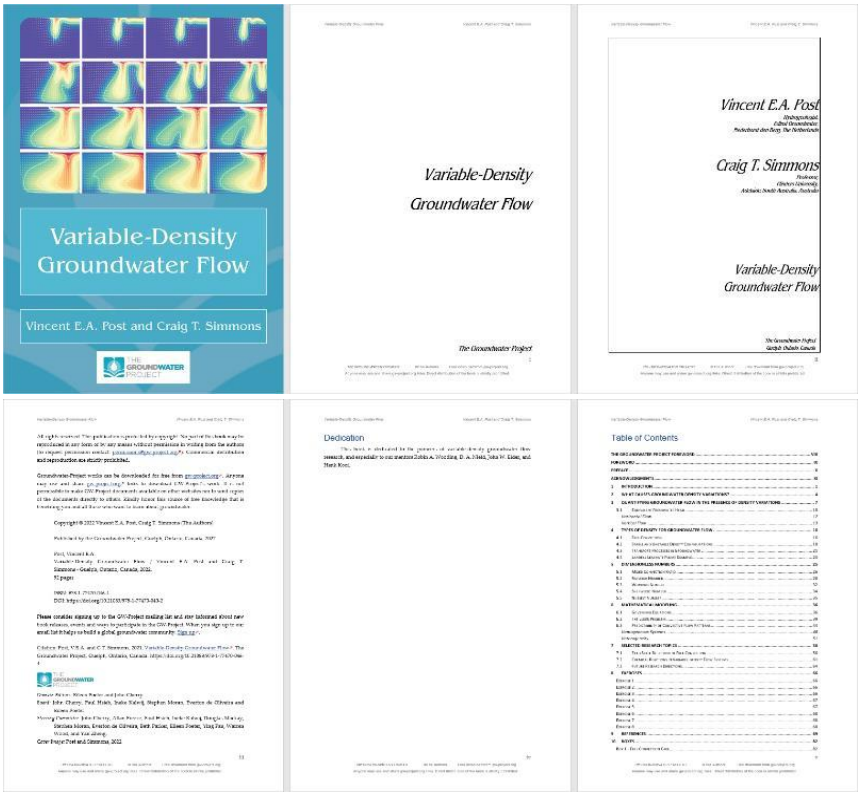
7 The Parts of a Groundwater Project Book

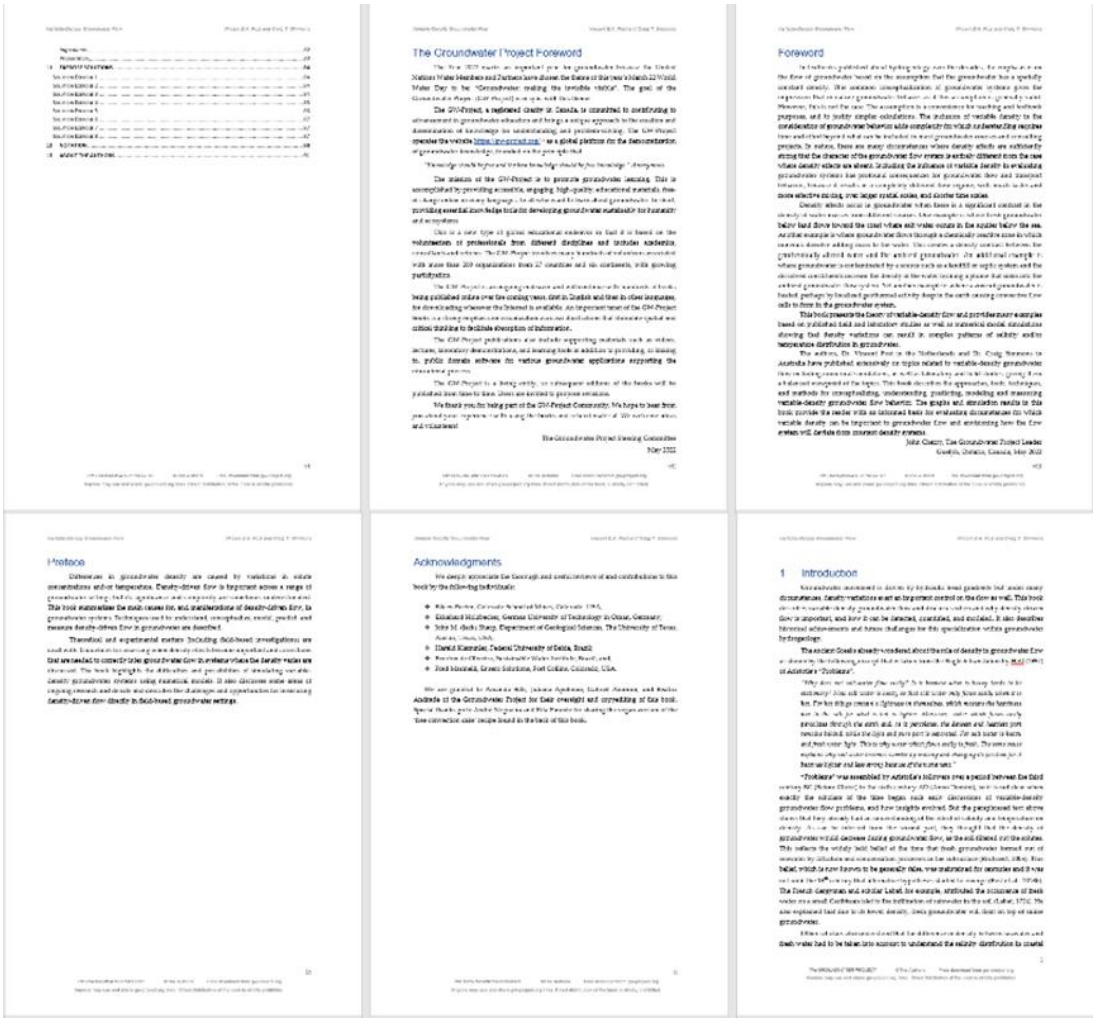
Every GWP book has the same set of front and back matter before and after the main body of the book. These pages are included in the templates described in Section 6 *Using the Project Templates*. The main text of the book is also sometimes called the running narrative or runninb text to differentiate it from the front and back matter of the book.

7.1 The Front Matter: The First Part of the Book

The front matter includes the following items in this order as shown:

1. Cover page with an image you provide;
2. Title page (with invisible text; Section 9.1);
3. Author page (with invisible text; Section 9.1);
4. Donations page (added in 2024);
5. Copyright page (with invisible text; Section 9.1);
6. Dedication (if the authors want to make one);
7. Table of Contents;
8. Groundwater Project Foreword, provided by the GWP (Section 7.2);
9. Foreword written by John Cherry;
10. Preface written by the author(s) that includes a learning outcome (the "why" of the book) and learning objectives (explained further in Guidance for Authors and Reviewers↗); and
11. Acknowledgments.


Variable-Density
Groundwater Flow
Vincent E.A. Post and Craig T. Simmons
Variable-Density
Groundwater Flow
Vincent E.A. Post
Craig T. Simmons
Variable-Density
Groundwater Flow
Dedication
Table of Contents



7.1.1 Text for Donations Page

The following text should be entered at the top of page iii in Palatino Linotype 12 pt font as shown here:

> The Groundwater Project relies on private funding for book production and management of the Project.
>
> Please consider donating to the Groundwater Project↗ so books will continue to be freely available.
>
> Thank you.

7.1.2 Groundwater Project Foreword

The text for the GW-Project Foreword is updated annually and applies to all books published within the calendar year. January of the publication year is always the date provided at the end of this Foreword.

Text for 2025 Groundwater Project Foreword

The United Nations (UN)-Water Summit on Groundwater, held from 7 to 8 December 2022, at the UNESCO headquarters in Paris, France, concluded with a call for governments and other stakeholders to scale up their efforts to better manage groundwater. The intent of the call to action was to inform relevant discussions at the UN 2023 Water Conference held from 22 to 24 March 2023 at the UN headquarters in New York City. One of the required actions is *strengthening human and institutional capacity*, for which groundwater education is fundamental.

The UN-Water website↗ states that *more than three billion people worldwide depend on water that crosses national borders*. There are 592 transboundary aquifers, yet most do not have an intergovernmental cooperation agreement in place for sharing and managing the aquifer. Moreover, while groundwater plays a key role in global stability and prosperity, it also makes up 99 percent of all liquid freshwater—accordingly, groundwater is at the heart of the freshwater crisis. *Groundwater is an invaluable resource*.

The Groundwater Project (GW-Project), a registered Canadian charity founded in 2018, pioneers in advancing understanding of groundwater and, thus, enables *building the human capacity for the development and management of groundwater.* The GW-Project is not government funded and relies on donations from individuals, organizations, and companies. The GW-Project creates and publishes high-quality books about *all-things-groundwater* that are scientifically significant and/or relevant to societal and ecological needs. Our books synthesize knowledge, are rigorously peer reviewed and translated into many languages. Groundwater is 'hidden' and, therefore, our books have a strong emphasis on visualizations essential to support the spatial thinking and conceptualization in space and time of processes, problems, and solutions. Based on *our philosophy that high quality groundwater knowledge should be accessible to everyone*, The GW-Project provides all publications for free.

The GW-Project embodies a new type of global educational endeavor made possible by the contributions of a dedicated international group of over 1000 volunteer professionals from a broad range of disciplines, and from 70 countries on six continents. Academics, practitioners, and retirees contribute by writing and/or reviewing books aimed at diverse levels of readers including children, youth, undergraduate and graduate students, groundwater professionals, and the general public.

The GW-Project started publishing books in August 2020; by the end of 2024, we have published 55 original books and 77 translations (55 languages). Revised editions of the books are published from time to time. In 2024, interactive groundwater education tools and groundwater videos were added to our website, gw-project.org↗.

We thank our individual and corporate sponsors for their ongoing financial support. Please consider sponsoring the GW-Project so we can continue to publish books free of charge.

The Groundwater Project *Board of Directors*, January 2025

7.2 The Main Text: The Body of the Book

The body of the book (main text or running narrative) follows the front matter. It starts with an introduction and may have many sections and subsections. The main text starts with an Introduction and ends with a Wrap Up. The page numbers are continuous, in Arabic numbers.

1. *Introduction*. The Introduction is, arguably, the most important part of a book. Its purpose is to engage the reader and give them a reason to read the book. Briefly, keep the Introduction concise but interesting. What will the reader gain from this book? Why are you, the author, someone they should listen to? Tell the reader why you are a subject matter expert in the topic covered by the book. Note that this is not a place to summarize the book's content—just give the key points. How did this book come about?You should also tell the reader what the book is NOT. For more tips, we invite you to consult the GWP handbook Guidance for Authors and Reviewers↗.
2. *The Body of the Book*. The following sections of the book should unfold logically and may include case studies. These sections of GWP books should be replete with visual aids and examples. Section levels within the body of the book are described in the section 7.3.1 that follows.
3. *The Wrap Up*. The concluding section explains the authors' vision of the near-term future for the topic. This is not intended to summarize the book, although a brief mention of the key learning points is a good starting point.

The GWP handbook Guidance for Authors and Reviewers↗ provides tips for writing the various sections in the main text of your book, including how to approach your Introduction.

7.2.1 Section Levels in the Main Text

GWP books use only three level of headings. At the first level, the heading is numbered 1, 2, 3, and so on to as many as needed (GWP_Heading_1). Every first-level heading is preceded by a section break so a new first-level heading appears on a new page.

Second-level headings are numbered 1.1, 1.2, 1.3, and so on to as many as needed. Styles GWP_Heading_2 will automatically insert the appropriate space between second-level headings and the previous text.

In mid-2022, the GWP began numbering third-level headings—for example, 1.1.1, 1.1.2, 1.1.3, and so on. At the same time, GWP editors decided to accommodate unusual cases of complex books that may have fourth- and fifth-level headings. These headings do not have numbers but are distinguished by their style (e.g., italics, font size). They do not appear in the Table of Contents. As too many subsections interfere with the flow of the text, fourth- and fifth level-headings are not encouraged except to serve a specific and necessary function.

In this list showing section levels, a *chunk* of text is placed between headings. The optimal length of book chunks is between 200 and 1,000 words. However, bear in mind that

chunks of text comprise paragraphs—units of thought—that start with each new topic introduced within the section or subsection. Structuring your chunks of text in this way will make your book more readable.

First Major Section (1)

chunk

Second-Level Heading (1.1)

chunk

Third-level heading (1.1.1)

chunk

Fourth-level heading

chunk

Fifth-level heading

chunk

Second-Level Heading (1.2)

chunk

Third-level heading (1.2.1)

Section break

Next Major Section

chunk

and so on.

Each GWP book is released as both a PDF and a web book. When released as a web book, people searching the web for information may select a link that leads to any individual *chunk* of the book. The page shows that it is a part of a larger book; links allow readers to move back or forward in the book and jump to another section of the book.

Given this stand-alone nature of each web book page, we create descriptive, concise, and accurate section headings that tell the reader what to expect in the chunk of text.

The heading styles have a hanging indent of 0.5 inches (1.27 cm). When the heading is long and wraps to another line, the indent may need to be adjusted manually for higher section numbers so that the words on the second and subsequent lines align evenly on the left side. Details on how to use GWP_Styles are provided in Section 10.1 *How to Use Styles*.

7.3 The Back Matter: Final Sections of the Book

The final sections of the book include the following:

1. *Exercises,* which are problems for readers to work or questions to answer to help them learn the material and assess their mastery of it, are linked to particular

sections of the book and provide an opportunity for readers to reflect on and/or apply what they learned from reading the book. Exercises are also linked to a) their corresponding solution and b) their first mention in the text so the reader can navigate from one place in the book to another.

2. The next section is *References*, which lists (alphabetically) the American Psychological Association (APA) 7th edition-formatted references for the citations made throughout the book. Only references cited in the text are included. Each entry should include the doi or URL if that is available. Unlike external links in other parts of the book, the doi or URL is in blue ink, not black. As with other links, it is accompanied by a red arrow. More details are provided in Section 8 *Referencing Sources*.

   If the URL or DOI wraps to the next line, insert *Enter* after the terminal period following the last word in the reference list entry. This will "push" the URL or DOI to the next line. Use the ruler to align the URL or DOI with the second line in the entry as shown in this example.

Ferris, F.G., Szponar, N., & Edwards, B. A. (2021). *Groundwater microbiology*. The Groundwater Project. https://GWProject.org/books/groundwater-microbiology/↗.

This should also be done if a journal entry spaces out too much when fully justified, as shown in this example:

a) Original. Notice the spacing in the second line.

Carsel, R. F., & Parrish, R. S. (1988). Developing joint probability distributions of soil water retention characteristics. *Water Resources Research, 24*(5), 755–769. https://doi.org/10.1029/WR024i005p00755↗.

b) Corrected entry after Enter inserted after terminal period (755–769.), where the DOI is left justified.

Carsel, R. F., & Parrish, R. S. (1988). Developing joint probability distributions of soil water retention characteristics. *Water Resources Research, 24*(5), 755–769.
https://doi.org/10.1029/WR024i005p00755↗.

c) Corrected entry after DOI was aligned from the ruler:

Carsel, R. F., & Parrish, R. S. (1988). Developing joint probability distributions of soil water retention characteristics. *Water Resources Research, 24*(5), 755–769.

https://doi.org/10.1029/WR024i005p00755↗.

3. *Boxes* are the next section and may contain in-depth discussions of a topic covered briefly in the main text, tables larger than two pages, or data tables as explained later in this guide.
4. *Exercise Solutions* provide the fully worked solution anticipated by the author(s), with examples and explanations to help the reader understand the logic of the solution. The solutions to the exercises are linked to their corresponding Exercises so the reader can go back and forth from the running text to the Exercise and to the Solution as needed. The answers to each Exercise let readers check their understanding of the content.
5. The *Notations* section is included in books with more than two equations. All parameters and variables are included with their definitions. Include many equations to list the symbols and their respective definitions and are listed alphabetically. Greek symbols are listed alphabetically by their spelled-out English names. Insert a three-column invisible table as shown here.

The first column's right margin (vertical line) lines up with 2 cm mark on the ruler; the next vertical lines up with the 3 cm mark on the ruler:

Age_{min} = Minimum age of the sample

C = Aqueous concentration (mol/kg)

C_o = Concentration at an arbitrary time; a convenient choice is 1950 when the precipitation ^{3}H record begins after 1950

6. *About the Author(s)* includes a short biographical sketch of the author(s) as well as a head shot and is the final running text of the book. Some books may also include a *Glossary* or *List of Abbreviations*, which would be inserted before this final section of the book.

8 Referencing Sources

For reference list entries and intext citations (whether in parentheses or the narrative text), we use APA 7th edition style. We provide links to APA guides and show you how to use Microsoft Word's References function to generate citations and the reference section in the correct format. We advise authors to consult the APA 7th edition style manual directly (APA, 2020).

Some examples follow (note: first line is hanging by 1.27 cm/0.5 inch); this list is not exhaustive, however. Authors are encouraged to check the formatting for particular types of reference list entries with the APA 7th edition manual (e.g., for dissertations/theses or conference presentations). The first line is hanging in reference list entries, with an indent set at 1.27 cm (0.5 in). The DOI or URL link is in GWP blue ink from the GWP Styles Gallery. Note that we use the en dash in page ranges to indicate "from page x through to page y," not a hyphen.

8.1 Reference List Entries - Examples

a) For a reference list book entry:

Aydin, A., Ahmadov, R., Antonelli, M., Cherry, J., Cilona, A., Deng, S., Flodin, E., de Joussineau, *sandstone-shale/mudstone sequences and their impact on groundwater*. The Groundwater Project. https://doi.org/10.21083/978-1-77470-012-9↗

b) For a reference list entry for an edited book:

Flodin, E. A., Gerdes, M., Aydin, A., & Wiggins, W. D. (2005). Petrophysical properties and sealing capacity of fault rock from sheared-joint based faults, Aztec Sandstone, Nevada. In R. Sorkhabi & Y. Tsuji (Eds.), *Fault seals and petroleum traps* (pp. 197–217). American Association of Petroleum Geologists Memoir 85. [NOTE: Proceedings also follow this format.] https://doi.org/10.1306/1033724M853136↗.

c) For reference list entries for journal articles:

van der Ent, R. J., Savenije, H. H. G., Schaefli, B., & Steele-Dunne, S. C. (2010). Origin and fate of atmospheric moisture over continents. *Water Resources Research, 46*(9), W09525. https://doi.org/10.1029/2010WR009127↗. [NOTE: No page numbers were provided for this online article.]

Aydin, A., & Ahmadov, R. (2009). Bed-parallel compaction bands in aeolian sandstone: Their identification, characterization and implications. *Tectonophysics, 479*(3-4), 277–284. https://doi.org/10.1016/j.tecto.2009.08.033↗. [NOTE: Page numbers were provided.]

In APA 7th edition style, the article title is in plain font while the journal title and volume number are italicized. The issue number is placed in parentheses after the volume and is followed by the page range [NOTE: Use an en dash not a hyphen: 21–32].

d) For a reference list entry for a technical report:

Abbott, M. M. (2003). *Real-time kinematic (RTK) surveying at the Osage Skiatook Petroleum Environmental Research sites, Osage County,* Oklahoma (Water Resources Investigations number 03-4260; pp. 147–155). US Geological Survey. pubs.er.usgs.gov/publication/70216521↗.

[NOTE: US/USA is well understood, so no need to spell it out. To keep spacing between words even, a hard enter was inserted before the URL, then the URL was moved to be in line with the indent.]

8.2 Intext Citations - Examples

How intext citations are formatted depends upon the number of authors and the context in which the citation appears: in the running text or as a parenthetical insertion. As with Reference section entries, GWP books follow APA 7th edition style (APA, 2020; Table 2).

Table 2 - How to format intext citations according to APA 7th edition style.

Authors/context	Example
For a single author parenthetical citation	…the recommended limit in drinking water by the World Health Organization (WHO) is about 85,000 TU (WHO, 2008), which is far greater than peak concentrations in the 1960s.
For a single author cited in the running text	For example, as described in Farrow and McBean (2016) and McBean (2013), over millennia, erosion from the Himalayan mountains resulted in arsenic deposits in river deltas.
For two authors in a parenthetical citation	This results in some surface water bodies being modestly enriched in $^{3}\mathbf{H}$ over local precipitation (Brown & Barry, 1979).
For two authors cited in the running text	For example, as described in Farrow and McBean (2016) and...
For more than two authors in a parenthetical citation[1]	This distinction is no longer possible in some areas with a detection limit of 0.6 TU (Eastoe et al., 2012).
For more than two authors cited in the running text[1]	Terzer-Wassmuth and others (2022) used it to modify a cluster-based water isotope model for stable isotopes.

[1] See APA 2020 for author lists with duplicate names and years.

8.3 Acronyms in Citations and References

a) Insert acronyms in parenthetical citations in the running text after the full name, but only the first time the source is cited. Thereafter, use the acronym.

(US Geological Survey (USGS), 2011) then (USGS, 2011)

(World Health Organisation (WHO), 2008) then (WHO, 2008)

b) For reference list entries that are books, write out the full name as the author AND if the organization is also the publisher. However, use a shortened version of the publisher's name—for example, Routledge, Oxford University, and so on.

US Geological Survey. (2011). *Title of the book*. US Geological Survey.

World Health Organisation. (2008). *Title of the book*. World Health Organisation.

9 Other Standards for Writing GWP Books

9.1 Invisible Text

GWP books include sets of invisible texts in the front matter in four places. The reason for this is that these insertions will then appear in the navigation pane. They will also appear in the Table of Contents when that is updated but will be deleted at a later stage of book production.

As shown in the first screenshot in this section, the first invisible text appears on the title page and is the name of the book, usually without the subtitle. Insert this text on the first line, left justified, as

Cambria, font size 18.

Highlight and select *References* > *Table of Contents* tab > *Add Text* > *Level 1.* Change the font color to white.

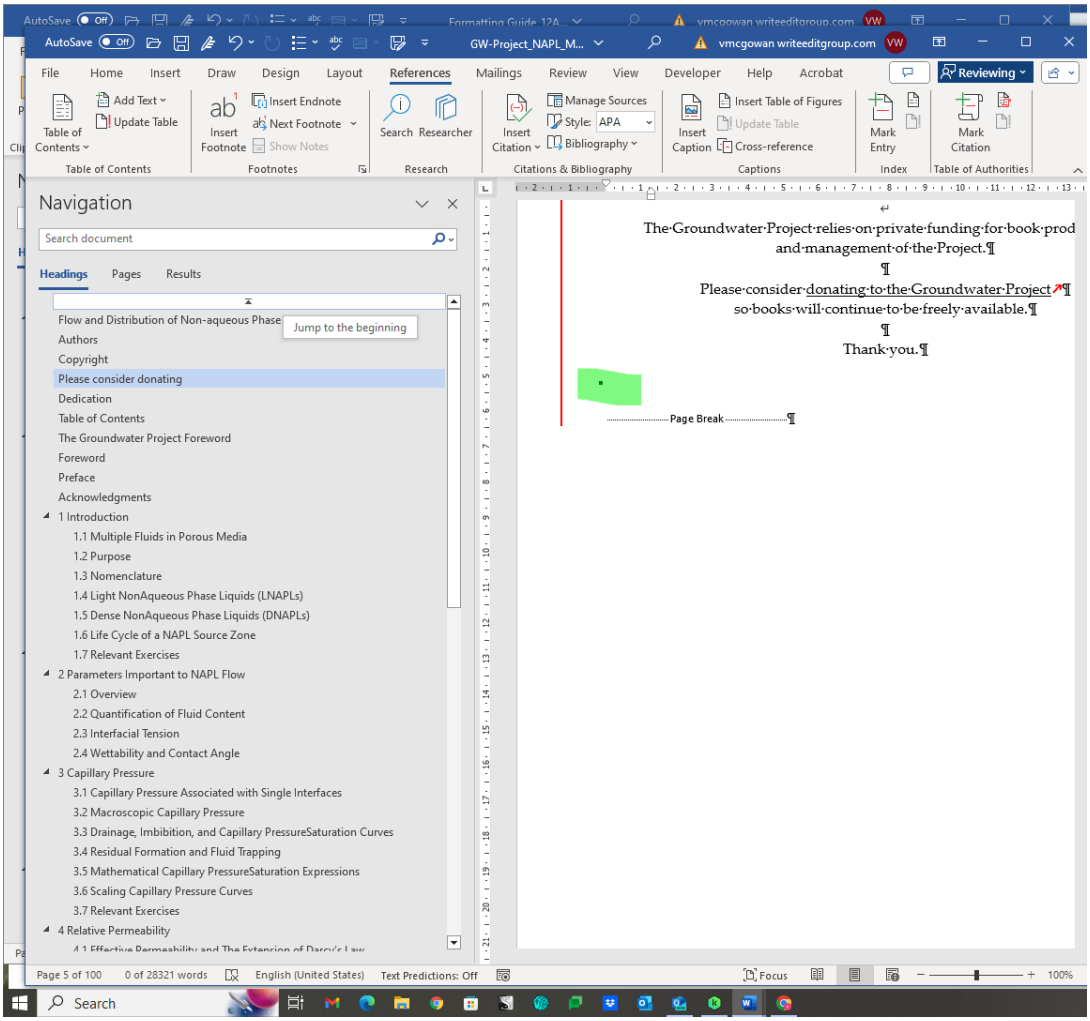
For any of the invisible text, you may see a number appear at the left margin when you click *Level 1*. Just backspace to delete the number.

The second invisible text appears on the author page and simply says Authors. It is also created on the first line, left justified, as Cambria, font size 11. Highlight and select *References* > *Table of Contents* > *Add Text* > *Level* 1. Change the font color to white.

The third invisible text is inserted on the Donations page and should be written as "Please consider donating" (without the double quote marks and Cambria, font size 12 pt font),which is what will appear in the Navigation Pane (*View* > *Navigation Pane*). Follow the instructions for the second invisible text.

The fourth invisible text is inserted between the first and second paragraphs on the copyright page and simply reads Copyright. As with the Author set of invisible text, it is created as Cambria, font size 11, and the color is changed to white. Add a hard return at the end of the first paragraph. It isn't usually necessary to specify this invisible text as *Add Text* > *Level 1*; if it doesn't appear in the navigation pane, try adding that.

Finally, check that the four invisible font sets appear in the navigation pane. This screenshot shows an example of how the hidden text appears in the Navigation Pane. The location of the hidden text on the page is indicated by [redacted].



9.2 Abbreviations

Abbreviations are *not used in the running text.* This policy is in place because of the international audience of readers for GWP books—for many, English is a foreign or additional language. A second factor is that the books are translated into various languages; abbreviations make the work of the volunteer translators more difficult. However, the GWP makes a few exceptions to this rule:

- All words/phrases are spelled out *except* common units such as *m cm km /in ft mi*. Standards for abbreviating SI units are provided on the Author web page as SI-Brochure-9-concise-EN.pdf↗.
- However, abbreviations such as "e.g.," or "i.e." or "et al." may be used in parentheses (round brackets) in the main text as follows:
  "…Brown and others (2019) interpreted this as X, but others dispute this opinion (e.g., Carson et al., 2020; Petrova & Plink, 2021)."

BUT

"…Brown and others (2019) interpreted this as X, but others dispute this opinion such as Carson and others (2020) and Petrova and Pink (2021)."

- Initialisms and acronyms can be used when citing something in the text if the full version is so long that it is distracting to the reader. In this case, it is spelled out when it first appears or, if it is a citation, it is not spelled out in the reference list entry as shown here and in Section 8.3 *Acronyms in Citations and References*:
  United States Geological Survey. (2021). *Stream gauge data*. US Geological Survey. add URL or DOI↗.
- Names of states and provinces need to be followed by the country name. It is easy for authors to forget this when the location is in their own country (e.g., Red Deer, Alberta, Canada; Cincinnati, Ohio, USA).
- All states, provinces, nations and other political geographic entities are spelled out, *with one exception*: Within the text body, USA is used in place of the United States of America because it is used often, the long form is distracting, and it is so commonly known.
- Simple abbreviations such as "and so on." are not used. They may be replaced with the fully written out phrase (e.g., et cetera) or "and so on." Preferably, GWP books avoid such vague usages.

9.3 American (US) English Spelling is Used

To keep the books consistent throughout the GWP platform, authors use the American (US) English spellings for words that have different spelling in British (UK) or Canadian English. Several common examples are listed in Table 3. More can be found at this link↗.

Table 3 - Examples of differences between US and UK English spelling conventions.

American (US) English	British (UK) English
fueled	fuelled
organization	**organisation**
analyze	analyse
modeling	modelling
behavior	behaviour
vapor	vapour

You can set the language for your book to US spelling by following these steps: *File > Options > Language > Set Language Preference > English (United States)*.

9.4 Content Boundaries

Figures and tables should fit within the document margins. The page size (A4) and margins (top, bottom, and left margins are 1 inch/2.54 cm, but the right margin is

1.18 inches/2.9972 cm) should be adjusted before importing the GW P template as described in Section 6.4 *Changing the Page Layout*.

9.5 Equations

Equations are discussed in detail in Section 3.8 *Equations, Reactions, and Periodic Table Element*s and Section 20 *Equations*.

9.6 Lists

Lists comprise sets of items that are too long to digest when written in paragraph form or to help readers who are using assistive devices such as a screen reader. This is common practice in a text that takes accessibility into account: The screen reader warns the reader that a list is coming up that has X number of items.

Lists can be created in a number of different styles, depending on how the list is introduced. Some lead-ins are very clear indicators that a list is imminent—for example, "the following factors" is a commonly used phrase and would be followed by a colon (":") as shown in example a).

a) A simple numbered list.

When considering the impact of climate change on groundwater quality, the following three factors should be considered:

1. Xxx
2. Yy
3. Zzz.

This list could also be alphabetized with a), b), or c) or bullet points instead of numbers. The latter would indicate that none of the factors is more important than the others.

Other lists are simply the extension of a sentence. This type of introduction/lead-in to a list does not take punctuation as shown in b). Each item in the list is followed by a comma or a semi-colon IF the list item includes commas (c). The final item is followed by a period (or other terminal punctuation). These lists can take numbers or letters or bullet points.

b) A list as an extension of a sentence.

The impact of climate change on groundwater is often mitigated by

1. Xxx,
2. Yyy, and
3. Zzz.

c) A list that includes commas in one or more of the items uses semi-colons.

The impact of climate change on groundwater is often mitigated by

1. Xxx;

2. Yyy, unless Q is present; and
3. Zzz.

d) A bulleted list where items are not in sentences.

When precipitation falls on the ground surface it may:

- evaporate back into the atmosphere,
- flow over the ground (overland runoff) or through temporarily saturated shallow layers of soil above the water table (interflow) to surface water bodies such as streams and become storm flow in the stream, or
- infiltrate into the soil.

If the items in a bulleted list include complete sentences, each item starts with an upper-case letter and ends with a period.

e) A bulleted list where items are in sentences.

- Some of the bulleted items may only have one sentence. However, others may have more than one.
- The second to last bulleted item is not followed by linking word such as "and" or "or."
- All the bulleted items are complete sentences with a capitalized first word.

9.7 Using Dashes To Indicate a Range of Values

Within the running text of the book—whether in the front matter, body, or back matter—express ranges of values as "from 80 to 90," not "from 80–90" (en dash, which means "to") or "from 80-90" (hyphen). However, use the en dash form (never the hyphen) to indicate range (—) in tables, figures, and reference list entries. You will find the en dash (and the em dash) by going to *Insert* > *Symbol* > *More Symbols* > *Special Characters*. The en dash is used in four ways:

1) Replaces the hyphen in certain types of compound adjectives:
   a. When one element of includes a hyphen:

      The Columbia-Presbyterian–Cornell programs…

   b. Where two- or three-word terms are joined:

      Europe's post–World War II economy…

      El Nino–related storms…

   c. Both elements in the joined term include either a hyphenated or open term:
      As reported at the New York–New Jersey symposium…
      They are seeking a high-value–low-risk solution…
   d. But not when a prefix is added. Use a hyphen in that case:

GWP books avoid abbreviations as much as possible to accommodate the needs of non-English-speaking readers.

2) When elements of equal weight are joined (the *peer en dash*):
   Risk–benefit analysis
   three-fluid, air–NAPL–water system
3) As a substitute for the word "through" in a range of inclusive numbers or dates:
   The life Henry Darcy (1803–1858)…
   The budget for January–April 2024…(BUT, the May-June newsletter…)
4) To substitute for the word "to":
   pp. 8–12 (en dash reads as "from page 8 to 12")
   Journal of Hydrology, 14(2), 123–131. (en dash reads as "from page 123 to 131")

9.8 Nonbreaking Spaces and Hyphens in Captions and Equations

Due to the electronic nature of the GWP books, certain elements are joined to preserve their formatting should readers change the size of the font when reading on a mobile device. This is accomplished by inserting nonbreaking spaces and hyphens. Characters joined with nonbreaking spaces or hyphens between them will not "break" across pages or lines. Nor will they be spaced far apart if the text is fully justified. Thus, Table/Equation and their number are always joined together. And in captions, the number is always found attached to the caption text.

As a general rule, GWP books have nonbreaking spaces and hyphens inserted where confusion could arise if characters were separated. This is partcularly important for web books—readers should not have to search for the number of a figure, table, or equation mentioned in the text!

Nonbreaking spaces and hyphens are *not* used between "Figure" and the figure number. However, they *are* inserted between "Table" and the table number and "Equation" and the equation number wherever they are found in text or captions. How to do this formatting is simple and will be explained in this section with examples.

The following tutorial shows how to create nonbreaking spaces in MS Word: https://youtu.be/bUOuEakIWms?t=38. The shortcuts for creating a nonbreaking space or hyphen are shown in the following table. To see where to place nonbreaking hyphens or spaces—or to check they are properly inserted go to *Home* > *Paragraph* > ¶ (i.e., the pilcrow mark) or Ctrl + Shift + 8. The spacing and other formatting characters will become visible (*Show*/*Hide*). To change back to a screen without these characters, simply deselect the pilcrow.

Table 4 shows the insertion and appearance of nonbreaking spaces and hyphens.

Table 4 - Insertion and appearance of nonbreaking spaces and hyphens.

Symbol	Shortcut (Windows)	Character (normal)	Character [1,2] (nonbreaking)
Nonbreaking space	Ctrl + Shift + spacebar	Table 1	Table°1
Nonbreaking hyphen	Ctrl + Shift + hyphen	Box 2-1	Box°2-1

[1] The difference between a regular hyphen and a nonbreaking hyphen can only be discerned visually if the screen amplification is increased substantially in Show Hidden Symbols (*Home* > ¶) mode (i.e., to about 140% or more).
[2] Figures do not have nonbreaking spaces between the label Figure and the figure number. The circle ° will appear for a nonbreaking space instead of the usual dot · when you are in Show Hidden Symbols *Home* > ¶ mode.

Another way to replace spaces with nonbreaking spaces is to use the "find and replace" function in MS Word. The following tutorial shows how to use include special characters when using "find and replace": https://youtu.be/RfDR9XJopjE?t=30.

The nonbreaking hyphen can be difficult to discern from a regular hyphen. For most books, you can see the difference between them by increasing the view to 170 percent on the slider that can be found in the lower right of your screen in MS Word and selecting *Show* as described. Nonbreaking hyphens appear thinner and lighter than regular hyphens.

Follow these steps to correctly format Table #, Figure #, and Equation (#):

a) To format Table numbers (#), insert a nonbreaking space between the word "Table" and the table number. Then—immediately after the table number—insert a nonbreaking space (*nbs*; *Crtl* + *Shift* + space), then add a nonbreaking hyphen (*nbh*; *Crtl* + *Shift* + -). Finally, add a nonbreaking space (*nbs*) again to the caption before the caption text begins. Bold the label and number. It should look like this:

   Table 3→Table*nbs*3*nbs**nbh**nbs*caption text: Table # - caption text

b) To format Figure # in the text and caption, do not insert a nonbreaking space immediately after the word "Figure." However, do insert a nonbreaking hyphen surrounded by nonbreaking spaces as for Tables so that it looks like this, with a regular space between "Figure" and the number:

   Figure 3→Figure 3*nbs**nbh**nbs*caption text: Figure # - caption text

c) To format Equations by number—which will be placed in the text—only add a nonbreaking space between the word "Equation" and the equation number (which will be in parentheses).

   "…as shown in Equation*nbs*(14)."

Finally, select the label for your figure or table with your cursor. Change the characters and hyphen to bold:

Figure 13 - caption text

Table 13 - caption text

d) The font for table and figure captions is Helvetica 9 pt font.

9.9 Using Italics

To emphasize key words or phrases, use italics. Do not use bold text, "scare quotes," or underlining for this purpose. "Scare quotes" (double quotation marks) generally indicate irony or sarcasm to the modern reader. Commonly used Latin words and phrases and their abbreviations are not italicized: for example: e.g., vice versa, et al., i.e., carpe diem, persona non grata, in situ, and so on.

9.10 Footnotes

Footnotes are inserted using *References* > *Footnotes* > *Insert Footnote*. To format a footnote to a Table, highlight the footnote text and select GWP_Table_Footnote from the GWP_Styles list. Footnotes should be in Helvetica 9 pt font.

9.11 Taxonomic Nomenclature

The scientific names of species (i.e., taxonomic nomenclature) inform us about how the organism is classified. Most often, this includes the genus and species names. Both are italicized. The first letter of a genus name is always in capital and the genus is written first. The species name follows the genus name and is not capitalized (i.e., *Genus species*). In subsequent mentions, the genus name can be abbreviated: *G. species* (e.g., *E. coli*).

9.12 Dimensions and Parameters

9.12.1 Capitalization and italics

GWP books use capital letters for some dimensions and lower case for others.

Liters per second: L/s

Meters: m

These dimensions are set in Roman font and not italicized.

Parameters are set in italics.

9.12.2 Dimensional formulas

Dimensional formulas are given in parentheses (round brackets) with M for mass, L for length, T for time, Θ for temperature, and A for current:

joule $M^1L^2T^{-2}$

mole (–) mass of a substance divide by its molecular mass

energy (ML^2T^{-2})

gravitational acceleration (LT^{-2})

pressure ($ML^{-1}T^{-2}$)

density (ML^{3})

concentration (ML^{-3})

dispersion ($L^{2}T^{-1}$)

velocity (LT^{-1})

resistivity ohm meters, or siemens meters $ML^{3}T^{-3}A^{-2}$.

temperature, typically in °K (Θ)

sheer stress ($ML^{-1}T^{-2}$)

dynamic viscosity ($ML^{-1}T^{-1}$)

heat flow, typically in watts ($ML^{2}T^{-3}$)

thermal conductivity, typically in watts per meter degree Kelvin ($MLT^{-3}\ \Theta^{-1}$)

thermal gradient, typically in watts per meter ($\Theta\ L^{-1}$)

interfacial tension dynes/cm (MT^{-2}).

partitioning coefficient, typically ml/mg ($L^{-3}M$)

Specific Surface - ($L^{2}M^{-1}$).

Specific Weight - typically, Nm^{-3}, ($ML^{-2}T^{-2}$)

equilibrium constant at the reference temperature (–)

enthalpy ($ML^{2}T^{-2}$)

gas constant, typically expressed as 8.314 J mol^{-1} K^{-1}, ($ML^{2}T^{-2}\Theta^{-1}$)

compressibility, typically inverse Pascals ($M^{-1}LT^{2}$)

electrical conductivity, typically in mhos per meter, or siemens per meter ($M^{-1}L^{-3}T^{3}A^{2}$)

electrical resistivity, typically in ohm meters, or siemens meters ($ML^{3}T^{-3}A^{-2}$)

thermal conductivity, typically in watts per meter Kelvin ($MLT^{-1}\Theta^{-1}$)

hydraulic potential, potential energy per unit mass of fluid ($ML^{2}T^{-2}$)

thermal conductivity, typically in watts per meter Kelvin ($MLT^{-1}\Theta^{-1}$)

specific conductivity ($M^{-1}L^{-3}T^{3}A^{2}$)

matric potential, typically in hectoPascals or millibars ($ML^{-1}T^{-2}$)

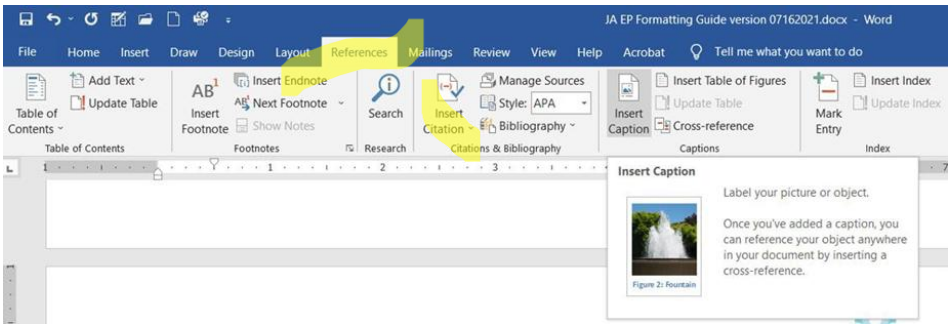
specific capacity, typically in gpm/ft or L/s/m ($L^{3}T^{-1}L^{-1}$ or $L^{2}T^{-1}$)

specific conductivity ($M^{-1}L^{-3}T^{3}A^{2}$)

10 Adding Captions for Figures and Tables

Captions are added by following these steps:

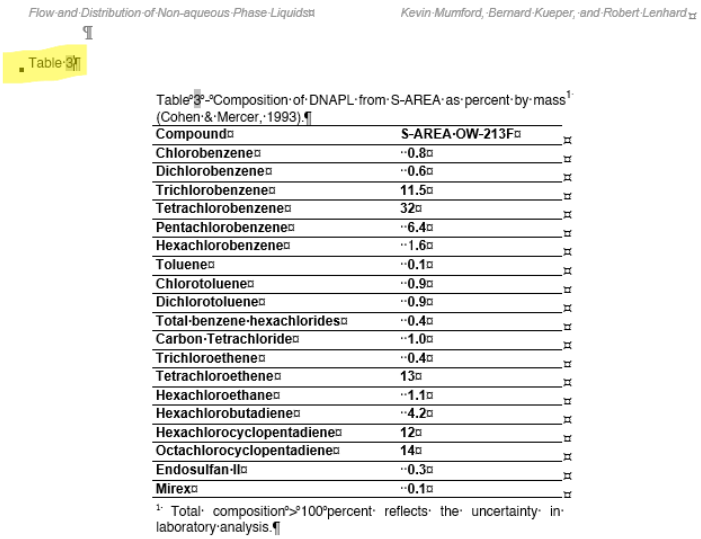
1. Go to the MS Word ribbon and click on these tabs in this order: *References* > *Captions* > *Insert Caption*,
2. Choose the appropriate label (Figure #, Table #, or Equation #) and click OK as shown in this screen shot:



10.1 Formatting Captions in Figures or Tables

Place your cursor where you want the caption to appear. Enter *Reference* > *Insert Caption* then choose the type of caption you wish to create (Table, Figure, or Equation) from the dropdown list *Label*. Click OK. The correct label and number will appear.

You may find that the window includes an activated request for the Position of the caption, either above or below the selected item (i.e., the caption). Select above. Click OK. You will then see Figure X or Table X above the existing caption.



Flow and Distribution of Non-aqueous Phase Liquids *Kevin Mumford, Bernard Kueper, and Robert Lenhard*

Table 3

Table 3 - Composition of DNAPL from S-AREA as percent by mass[1] (Cohen & Mercer, 1993).

Compound	S-AREA-OW-213F
Chlorobenzene	0.8
Dichlorobenzene	0.6
Trichlorobenzene	11.5
Tetrachlorobenzene	32
Pentachlorobenzene	6.4
Hexachlorobenzene	1.6
Toluene	0.1
Chlorotoluene	0.9
Dichlorotoluene	0.9
Total benzene hexachlorides	0.4
Carbon Tetrachloride	1.0
Trichloroethene	0.4
Tetrachloroethene	13
Hexachloroethane	1.1
Hexachlorobutadiene	4.2
Hexachlorocyclopentadiene	12
Octachlorocyclopentadiene	14
Endosulfan II	0.3
Mirex	0.1

[1] Total composition > 100 percent reflects the uncertainty in laboratory analysis.

Place your cursor at the end of that text (i.e., after the figure or table number) and delete until the inserted figure or table number replaces the original figure or table label and number. Then choose the appropriate GWP_Table_Caption or GWP_Figure_Caption from the Styles menu.

Captions do not exceed the width of the figure or table. Center single-line captions when the captions are narrower than the table or figure. Otherwise, multi-line captions should be justified and aligned with the left and right sides of the table or figure. Examples a) and b) illustrate how the captions are formatted in Tables.

Example a).

Caption is centered. Highlight the caption and choose GWP_Table_Caption_Center from the Styles list. Only the label, number, and hyphen are bolded.

Table 3 - Caption text (from Brown et al., 2019).

Column 1	Column 2	Column 3	Column 4
Row 1	data	data	data
Row 2	data	data	data

Example b).

Caption is fully justified and wrapped if necessary. Highlight and choose GWP_Table_Caption from the Styles list. Only the label, number, and hyphen are bolded.

Table 3 - Caption text is as long or longer than the width of the table. The caption text either extends to the right margin of the table or wraps to second or third line (from Brown et al., 2019).

Column 1	Column 2	Column 3	Column 4
Row 1	data	data	data
Row 2	data	data	data
Row 3	data	data	data

Figure and Table captions are cross referenced from their mentions in the running text of the book. This helps the reader navigate to and from these elements. In the next section (Section 11), you will learn how to add captions, where to place nonbreaking spaces and hyphens, and the various ways to format the captions.

11 Cross Referencing

Cross referencing allows the reader to navigate between different sections of the book. For example, the reader can jump to an Exercise to its Solutions and back again.

11.1 What and When to Cross Reference

Insert a cross reference to any of these items so the reader can move from the mention in the text to the figure or table or equation. Items that are *always* cross referenced are

- Figures
- Tables
- Equations

Every time one of the above (Table, Figure, Equation) appears in the book, it is cross referenced.

However, some items are cross referenced/linked the *first time* they are mentioned in the book but *not thereafter*:

- Exercises
- Boxes

And some items are *never* cross reference/linked:

- Sections (or Subsections)
- Second (or more) mentions of Exercises
- Second (or more) mentions of Boxes

Finally, GWP books *do not* have cross references or links between the text and figures, exercises, or tables when these items occur inside Boxes or Exercises or Exercise Solutions.

11.2 How to Cross Reference Tables and Figures

11.2.1 Figures

1. Highlight "Figure X" in the Figure caption.
2. Go to *References*>*Captions* pane>*Insert Caption*.
3. Select *Figure* from the dropdown Label menu.
4. Check that the caption that appears in the top window of the dropdown menu is correct.
5. Select OK.
6. Go to the mention of the Figure in the running text and highlight it.
7. Select *Insert*>*Cross Reference*>*Reference* type "Figure" from the dropdown menu.
8. From "Insert reference to," select "Label and number."
9. From the list "From which caption," select the Figure you want.
10. Click on Insert.

11. In the text, the highlighted Figure mention should appear as bolded. Unbold it by clicking on **B** twice in the font menu.
12. Check the link: Crtl + Click on the Figure mention, which should bring the cursor to the Figure label and number in the Figure caption.

11.2.2 Tables

1. Highlight "Table X" in the Table caption.
2. Go to References>Captions pane>Insert Caption.
3. Select Table from the dropdown Label menu.
4. Check that the caption that appears in the top window of the dropdown menu is correct.
5. Select OK.
6. Go to the mention of the Table in the running text and highlight it.
7. Select Insert>Cross Reference>Reference type "Table" from the dropdown menu.
8. From "Insert reference to," select "Label and number."
9. From the list "From which caption," select the Table you want.
10. Click on Insert.
11. In the text, the highlighted Table mention should appear as bolded. Unbold it by clicking on B twick in the font menu.
12. Check the link: Crlt + Click on the Table + number mention, which bring the cursor to the Table label and number in the Table caption.

11.3 Cross Referencing Figures and Tables in the Main Text

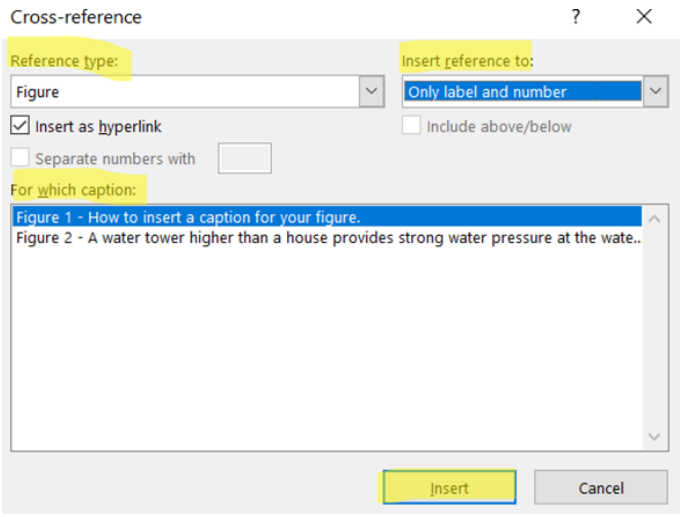
When mentioning a table, figure, or equation in the main text, capitalize Table, Figure, and Equation. For tables and figures, only the label and number appear in the main text as shown here.

When the focus is on transforming organic contaminants, the big difference comes from the electron-acceptor substrate (**Error! Reference source not found.** 1).
When the focus is on transforming organic contaminants, the big difference comes from the electron-acceptor substrate as shown in Figure 1.

Follow these steps to link the mention in the text to the caption of the Figure or Table. Highlight the label and number of the Table or Figure in its caption as shown in the yellow highlighted caption of Table 1 in example a).

1. Go to *References* > *Insert Caption* and select Table or Figure as needed. Select OK.
2. Highlight the mention of the Table or Figure in the running text as shown by the green highlighted area in example a.)

3. Select *Insert* > *Links* > *Cross Reference* >*Reference type* from the dropdown menu (Figure in this example) > *Cross reference to* > *Only label and number* > *For which caption* > select the caption you need > *Insert*.



Example a).

A cross reference between a Table caption (yellow) and a mention of the Table in the running text of a book (green).

> If measurements are being completed by hand (e.g., mechanical, or electronic tapes) it is recommended that measurement intervals follow a logarithmic pattern. Sterrett (2007) provides information on the minimum number of data points required to create a useful water level data set Table.

Table 1 - Minimum drawdown measurement time intervals for pumping and observation wells (modified from Sterrett, 2007; Kruseman & de Ridder, 2000).

Pumping Well	
Time Since Pumping Started (or Stopped) (min)	**Time Intervals Between Measurements (min)**
0-5	0.5-1.0
5-15	1
16-60	5
60-12	20

11.4 Cross Referencing Equations in the Main Text

For where an Equation is mentioned in the running text, the equation number is placed between parentheses (round brackets) thus: “Equation (14)” with a nonbreaking space between “Equation” and the opening parenthesis This mention appears in the text in the

paragraph *immediately* before the Equation itself, which also has the equation number at the right margin, in the right column of the three-column invisible table (#) used to insert an Equation. Be careful the first and third columns are the same width so the Equation centers correctly on the page.

blank	Equation Centered	(#) Right justified

The mention of the Equation in the running text (green) is linked to the bracketed number in the invisible table (yellow) in this example. In reality, the table will be rendered invisible in the text after adding the equation and equation number.

A dimensionless form of Henry's Law is shown in (2).

	$C_i^{gas} = K_{w,i}^{cc} C_i^{water}$	(1)

Follow these steps to insert the cross reference:

1. Open the template at the end of Box 3 – Template for Copying Cross References for Equations.
2. Copy the first equation link 1 from the template document as shown here in yellow (this link is "live"):

$$0 = \left(\frac{\partial^2 h}{\partial x} + \frac{\partial^2 h}{\partial y}\right) \quad (2)$$

$$S\frac{\partial h}{\partial t} = T\left(\frac{\partial^2 h}{\partial x} + \frac{\partial^2 h}{\partial y}\right) \quad (3)$$

3. Go to the location in your book where Equation (1) needs to be added and paste the (1) you copied in the last step in to the right column of the invisible table for that Equation.

$$C_i^{gas} = K_{w,i}^{cc} C_i^{water} \quad (4)$$

4. Place your cursor in the running text where you want the mention of Equation (1) to appear.
5. From the MS Word ribbon, select *References* > *Cross Reference*.
6. Click on *Cross Reference* and select *Equation* from the dropdown menu. (1) should appear in the list. Select (1) and *Insert*. (1) should appear in the text where you placed your cursor.
7. Place your cursor in the (1) in the text between the opening bracket (and the number 1. Type Equation, the insert a nonbreaking space and an opening bracket (.
8. Delete the (that is now to the left of the word Equation.

Check that the link is working by highlighting "Equation (1)" then Ctrl + left mouse click. Your cursor should jump to the (1) in the Equation's invisible table far right cell.

Repeat these steps for each Equation but after step 3, highlight the (1) and left click to reveal a dropdown menu. Select *Update Field* from that menu. The next number in the sequence of Equation numbers should appear in the (#) space."

Similarly, the reference to a Table or Figure appears in the paragraph immediately before the Table or Figure.

12 Quotations

Short quotations are placed within double quote marks in line with the text using GWP_Quote style. Longer quotations are blocked and inserted as a narrow paragraph within the main text paragraph using the GWP_Long_Quotation style as shown in the following subsection with examples a) and b).

When citing sources of quotes, include the author's name, the year, and the page number.

12.1 Examples of Quotations

a) Short quotes within sentences.

The book about storage in confined aquifers includes this sentence:

> High rainfall in the 1870s led to the general belief that *"rain follows the plow"* (Anonymous).

This quotation is short enough to be italicized within the sentence in the main text.

b) Longer quotes are inserted as blocks of text.

The same book also includes a longer quotation that is embedded in—but set off from—the paragraph as a block of text.

> The second quote by Bredehoeft and others (1983, p. 19) lamented that Darton's recognition of leakage through a confining layer was forgotten for many decades.
>
> *"Another factor which undoubtedly somewhat influences the hydraulic grade in the Great Plains region is a certain but unknown amount of general leakage through the so-called impermeable strata, especially when under great pressure."*
>
> By 1923 some 10,000 wells were drilled in South Dakota and eventually 15,000 by 1958 (Davis et al., 1961).

Because the paragraph continues after the quote, the sentence starting with "By" is not indented. If a new topic was introduced, the sentence following the quote would be indented.

In this example, the citation is provided within the running text (Author, Date, page number). Alternatively, the citation could be added to end of the quotation. In this case, the citation appears <u>after</u> the terminal punctuation in the quote and quotation marks and is not italicized. It is enclosed in parentheses (round brackets). No punctuation follows the citation, unlike a citation in the running text as is also shown in this example.

Some lamented that Darton's recognition of leakage through a confining layer was forgotten for many decades.

> *"Another factor which undoubtedly somewhat influenced the hydraulic grade in the Great Plains regions is a certain but unknown amount of general leakage through the so-called impermeable strata, especially when under great pressure."* (Bredehoeft et al., 1983, p. 19)

By 1923, some 10,000 wells were drilled in South Dakota and eventually 15,000 by 1958 (Davis et al., 1961).

13 Units of Measurement, Numbers, and Time Formats

13.1 Units of Measurement

Metric units are preferred because of the international readership of GWP books; however, if US (imperial) units are reported—for example, available data by be only in US units—and SI units when applicable. For example, comparable units can be shown as 30 m/98.43 ft or as 30 m (98.43 ft), but this should be decided in consultation with Dr. Eileen Poeter, who makes the final decisions on these matters.

In some GWP books, when a figure includes metric units on the y-axis of a graph, for example, a conversion was inserted in the caption in square brackets as shown here in the highlighted section of this figure caption. Note where the terminal punctuation in the caption is placed: before the square brackets.

> **Figure 2** - Simulated soil temperatures in a temperate climate. The mean annual temperature is 10 °C and the air temperature varies from 0 to 20 °C. The dampening of the surface temperature with depth is controlled mostly by the thermal diffusivity, which in turn is a function of the water content and to a lesser extent the mineralogy of the soil. When the water table is more than 10 m below land surface, the annual temperature variations are nearly completely dampened for a typical thermal diffusivity of 0.005 cm^2/s (redrawn from Aeschbach-Hertig & Solomon, 2013). [10 m = 32.81 ft; 8 m = 26.25 ft; 6 m = 19.69 ft; 4 m = 13.12 ft; 2 m = 6.56 ft]

For temperature, use degrees Celsius (°C), remembering to put a nonbreaking space after the number, followed by the degree symbol (20 °C, where the highlighted symbol is the degree symbol and the nonbreaking space ° is not highlighted).

If the original text uses degrees Kelvin (°K), keep that nomenclature. If Fahrenheit is used in the original text, add Celsius: 68 °F/20 °C or 68 °F (20 °C).

13.2 Numbers

When numbers are used in the text, they have a comma as a thousandth separator and a period to separate the fractional part of the number. The numbers should be lined up in the columns. Some examples are shown in Table 5.

Table 5 – Number formatting.

Number	GWP Format	Unacceptable Formats
One thousand and two tenths	1,000.2	**1000 or 1 000,2 or 1.000,2 or 1000.2**
Six million three thousand and four tenths	6,003,000.4	6 003 000,4 or 6.003.000,4 or 6003000.4

13.3 Time

When a period of time is referred to using numerals, an apostrophe should *not* be included. For example, to say that something occurred in a particular period of time, simply

pluralize the date: "in the 1950s" not "in the 1950's." Centuries are written out in full: twenty-first century, nineteenth century.

GWP books use inclusive language, so we use BCE (Before the Common Era) rather than BC (Before Christ): "Early Egyptian dynasties date to 4,000 years BCE." Rather than AD (Anno Domini = Year of Our Lord), we use CE (Common Era). Although BCE and CE are still tied to the original Christian idea of BC and AD, they are considered acceptable terms—whether secular or Christian—because they use same date to count backward or forward (Should We Use BCE Instead of BC?↗).

14 Special Characters

Parameters. Where parameters of equations are special characters and are included in line with the text, they should be written in *italics* font and inserted as special characters. For example, it is not possible to enter using standard text because the subscript and superscript will not overlie one another as shown in the example here in parentheses: (S_xy). Use MS Word's Equation Editor to format the parameter unambiguously: S_x^y (Note: Cambria Math font size raised to 12 pt).

Where a parameter list follows an equation, the parameter is to be italicized. To create a parameters, copy the parameter from the equation created in Equations Editor so that the size, font, and alignments are the same as in the equation. Sections 3.8 *Equations, Reactions, and Periodic Table Elements* and 20 *Equations* provide more detailed instructions for creating parameter lists.

Notations. For a Notations sections, do the same as for a parameters list. Here is an example.

13 Notations

A	=	Area [m^2]
g	=	Acceleration of gravity [9.807 m/s^2]
H	=	Hydraulic head existing as a hydraulic potential [m]
h_f	=	Freshwater head [m]
h_{fmi}	=	Freshwater head at midpoint of convection cell leg i [m]
h_p	=	Pointwater head [m]
h_{pmi}	=	Pointwater level at midpoint of convection cell leg i [m]
h_w	=	Physical water-level elevation in a well or piezometer [m]
j	=	Mass flux [$kg/s/m^2$]
K	=	Hydraulic conductivity [m/s]

Equations. Equations are created in MS Word's Equations Editor and left italicized. However, remove the italics from the operators such as the equals sign.

Chemical formulas and reactions. Use MS Word's Equation Editor. Remove italics and raise to 12 pt font.

Super- and subscripts (e.g., 10^5). The size and position of superscripts and subscripts need to be adjusted to match the way they look in the equation. Section 15 *Adjusting Superscripts and Subscripts* explains how to do this.

Raising to a power in multiplication: When raising a number to a power in multiplication, GWP style formats the equation thus, using the keyboard lowercase x and without spaces: $8x10^3$

Greek letters used as units of measure. A particular symbol may need to be in italics in some places within the book and "straight up" (Roman) in others. For example, if μ is used to denote a physical quantity (such as permeability or reduced mass) it should be in *italics*, but when it is used as a prefix in a unit such as microgram, μg, or when it is used as the symbol for the muon, μ it should be "straight up" (Roman).

Latitude and longitude. Insert a nonbreaking space after the degree symbol (°): 45° N. When both latitude and longitude are provided, latitude is inserted first.

Temperature. Insert a nonbreaking space between the number and the degree symbol (°): 32 °C.

Periodic Table elements. Symbols for elements in the periodic table should be "straight up" (Roman).

Fundamental physical constants. These characters (e.g., *Eh*) are always regarded as quantities subject to measurement (even though they are not considered to be variables) and they should accordingly always be *italicized*. Sometimes fundamental physical constants are used as though they were units, but they are still given italic symbols. In contrast, the electron volt eV and the unified atomic mass unit u have been recognized as units by the Comité International des Poids et Mesures (CIPM) of the BIPM and they are accordingly written in Roman script, unitalicized.

Internationally Agreed-upon Symbols. The printing of certain characteristic numbers or *dimensionless quantities* have internationally agreed-upon symbols and type face such as the Reynolds number, which is italicized *Re,* and pH, which is "straight up" (Roman).

Percent. The character % should not be used in running text within paragraphs; spell out the word as "percent" with a nonbreaking space between the value and the word percent. It is acceptable to use the % symbol within tables and figures, however.

For Further Guidance. The file IUPAC-GB3-2012-2ndPrinting-PDFsearchable.pdf provided under supplemental material on the formatter's web page offers guidance for many of the items used in Groundwater Project books: https://author.gw-project.org/↗.

Please note: The GWP work is executed by volunteers who may not always know the correct presentation format. We appreciate anyone bringing any problems or concerns you may find in GWP books to our attention.

15 Adjusting Superscripts and Subscripts

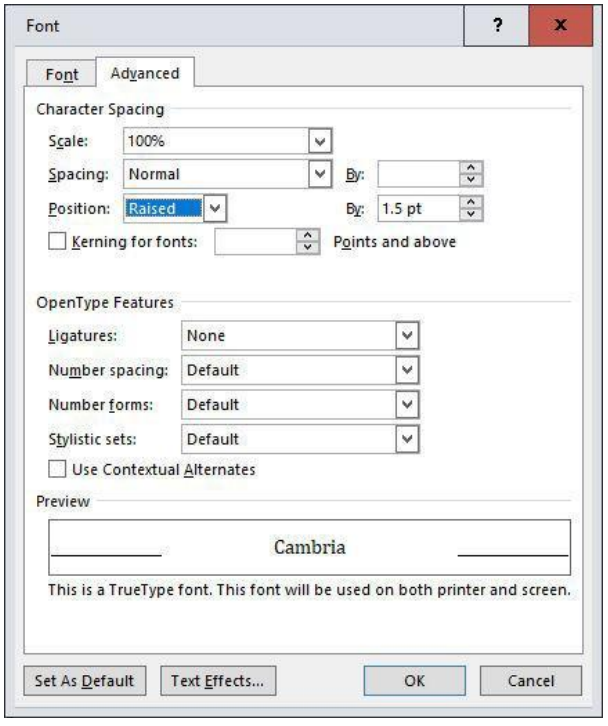
The size and position of the superscripts and subscripts in line with the text need to be adjusted to match the way the superscripts and subscripts look in the equation. Given the confusion of having some of the superscripts and subscripts formatted to match equations, reactions, or periodic table elements, all of the superscripts and subscripts are now treated in this way to ensure consistency across the book.

GWP books use Equation Editor within the running text as well as in Equations for parameters and periodic table elements so the fonts match. However, in some circumstances, Equation Editor is not used. To match the Word Equation Editor spacing shown below for this equation in the running text A_1+B^3, the subscript "1" needs to be lower and larger, and the superscript "3" needs to be higher and larger.

$$A_1+B^3$$

These adjustments can be made by using the macros described at the end of this Section or by doing the following:

1. Highlight the super or subscript in the text and choose either x2 or x2 from the Home > Font pane.
2. Highlight the entire parameter. Select Home > Font > Font > size 12 (10 if in Helvetica for a Table or Figure) to increase the font size of the subscript and superscript by 1 point (e.g., from Palatino Linotype 11 pt to 12 pt).
3. In the Advanced tab of the font options, select Position > Lowered (for subscript) or Raised (for superscript) > By 1.5 points, then OK.



Using the Equation Editor, the expression then looks like this:

$$A_1 + B^3$$

By adjusting subscripts and superscripts in the document text, the expression looks nearly the same, like this: $A_1 + B^3$. However, whenever possible, using the MS Word Equation Editor confers a pleasing consistency and uniformity to these expressions across the manuscript.

You can also use keyboard macro shortcuts (GWP_Styles) to create the appropriate format as shown in Table 6.

Table 6 - Guide to using super and sub-scripts.

Format	Style name	Used for	Result	Keyboard shortcut
	GWP_Normal_Sub	Body text	A_1	Alt + U
Subscript	GWP_Cambria_Sub	In-line equations	*A*1	Alt + B
	GWP_Table_Sub	Tables	A_1	Alt + L
	GWP_Normal_Super	Body text	A^1	Alt + S
Superscript	GWP_Cambria_Super	In-line equations	*A*1	Alt + C
	GWP_Table_Super	Tables	A^1	Alt + T

16 Using MS Word Styles

As described in Section 6.5 *Importing Styles Using the DOT Template*, a file containing GWP Styles is provided to help with the required formatting. The following section provides an overview of the styles and describes when they are applied.

16.1 How to Use Styles

Styles are preset formats that can be applied to text to adjust the properties and behavior of the text to be consistent throughout in the document and generate the Table of Contents. Styles control text color, font, size, indentation, and spacing before and after paragraphs, headings, and images. You can easily apply or change a style by selecting the text you want, then choosing one of the following:

- In the MS Word ribbon, go to *Home* > *Style Gallery* and select the desired style.
- Or go to MS Word ribbon > *Home* tab > *Style* section > click on ↘. The *Style Pane* will be shown, then select the desired style.
- Or select *Ctrl* + *Shift* + *S* to open the *Apply Style* box that includes all styles available in your document.

More detailed information on using styles is provided at this link↗.

16.2 List of Styles

Table 7 shows how to use each style in the GWP_Styles library. To see how each Style appears in the text, go Box 4 – Appearance of GWP Styles.

Table 7 - GWP Styles and how to use them.

#	Style name	How to use this style
1	GWP_black_link	Used for external links as appropriate. It is followed by a right upward-pointing red arrow ↗.
2	GWP_blue_link	Used for internal or reference list entries' external links as appropriate within the text to avoid distraction to the reader. It is followed by a right upward-pointing red arrow ↗.
3	GWP_Book_Title_Cover	Used only for the book title and authors on the first pages.
4	GWP_BoxHead	Heading for Boxes. Every box must have a title. Box titles appear at the same level as the second level heading in the table of contents, but do not have a section and subsection number.
5	GWP_Cambria	Use instead of MS Word Equation editor for in line equations written within a paragraph without the Equation Editor. Preference is to use Equation Editor.
6	GWP_Cambria_sub	Subscript to be applied with GWP_Cambria.
7	GWP_Cambria_super	Superscript to be applied with GWP_Cambria.
8	GWP_Exercise_Solution	Exercise Solution headings are based on second -evel headings but not numbered.
	GWP_Exercises_Boxes_Link	This style should be used after Exercises Solutions and Boxes to return to where they are mentioned.

#	Style name	How to use this style
	GWP_Figure_Caption (Continued)	Figure Captions use this style. A manual adjustment must be made to: use bold font for the word “Figure” as well as the following number and hyphen; and to include the proper nonbreaking spaces and hyphen. If the caption is a single line, it should be centered instead of justified, which is done by adjusting the alignment format for that specific caption.
11	GWP_Figure_Image	Each figure uses this style. Select your figure and choose this style to center the image and provide proper spacing before and after the figure. Figures should not be wider than 6.09 in/15.47 cm.
12	GWP_FrontHead	Heading for front-end sections are given this style (Table of Contents, Preface, Foreword, Acknowledgments).
13	GWP_Heading_1	The first heading level includes the section number.
14	GWP_Heading_2	The second heading level includes the section and subsection number.
15	GWP_Heading_3	The third heading level. Does not include numbers.
16	GWP_Heading_4	The fourth heading level. Does not include numbers.
17	GWP_Heading_5	The fifth heading level. Does not include numbers.
18	Hyperlink	This style should be kept but does not start with GWP_ because it is needed for the table of contents.
19	GWP_List_Bullet	Used for lists with multiple items.
20	GWP_List_Number	Used for lists with multiple items that need to be numbered.
21	GWP_Long_Quote	Longer quotations should be inserted as a narrow paragraph within the main text paragraph using this style.
22	GWP_Normal	All regular text uses this style which includes an indent of the first line of the paragraph.
23	GWP_Normal_sub	Subscript to be applied with GWP_Normal.
24	GWP_Normal_super	Superscript to be applied with GWP_Normal.
25	GWP_Quote	Short quotations can be placed in quotes and presented in line with the text using *“GWP_Quote”* style
26	GWP_References	This style is used for the reference list. The paragraph has a 0.3 inch hanging indent. Link symbols (described later) need to be included for DOI and web links.
27	GWP_Table_Caption	Table Captions use this style. A manual adjustment must be made to: use bold font for the word “Table” as well as the following number and hyphen; and to include the proper nonbreaking spaces and hyphen. If the caption is one line or less, it should be centered by selecting the style named GWP_Table_Caption_Center.
28	GWP_Table_Caption_Center	Same as GWP_Table_Caption but centered (see above).
29	GWP_Table_Contents	Adjusts the selected content of a table as follows: Helvetica font, 9 pt, left alignment. First row and first column contents should be changed to **bold** characters as needed.
30	GWP_Table_Footnotes	Adjusts the selected content of a table footnote as follows: Helvetica font, 9 pt, left alignment. Footnotes are referred to using small superscripted numbers as shown on the left.

#	Style name	How to use this style
31	GWP_Table_Sub	Subscript to be applied with GWP_Table_Contents.
32	GWP_Table_super	Subscript to be applied with GWP_Table_Contents.

17 Links

Links in GWP books include bookmarks, internal links to Boxes, internal links between Exercises and their Solutions, and external links to references and resources.

17.1 Bookmarks

Bookmarks allow the reader to navigate within the book and are needed for internal links within a document. GWP books need a bookmark at any location in the document that sends the reader to another place in the document. This makes it possible to have a return link at the location where the reader is sent so the reader can link back to where they left off.

Bookmarks are also needed at locations that readers are sent to, such as the beginning of a Box or an Exercise or an Exercise Solution. When text is formatted as a Heading, it is automatically bookmarked by MS Word and will show up in the navigation sidebar (*View* > *Show* > *Navigation Pane*). To link the first mention in the text to the exercise, bookmark the heading of the exercise starting at the second word and create a cross reference to it as described in Section 11 *Cross Referencing*.

17.2 Internal Links to Boxes

This YouTube video https://youtu.be/dqalZnYWMdA?t=139 explains how to add bookmarks and internal links in MS Word 2019. There are two important items to remember:

1. When adding a bookmark, make sure the cursor is located exactly where you want the bookmark to be located.
2. Bookmark names should not contain spaces.

Return links are always to be right justified on the line immediately following a paragraph. The appropriate symbol needs to be included with internal links. The symbols are show in the next table. To link from the mention in the running text to the Box:

1. Go to Box # heading. Highlight the second word in the heading.
2. Choose *Insert* > *Links* > *Bookmark* > *Bookmark name*.
3. Enter the bookmark name such as Box1. Do not leave a space in this name.
4. Choose *Add*.
5. Go to the first mention of the Box in the running text. Highlight it.
6. Enter the bookmark name such as Box1Text. Do not leave a space in this name.
7. Highlight Box1Text.
8. Choose *Insert* > *Link* *Insert Link* > *Link to* > *Place in this document* > *Select a place in this document* > and scroll down to find Box1 in the list. Click on it. Select OK. The intext mention should be in blue with a down arrow (Box 1↴). This links the text mention to the bookmark Box1 so you can jump directly to that Box from the text mention.

9. At the end of Box 1, add **Return to where text linked to Box 1** (right justified, bold). Highlight that text.
10. Choose *Insert* > *Link* > *Insert Link* > *Link to* > *Place in this document* > *Select a place in this document* > and scroll down the list to find Box1Text. Click on it. Select OK. This links Box 1 to the bookmark Box1Text so you can jump directly from Box 1 to where the text mentioned Box 1.
11. Check the links. Hover your cursor over Box 1 and you should see a text box:

> Box1
> **Ctrl + Click to follow link**

Table 8 shows the types of links and arrows to use.

Table 8 – Types of links, arrows to use, and examples of the correct format.

Link type	Symbol	Example of the format to use
Internal Link DOWN to Box 1 in the running text of the book		Box 1
Internal Link UP to go back to mention in the running text (note: these are always right justified as shown in the example)		**Return to where text links to Box 1**

To go to the Box from the text mention, place your cursor on Box 1 in the text. Hold down Ctrl and left click with your mouse. That will jump you to the Box.

To return to the first mention of the Box in the running text from the Box, place your cursor on **Return to where text links to Box 1** after the last paragraph of the Box. Hold down Ctrl and left click with your mouse. That will jump you to the mention in the text.

Remember to test the links to and from the mention in the running text and the Box to be sure they are working correctly.

17.3 Internal Links Between Exercises and Their Solutions

For Exercises and their Solutions, you will need to bookmark where the reader is going to go:

- From the first mention of the Exercise in the running text to the Exercise (ExerXText).
- From the Exercise to its Solution (**Solution to Exercise X**).
- From the Solution back to the Exercise (**Return to Exercise X**).
- From the Exercise and its Solution back to the first mention in the running text **Return to where text links to Exercise X**).

As with Boxes, notice when the links are in bold and when they are not.

17.3.1 To create bookmarks for Exercises and Solutions

To link text mentions of Exercises to the Exercises, and from Exercises to Solutions, first bookmark the mention in the running text (Exercise X↴; not bold). The next steps are to bookmark the headings in the Exercises and Solution Exercises sections (two bookmarks: **Exercise X – Name of exercise**; **Solution to Exercise X**↴), and where the reader may wish to return to the text where they left off (**Return to where text linked to Exercise X**↥). These are bold.

When you highlight the heading to bookmark it, do not start at the beginning of the heading. Start on the second word. Examples follow.

17.3.2 To create links for Exercises and Solutions

The next step is to create links from the first mention in the running text to the heading of the Exercise and back again. Then, cross reference the Exercise to its corresponding Solution Exercise. Section 17.3 *Internal Links Between Exercises and their Solutions* also provides the text and types of arrows to insert.

As you did for Boxes, creating the links for Exercises and Solutions requires the following steps:

1. Highlight the first intext mention of the Exercise . Go to I*nsert* > *Link* > *Link to* > *Place in this document*, then scroll down the list until you find the correct bookmark(usually Exer1Text for Exercise 1↴). Select that and click on OK.
2. Do the same but for the Exercise heading in the Exercises section of the book (usually Exer1 for Exercise 1).
3. Now go to **Solution to Exercise X**↴ at the end of the exercise and do the same (bookmark ExerSol1 for Exercise 1).
4. Finally, go to **Return to where text linked to Exercise X**↥ at the end of the exercise and do the same (bookmark: Exer1Text for Exercise 1).
5. Check the links.

17.3.3 A step-by-step guide to link Exercises and Solutions

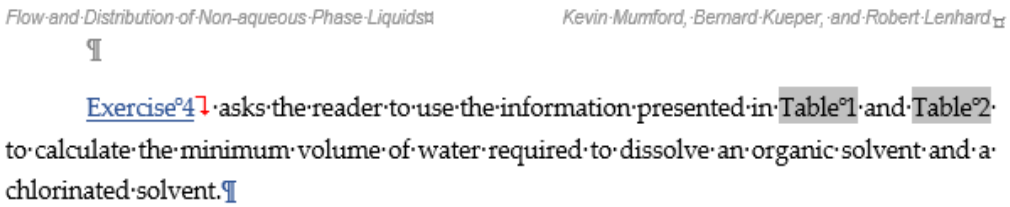
The following guide (Table 9) takes you step-by-step through the process of linking text mentions to Exercises to Solutions and back again. Following the table is a set of screenshots that show how these links appear in the actual text of a book in Word.

Table 9 - Linking Exercises and Solutions: A step-by-step guide.

STEP	PLACE IN BOOK	FIRST STEP	NEXT ACTION	FINISH
1	First mention of Exercise # in main text	Select Exercise #	Insert>Bookmark as Exer#Text	Select Add
2	Exercise # heading (level 2)	Select 2nd word in heading (or #)	Insert>Bookmark as Exer#	Select Add
3	Solution Exercise # Heading (level 2)	Select 2nd word in heading (Exercise)	Insert>Bookmark as SolExer#	Select Add
4	First mention of Exercise # in main text	Select Exercise #	Insert>Link to Bookmark Exer#	Select OK Add ↴ at end of Exercise #
5	Exercise # at end of exercise	Select Solution to Exercise #	Insert>Link to Bookmark SolExer#	Select OK Add ↴ at end of Solution to Exercise #
6	Exercise # at end of exercise	Select Return to where text linked to Exercise #	Insert>Link to Bookmark Exer#Text	Select OK Add ↥ at end of Return to where text linked to Exercise #
7	Solution Exercise # at end of solution	Select Return to Exercise #	Insert>Link to Bookmark Exer#Text	Select OK Add ↥ at end of Return to Exercise #
8	Solution Exercise # at end of solution	Select Return to where text linked to Exercise #	Insert>Link to Bookmark Exer#Text	Select OK Add ↥ at end of Return to where text linked to Exercise #
*	Verify that all links are working.			

This is how the links will appear in the book.

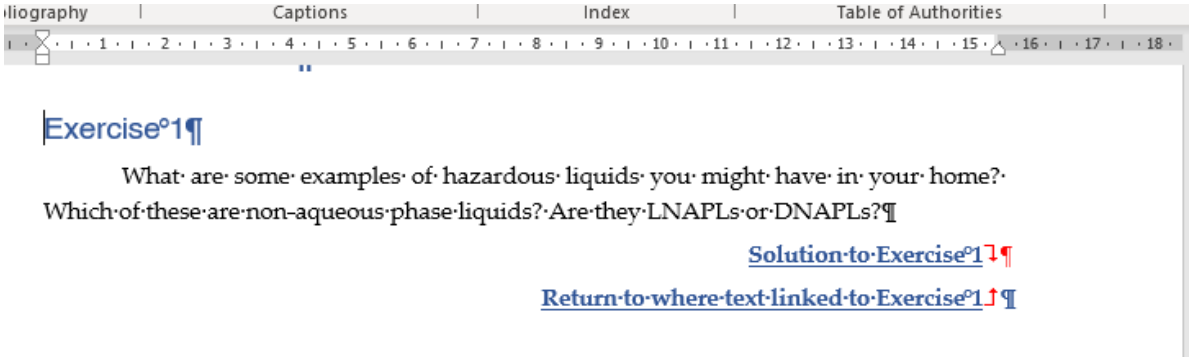
a) In the text, the Exercise link will look like this:


Flow·and·Distribution·of·Non-aqueous·Phase·Liquids¤ Kevin·Mumford,·Bernard·Kueper,·and·Robert·Lenhard¤

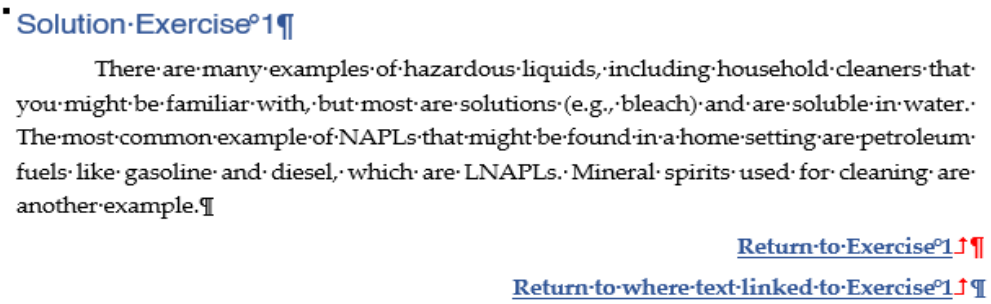
¶

Exercise·4↴·asks·the·reader·to·use·the·information·presented·in·Table·1·and·Table·2·to·calculate·the·minimum·volume·of·water·required·to·dissolve·an·organic·solvent·and·a·chlorinated·solvent.¶

b) In the Exercises section, the links look like this:



c) In the Solution to Exercises section, the links look like this:



17.3.4 Text and Arrows for Linking Exercises and Solutions

In this next part of the section, we provide the text and arrows to indicate navigation. For authors' convenience, the text and arrows to insert are duplicated here as well as in other sections of this guide.

The instruction in Section 11 *Cross Referencing* will enable you to easily insert these links and bookmarks. Check that a link is provided from each exercise to its solution and that a return link is provided at the end of the solution to go back to the exercise. If such links do not exist, add them in the proper format as described in Sections 11.2 and 17.3.

This is the correct wording to use in the links. The placement is at the end of the Exercise or Exercise Solution, is right justified and in bold, and the arrow is inserted that indicates whether the reader is moving up or down through the book.

Solution to Exercise 5 ↓

Return to where text linked to Exercise 5 ↑

Solutions to Exercise should have these links, placed at the end of the phrase Exercise Solution as were the links for Exercises:

Return to Exercise 5 ↑

Return to where text linked to Exercise 5 ↑

Table 10 shows the symbols and text used for internal links.

Table 10 - Internal links: Symbols and text.

Link type	Symbol	Example of the format to use
Internal link DOWN to the Exercise from its first mention in the running text	↴	Exercise 1↴
Internal link DOWN to the Solution from the Exercise	↴	Solution to Exercise 1↴
Internal link UP from Solution to Exercise	↥	Return to Exercise 1↥
Internal link UP to return to main text where Exercise is first mentioned	↥	Return to where text linked to Exercise 1↥

17.4 Links to External References and Resources

When linking an external source from the text of the book (e.g., a link to a web page, software, or a video) the following symbols are used. The text should remain underlined, but changed to black, rather than blue, to avoid distracting the reader: https://GWProject.org/↗. The arrow remains red. However, the text is blue in the References section as shown in Table 11. If linking to the book's GWP webpage, such as for additional resources for the reader, use a blue arrow: for example, CPT/DP logs↗.

Table 11 - External links: Symbols and format.

Link type	Symbol	Example of the format to use
Link within text to an external website, software, or video	↗	https://GWProject.org/↗
Link within text to a dataset on the book's web page	↗	CPT/DP logs↗
Link within text to a YouTube video (external web page)		**https://youtu.be/dqalZnYWMdA?t=139▶**
URL link in the References section	↗	Kuniansky, E., Taylor, C. S., Williams, J. H., & Paillet, F. (2023). *Introduction to karst aquifers*. The Groundwater Project. https://GWProject.org/books/introduction-to-karst-aquifers/↗.
DOI link in the References section	↗	Farrow, C., & McBean, E. (2016). Human health risk assessment: Arsenic exposure risks in Bangladesh. *Journal of Environmental Science and Engineering Technology*, *4*(1), 22–28. https://doi.org/10.12974/2311-8741.2016.04.01.3↗.

18 More About Figures

18.1 Figure Images

As described in Section 2 *Tenets for Authoring GWP Books*, figures or visualizations play an essential role to improve the reader's experience and understanding. We strongly recommend that you to go back to the tenets in Section 2 before continuing to read this section.

We also recommend that:

1. At least 60 percent of the visualizations should be original or adapted rather than taken directly from other work. Please keep in mind that figures, photos, maps, and any other images that were not created by the author(s) for the GWP book need to have their source cited in the caption. If they are original to this work, we will add a note to the *Acknowledgments* section to let the reader know that any figures without citations are original to this book.

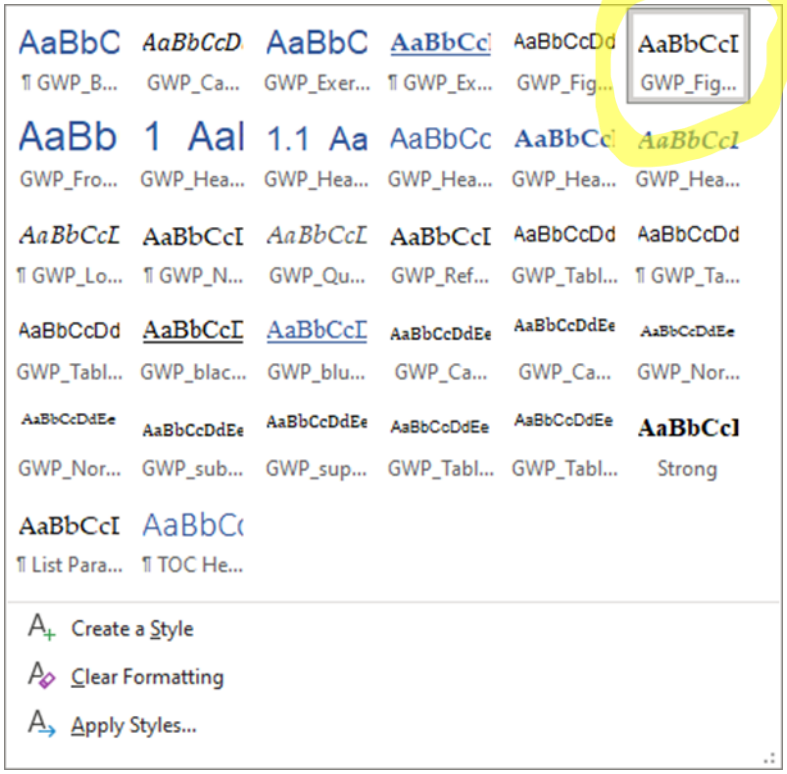
   The figure's source (citation) should be identified as follows:

   - **reproduced from**: The figure is exactly as originally published (i.e., either the exact.jpeg, or other, picture format, OR a snipped/captured image, OR a photograph of the original);
   - **modified from**: Changes were made to an original figure, but the figure was not redrawn;
   - **modified from** and **annotated**: Changes were made to an original figure and text is added to clarify something, but the figure was not redrawn;
   - **redrawn**: The figure was redrawn exactly as the original (e.g., this may be done to improve quality of the available image);
   - **redrawn and annotated**: The figure was redrawn exactly as the original and text was added to the redrawn figure;
   - **redrawn and modified**: The figure was redrawn and changes were made to enhance clarity or draw attention to something specific in the figure;
   - **redrawn**, **modified** and **annotated:** The figure was redrawn, changes were made to enhance clarity or draw attention to something, and text was added; and/or
   - **inspired by**: The figure was created based on an existing figure but is far from a replica, rather was inspired by the cited figure.
2. Illustrations should be high quality (at least 300 pixels per inch/120 pixels per centimeter) and at least 900 pixels wide if possible. Pre digital era photographs can be professionally digitized or a photograph of the photograph can be taken with a good camera. Text in illustrations should be readable at a 100 percent page view.

You can determine the number of pixels in an image on a windows computer by right clicking on an image, selecting properties and going to details. On a MAC, right click the image and select *Get Info*. A pop-up window will open with the dimensions of your image displaying in the *More Info* section. The dimensions show the pixel height and width of your photo. On a Windows computer, right click the image and select *Properties*. Under the *Details* tab you will find the pixel information for your image.

3. Each figure should be inserted (not pasted) into the document as only one image file. If an author has inserted more than one image or included any word annotations or place the materials in a text box, the materials should be saved from the document, inserted in PowerPoint, arranged appropriately, have letter labels added if needed for multiple part figures, and *snapped* as one image. That snapped image should be inserted in the document and if the figure has multiple parts these letters should be used in the caption.

4. Click on the Figure caption and choose GWP_Figure_Caption from the Style list. Then click on the image and choose GWP_Figure_Image from the Styles list:



18.2 Parts of Figures and Other Details

Specific details related to parts of figures and other details are provided in the following instructions.

- When letters are used to define multiple parts of a figure, they should be in lower case and followed by a close parenthesis: a) b) and c).
- Where the text and captions use the letter to refer to a part of a figure, the letter should be lower case. When mentioned within a paragraph in the running text, multiple part figures should be referred to as "Figure 1a", "Figure 4b", and so on.
- Parts of the figure should be arranged to make efficient use of space.
- If there are multiple parts, it is better if the figure is wide rather than tall, as long as the details can be read.
- If the book uses an image from another source that is labeled with non-metric units, add text labels to provide metric units. In cases where this is not workable, a label can be added that provides the conversion or a graphical relationship between the units in the image and metric units. Alternatively, add the equivalents at the end of the caption in square brackets. For example: [1 in = 2.54 cm].
- Figures should not have titles at the top as is often done in presentation slides. Such information should be presented in the text or the figure caption.
- Each figure should be saved as a.png file with all surrounding white space trimmed as close as possible, then inserted (rather than pasted) into the MS Word document.
- Figures can be full width if the text is similar in size to the text of the book, otherwise make them smaller and center them. In that case, the caption is justified and is assigned left and right indents to give it the same width as the figure. Images should be no wider than 6.09 in/15.4686 cm.

18.3 To Insert Re-worked Figures

In the book production process, figures may sometimes require further editing to reach GW-Project standards. For example, text or images may need to be sharpened, labels may need to be redone, numerals may have missing commas, and so on. As the book is copyedited—before it goes to Eileen Poeter for her final review—the copyeditor will note any such work on the figures in the Comments and this will be sent on to the author and the image formatter for correction.

Once the corrections have been made, the copyeditor will insert the re-worked image into the running text as follows:

1. Copy the re-worked image from the folder provided by the image formatter.
2. To paste the new image into the running text below the original figure/above the caption:
   Insert>Picture>From Device.
   Select the figure/image.

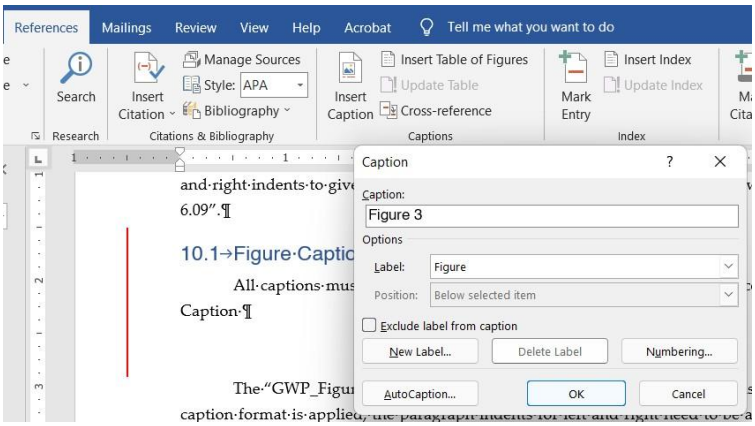
3. Check that it is correct. Visually compare the two images for spelling, correction of the issue that was noted, and general suitability of the re-worked figure (e.g., nothing is missing in the re-worked figure that should be in the image).
4. If the re-worked figure is correct and acceptable, delete the original image and place the re-worked image above the caption.
5. Adjust the caption margins as required.
6. Check the links are working.
7. Save your work.

19 Captions

In GWP books, captions for figures and tables are to be descriptive and detailed enough that they can stand on their own outside of the main text. However, the ideal caption only addresses one key piece of information.

19.1 Figure Captions

All figure captions must be inserted by going to MS Word ribbon: *References* > *Insert Caption* > *Label* > *Figure*.



Highlight the caption and apply GWP_Figure_Caption style. Adjust the paragraph indents for left and right to line up with the edges of the figure given the figure size. If the caption is only one line, then it should be centered.

The figure caption should look like this:

Figure 3 – Sample text here.

After applying the GWP_Figure_Caption style, activate the hidden characters by going to MS Word ribbon: *Home* > *Paragraph* > ¶ (pilcrow mark) to Show Hidden Symbols and follow these steps:

1. Insert a nonbreaking space after the figure number (shift/ctrl+spacebar).

2. Insert a nonbreaking hyphen (shift/ctrl+dash key).
3. Insert another nonbreaking space.
4. Highlight Figure # - in the caption and turn them to **bold** characters.

Figures should not have titles at the top like those typically at the top of presentation slides, rather the figure should be described by text in the preceding paragraph and in the caption. An example is provided below. Some adjustments will be made in the final layout editing to minimize white space at the end of pages. Do not be concerned with that while writing and editing.

Figures *must* be mentioned in the paragraph right before their occurrence in the book. For example, if the figure below would be used in a GWP book, the figure (Figure 19) is mentioned in this (the preceding) paragraph.

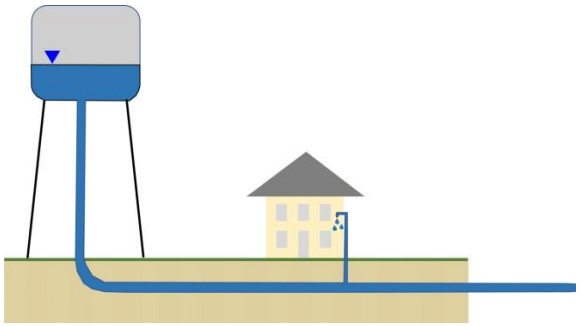
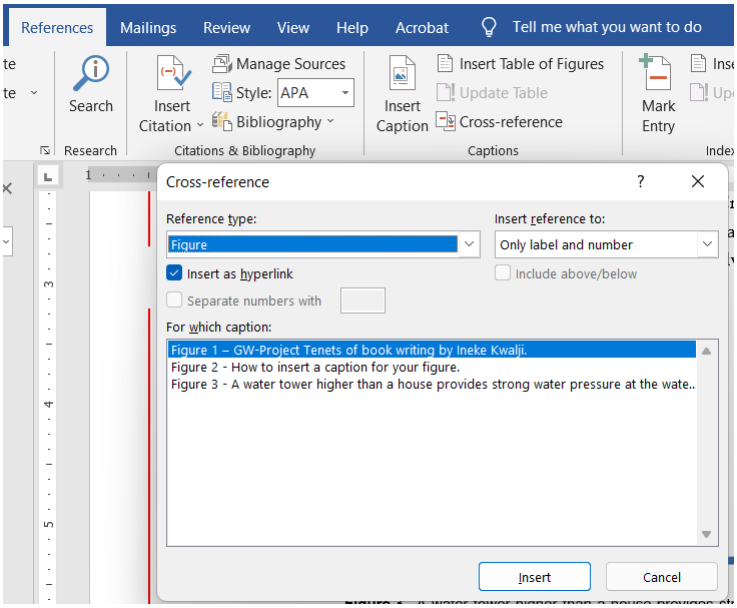


Figure 19 - A water tower higher than a house provides strong water pressure at the water taps, even though the water supply pipe is under the street level.

To insert the cross reference for this Figure 19, you would follow the instructions provided in Section 11 *Cross Referencing*.



However, if the Figure is in a Box (for example, if it is the third figure in Box 2), then it should be mentioned in the text of the Box as Figure Box 2-3 and the label should be as shown here. In the Boxes, Exercises, or Solutions sections, the text mention is not cross referenced to the table or figure. Note how the label and number indicate it is in a Box:

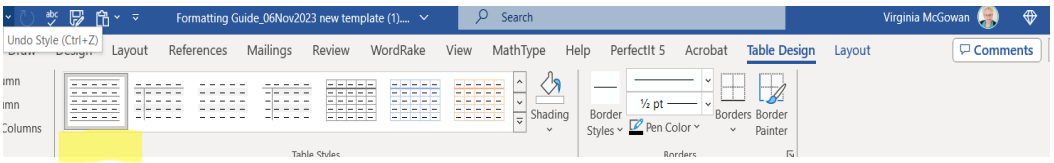
> **Figure Box 2-3 -** A water tower higher than a house provides strong water pressure at the water taps, even though the water supply pipe is under the street level.

19.2 Format for Tables and Table Captions

19.2.1 Basic table structure

After inserting or pasting a table (*Insert* > *Table*), select all of it. A tab called *Table Design* will appear in the MS Word Ribbon (right, in blue). Follow this sequence of steps: *Table Design* > *Table Styles* gallery then click on the selection for GWP_Table without column lines as shown below (NOTE: The table tools only appear after selecting all or part of a table).

Click on the arrow in the lower right corner of the Table Styles window that appears when you select *Table Design*. Select the Table style shown in this screen shot (i.e., with row dividers but no column dividers showing, shown over the yellow highlight). The sequence of steps is *Table Design* > *Table Styles* > *select the desired style*. You may need to use the down arrow in the Table Styles window (lower right side) to reveal more choices.



Your table should now look like this (if it is a three-column style):

After that, select the entire table and apply the GWP_Table_Contents style. If needed, you can also use GWP_Footnotes at the end of the table to format table footnotes as shown in the example below.

19.2.2 Placement of table captions

Just like figures and equations, tables are numbered sequentially through the book. Insert the caption right *above* the table and go to MS Word ribbon: *References* > *Insert Caption*

> *Label* > *Table* (see also Section 10 *Adding Captions for Figures or Tables).* This will help later if you need to insert a List of Tables right after the Table of Contents.

Table captions should always be placed above the table and follow the same formatting guidelines as figures. Examples of how tables should look are shown below (Table 12, Table 13, and Table 14). When you finish writing the caption, highlight it and go to GWP_Styles and select either GWP_Table_Caption_Centered or GWP_Table_Caption (for non-centered captions). Leave one blank line after a table before resuming the main text.

Table 12 - Example of a table with a short title so GWP_Table_Caption_Center is used.

Title 1[1]	**Title 2**[2]	**Title 3**[3]
Insert the text into the table	Insert the text into the table	Insert the text into the table
Insert the text into the table	Insert the text into the table	Insert the text into the table
Insert the text into the table	Insert the text into the table	Insert the text into the table.

[1] Just in case you need a table footnote.

[2] Just in case you need a table footnote.

[3] Just in case you need a table footnote.

Table 13 - Example of a table with a long title that requires more than one line of text; consequently, the style titled GWP_Table_Caption is used.

Title 1	**Title 2**	**Title 3**
Insert the text into the table	Insert the text into the table	Insert the text into the table
Insert the text into the table	Insert the text into the table	Insert the text into the table
Insert the text into the table	Insert the text into the table	Insert the text into the table.

If a short table does not fit on one page, insert a page break above it.

The next example shows a table that is narrow with a long title.

Table 14 - Example of a narrow table that needs to be centered on the page. The long title requires the standard GWP_Table_Caption, but the margins need to be adjusted to be the same width as the table.

Title 1	Title 2	Title 3
Insert a long line of text into the table as in this example with multiple lines as needed.	$a^2 + b^2 = c^2$	Insert bullets or numbered bullets as needed into each cell: this is bullet 1; this is bullet 2; and this is bullet 3.
Insert a long line of text into the table as in this example with multiple lines as needed	$a^2 + b^2 = c^2$	Insert bullets or numbered bullets as needed into each cell: this is number 1; this is number 2; and this is number 3.
Insert a long line of text into the table as in this example with multiple lines as needed	$a^2 + b^2 = c^2$	Insert the text into the table.

19.2.3 Longer tables

If a long table does not fit on one page, first consider if some minor adjustments of the layout of the contents of the table would allow the table to fit on one page. If not, break the table into as many pieces as needed so it will fit on separate pages with a "continued" version of the caption (select the entire caption row and next row, then select *Layout* from the MS Word ribbon and click on *Repeat Header Row*).

The formatter's judgment should be used to decide if a page break will be used before the long table. This is an aesthetic decision that depends on how much white space would be created on the first page and how much of the table will occupy the last page that the table appears on. Scroll down the table that follows and notice how the column headings automatically repeat on the second page.

Tables longer than two pages are to be inserted as a Box. Table 15 provides an example of a table that is longer than one page.

Table 15 - Example of a table that is longer than one page. A "continued" version of the caption needs to be included and the table header needs to be repeated.

Title 1	**Title 2**	**Title 3**
Insert a long line of text into the table as in this example with multiple lines as needed.	$a^2 + b^2 = c^2$	Insert bullets or numbered bullets as needed into each cell: this is bullet 1; this is bullet 2; and this is bullet 3.
Insert a long line of text into the table as in this example with multiple lines as needed	$a^2 + b^2 = c^2$	Insert bullets or numbered bullets as needed into each cell: this is number 1; this is number 2; and this is number 3.
Insert a long line of text into the table as in this example with multiple lines as needed	$a^2 + b^2 = c^2$	Insert the text into the table.
Many more rows	More equations	More text
Many more rows	More equations	More text
Many more rows	More equations	More text
Many more rows	More equations	More text

Title 1	Title 2	Title 3
Insert a long line of text into the table as in this example with multiple lines as needed.	$a^2 + b^2 = c^2$	Insert bullets or numbered bullets as needed into each cell: this is bullet 1; this is bullet 2; and this is bullet 3.
Many more rows	More equations	More text
Many more rows	More equations	More text
Many more rows	More equations	More text
Many more rows	More equations	More text
Many more rows	More equations	More text
Many more rows	More equations	More text

19.2.4 Table borders

GWP book tables do not have any vertical borders. Horizontal borders should be thin lines, and if the table has only a small amount of information the horizontal lines should be omitted so it will be more appealing to the eye as shown below. Heading labels should be bold. There should not be a space between the table caption and the table. An empty line should be added right after the table, after which the running text should continue.

Table 18 - Example of a table with minimal information so horizontal lines are removed and the contents are centered within the columns.

Title 1	Title 2	Title 3
text	text	text
text	text	text
text	text	text

19.2.5 Inserting tables

Tables are sometimes created in MS Excel or scanned as images and then pasted into the MS Word doc. Be sure that the table can be edited within the document. If the table is a in image, it must be converted to an editable text by either:

- using an OCR (Optical Character Recognition) tool or app (we suggest saving the image to your Google Drive folder and then opening with Google Docs, which will automatically convert the image in an editable text in a new documet as shown at https://www.youtube.com/watch?v=EFrPSDWb0LI); or,
- remaking the table by typing the text manually.

20 Equations

All equations are input using the table format shown in Section 20 *Equation*s. The table in 20.1 shows the outline of the table for clarity while 20.2 shows how the equation table will look in the document without the borders showing ("invisible table"). Some authors might find it easiest to copy an equation table and replace its contents, adding or deleting rows as needed. Box 3 – Template for Copying Cross Reference for Equations provides guidance on how to insert a cross reference between the mention of the equation in the text to the number (#) in the invisible table with the Equation.

20.1 Minus Signs

If you use the minus sign from your keyboard, it can be difficult to see, especially in super- or subscripts; for this reason, we not only raise or lower the power by selecting x_2 or x^2 from the *Home* > *Font* pane, but also raise or lower it by a further 1.5 pt and increase the font size by one as shown here: 10^{-5}. In a table, this would be in Helvetica font and would look like this: 10^{-5}. This is explained in detail in Section 15 *Adjusting Superscripts and Subscripts*.

However, where the minus sign occurs in front of a number in the main text and is meant to indicate a negative value (e.g., minus 5), the keyboard minus sign is the same as a hyphen (-5). One solution is to use Equation Editor but not raise the font to Cambria Math 12 pt font as a minus sign in 12 pt font in the main text is easily confused with either an em (—) or en (–) dash. Instead, lower it to Cambria Math 9 pt font.

Here are examples for comparison:

–5 (minus sign in 9 pt font, Cambria Math)

-5 (keyboard minus sign)

–5 (en dash, Palatino Linotype 11 pt font)

—5 (em dash, Palatino Linotype 11 pt font)

The context will likely clarify if the dash is an en dash (–) or not as it is used to indicate a range (meaning "from x through to y" or "from DATE through to DATE").

20.2 Equation Formatting

Some things to note include:

1. Equations are set off from the paragraph text and numbered. The MS Word equation editor should be used with the default font (*Cambria Math italics*). Raise the font to 12 pt and place the number in parentheses (round brackets).
2. To ensure proper vertical alignment within the page layout, set the paragraph spacing for the equation table to 6 pt before and 6 pt after. This spacing helps visually center the equation on the page and maintain consistent spacing throughout the document.

3. When symbols from an equation are used in line within a paragraph of text, they should be adjusted to be more similar in size to the text font—for example, *Cambria, 11 point, italics,* not Cambria Math, because in a paragraph Cambria looks more like the equation font.
4. When symbols from an equation are used in line within a paragraph of text, subscripts and superscripts need to be adjusted as described in Section 15.
5. If the parameter symbol written in line with text is a special character, insert it as a special character (rather than an equation) unless its complexity prevents doing so. For example, if the symbol has multiple subscripts (e.g., a sub-scripted subscript such as S_{x_1}) then it needs to be written in Equation Editor: S_{x_1} so the sub-subscript is clear. As another example, it is not possible to enter S^y with y as a superscript if there is also a subscript using standard text. This is because the subscript and superscript will not overlie one another and will look offset like this: $S_x{}^y$. Using Equation Editor yields this favorable result: S_x^y.
6. Inseparable spaces and hyphens are used when the equation is referenced in the text to avoid splitting up the word "Equation" and the relevant number. Examples are: Equation (12) and Equation Box (3-2) that are written with nonbreaking spaces and hyphens.
7. Note that equation "tables" are not captioned as a table. The table format is used so equations look uniform throughout the documents rather than having rules for indentation and spacing. Use of a table also wraps text to accommodate long definitions in parameter lists (Section 20 *Equations*).
8. The first part of the equation has an empty left cell, a centered equation in the center cell, and a right justified number enclosed by parentheses in the right cell.
9. Define the parameters in a second table following "where:" as opposed to writing them out in a paragraph.
10. Parameters need to be listed after their corresponding equation the first time they appear in the book. If a parameter was defined for a previous equation, it should not be defined again for later equations. Only the new parameters should be listed after subsequent equations.
11. In the table that follows the equation and defines parameters (after "where:"):
    a. The left cell contains the parameter right justified, aligned at the top of the cell and inserted as a special character unless its complexity prevents doing so (see bullets 2 through 4 of this list);
    b. The central cell contains an equal sign that is centered horizontally and aligned with the top of the cell;
    c. The right cell contains the explanation starting with a lower-case letter unless it is a proper noun;

d. Use special characters rather than an equation if possible and including the proper dimensions in a combination of L, M, and T; the explanation is left justified and aligned with the top of the cell; and,
e. Subscripts and superscripts need to be adjusted to match the Equation Editor spacing. Information on formatting superscripts and subscripts is provided in Section 15 *Adjusting Superscripts and Subscripts.*

20.3 Example of an Equation and Parameter List with Visible Table Borders

This example of an equation with visible table borders would be mentioned in the preceding paragraph as Equation (2), which would be cross referenced to the (2) in the extreme right side cell of the equation table and is followed in this case by a parameter list.

In the parameter list, line up the vertical lines on either side of the equals sign with 2 and 3 cm in the ruler. That will allow for sufficient room in the parameter definition column for longer explanations.

	$Q_{total} = K\, H_{n_d}^{n_t} w$	(2)

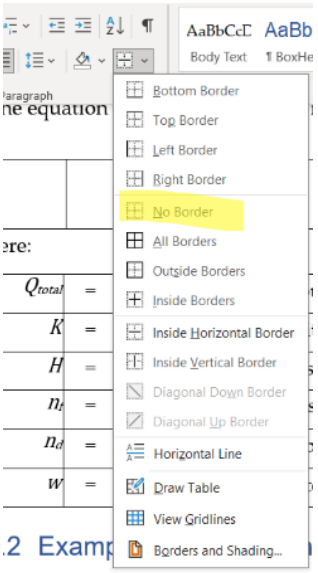
where:

Q_{total}	=	volumetric flow through the system (L^3/T)
K	=	hydraulic conductivity of the porous medium (L/T)
H	=	total head drop across the flow net domain (L)
n_f	=	number of flow tubes in the flow net (dimensionless)
n_d	=	number of head drops in the flow net (dimensionless)
w	=	distance that the system extends into the drawing (L)

20.4 Example of the Same Equation and Parameter List Without Visible Borders

The following example shows how the same equation table will appear in the text when the table is formatted to have *No Borders* selected from the dropdown menu that appears from *Home* > *Paragraph* >  .

The same selection for table borders can be seen by highlighting the Table and right clicking. A tool bar will appear with the same icon. Click to open it and select *No Border*.



$$Q_{total} = K\, H_{n_d}^{n_t} w \qquad (2)$$

where:

Q_{total} = volumetric flow through the system (L^3/T)

K = hydraulic conductivity of the porous medium (L/T)

H = total head drop across the flow net domain (L)

n_t = number of flow tubes in the flow net (dimensionless)

n_d = number of head drops in the flow net (dimensionless)

w = distance that the system extends into the drawing (L)

The text of the book continues directly below the equation table as shown by this sentence. If the next sentence is a new paragraph, then it is indented, while if it is a continuation of the paragraph before the equation, it is not indented.

20.5 Writing Out Values and Equations in the Main Text

When writing out values and equations in the main text, please note the following:

- As an abbreviation for liters, use the capital L, not the lower case l. The latter is difficult to differentiate from the number 1 in either Palatino or Helvetica font. Thus, we write 15 L/s not 15 l/s.
- For equations such as 18 times 10^{-3},
  1. Insert the keyboard x.
  2. Use the keyboard minus sign and number 3: -3.

3. Raise and increase the font size of the -3 superscript by highlighting *Home* > x^2 > *Font* > and select Font size 12 (Palatino) or 10 (Helvetica) > *Advanced* > *Raised* > Raised by 1.5 pt > *OK* (as in Section 15 *Adjusting Superscripts and Subscripts*).
4. Do NOT add spaces on either side of the x.
5. You should see this equation formatted as follows: $18x10^{-3}$

21 Notations Section

If the book has more than one or two equations, a Notations section should be added prior to the Section *About the Author(s)*. This section has a level 1 heading followed by a blank line and then a table with symbols in the left column and descriptions in the right followed by dimensions inside parentheses, (L^3T^{-1}), remembering to raise or lower super- and subscripts by 1.5 pt and increase font size from 11 to 12.

The left column is alphabetized by mixing Roman and Greek letters. One way to build the notation table is to paste all the lists of variables that follow "where:" in the book into a spreadsheet. Alternatively, you can simply create a three-column table in MS Word *Insert* > *Table*, populate the cells as required, then copy the entire table and paste it into the book document.

Any item in the left column that is bit map should be changed to characters and symbols. An equation should only be used if the variable cannot be typed as characters and symbols (for example a letter with a bar or arrow above it must be created using an equation). A few examples are given in the template.

The easiest way to alphabetize such a mix of letters is to make an additional temporary column in the spread sheet where the English word is given for the Greek letter and that column is used for alphabetizing. For example, alpha for α, eta for η, delta h for Δh, mu for μ, and nu for ν, and so on. A pdf showing the names and alphabetical order of Greek symbols (Roman&GreekAlphabet.pdf) is provided under supplemental material on the formatter's web page https://author.gw-project.org/↗. Note that Equations Editor has a list of Greek letters you can insert.

Notations sections do not have visible borders, but the list is single spaced with 3 pts before and 9 pts after each paragraph, providing plenty of space to make it easy to read. Capitalize the first letter of the definition and add dimensions if applicable. This example is excerpted from the GWP book *Age Dating Young Groundwater: How to Determine Groundwater Age from Environmental Tracer Data*↗ (Solomon & Gilmore, 2024).

Notice that the first letter in the definition of each parameter is capitalized and the left-side column is in alphabetical order.

Example of a Notations Section (Solomon & Gilmore, 2024).

2 Notations

A	=	Volume of gas trapped in the porous media per unit mass of water (ccSTP/g)
A	=	Volume of gas trapped in the porous media per unit mass of water (mol/kg)
A'	=	Amount of excess air dissolved per unit mass of water (mol/kg)
A'	=	Amount of excess air in units consistent with C_i (e.g., ccSTP/g)
Age	=	Elapsed time since groundwater recharge (i.e., exposure to atmosphere)
Age_{min}	=	Minimum age of the sample
C	=	Aqueous concentration (mol/kg)
C_o	=	Concentration at an arbitrary time; a convenient choice is 1950 when the precipitation ^{3}H record begins after 1950
C_{Ar}	=	Concentration of Ar in water
$C_{background}$	=	^{3}H concentration in precipitation at the time the sample was collected
C_i^{water}	=	Concentration of gas i in the water phase (moles/L)
C_i	=	Concentration of gas i in the water phase (moles/L)

22 Boxes and Exercise Solutions - Examples

Boxes include supplemental material such as more detailed discussion of important topics, derivations of equations found in the main text, or data. These items might be called appendixes in other books, but in Groundwater Project books they are called Boxes. Boxes have the same format as the main body of the book, with the exception of figure and equation numbering and must always be named.

Figure and equation numbers are given the prefix "Box" (with a nonbreaking space between the word Box and Figure or Equation and a nonbreaking hyphen between the numbers) to distinguish them from the main text. For example, the third figure in Box 2 is Figure Box (2-3) and the sixth equation in Box 2 is Equation Box (2-6).

To create the cross references from the narrative text to the equation number, follow the same steps provided in Section 8.9 Cross Referencing for cross referencing from the mention of the Equation in the preceding paragraph. You will not need to link to a mention in the main body of the book, just to the paragraph mention in the Box.

Insert the equation number in the right column of the invisible table you created to insert the equation. Use a nonbreaking hyphen. This example is the first equation for Box 1 and is described in the running text as Equation Box (1-1). The next would be (1-2) and so on. Similarly, the first equation in Box 2 would be labelled Equation Box (2-1). The first and third columns should be of equal width so that the Equation is centered.

blank	Equation goes here, centered	(1-1)

In the narrative text just above the equation, reference the equation as Equation Box (1-1) with nonbreaking spaces and hyphen in a sentence that ends with a terminal period: "…as shown by Equation Box (1-1)."

22.1 Example of a Box

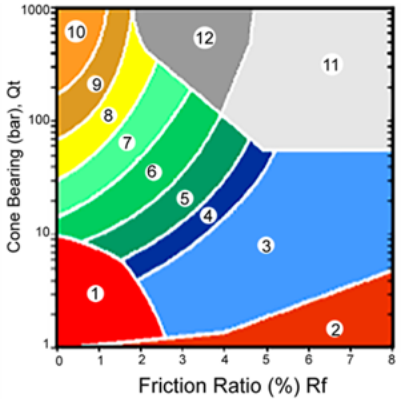
This section illustrates an internal link of a GWP book. When working in an MS Word document, to follow a link one depresses and holds down the control key on the keyboard, then hovers over the link with the cursor until it looks like a finger, then clicks to follow the link. Once the document is saved as a PDF file the links work without using the control key.

This example of a Box with a Figure was drawn from the 2023 GWP book *Geophysical Logging for Hydrogeology*↗ by John H. Williams and Frederick L. Paillet.

Box 1 - Cone Penetration Testing for Geotechnical Investigations

The Cone Penetration Test (CPT) method is widely used to identify conditions in the upper 30 m (100 ft) of the subsurface. Sensors on the cone measure tip resistance and sleeve friction as the cone is pushed into the ground. Tip resistance (Qt) is determined by the force required to push the tip of the cone. Sleeve friction (Fs) is determined by the force required to push the sleeve through the soil. Both are measured in tons per square foot (tsf), kilogram force per square centimeter (kgf/cm^2), or bar units. The friction ratio (Fr) is the ratio between sleeve friction and tip resistance as a percentage.

By using standard engineering correlation charts like that shown in Figure Box 1-1, soil behavior type (SBT) can be inferred from the CPT log measurements. Identification of sensitive fine-grained soils that are susceptible to liquefaction is important for geotechnical investigations of earthquake and landslide hazards.



ZONE		SBT
1		Sensitive, fine grained
2		Organic materials
3		Clay
4		Silty clay to clay
5		Clayey silt to silty clay
6		Sandy silt to clayey silt
7		Silty sand to sandy silt
8		Sand to silty sand
9		Sand
10		Gravely sand to sand
11		Very stiff fine grained*
12		Sand to clayey sand*

*over consolidated or cemented

Figure Box 1-1 - Classification of soil behavior types (SBT) based on cone penetration testing (CPT) (Robertson, 1990).

Return to where main text linked to Box 1

22.2 Example of an Exercise Solution

This example of an Exercise Solution was also drawn from Williams and Paillet's 2023 publication *Geophysical Logging for Hydrogeology*. In addition to illustrating the links from the Solution to the Exercise and from the Solution to where the text is linked to the Exercise, this example also includes links to an external database as indicated by the blue arrow.

Solution Exercise 2

The solution is available here, [Answer=Gamma&FilterPlots tab] on the Excel spreadsheet. Your raw gamma and filtered gamma plots should look something like these plots. If your plots do not look like this, check the formula used in column C to apply a filter.

Try different ranges in your averaging filter. For a more advanced filter, you can use the AVERAGEIF function in Excel to omit the ≈9999.0 values that indicate missing values with =Averageif(range to average, ">0").

Return to Exercise 2

Return to where text linked to Exercise 2

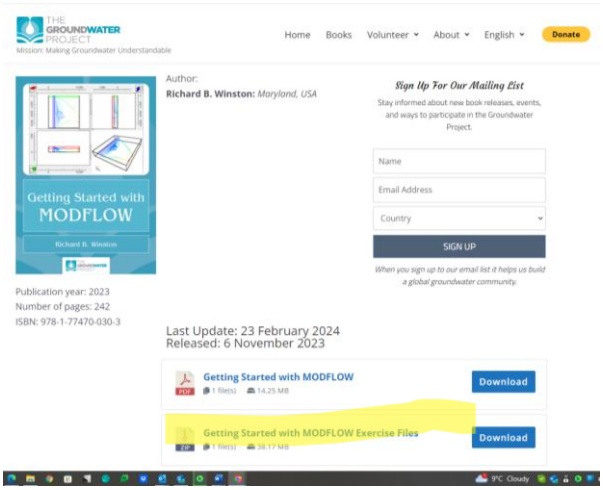
23 Supplementary Materials for the Readers

Supplementary materials should be in a zip file and should not include any descriptive text. The supplement should contain files such as spreadsheets, model input and output files, computer software, and similar items. The supplemental files will be found on the same Groundwater Project web page as the book.

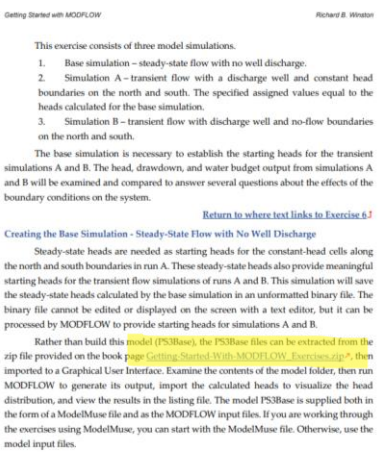
All descriptive material should be in the book, which will have a link to the supplementary files.

If an author wishes to include files in the supplemental material, this information should be put into a Box within the book. The box will describe the files and how to use them, as well as provide links to the files. For example, the 2023 GWP book *Getting Started with Modflow* by Richard D. Winston includes supplemental zip files that contain the MODFLOW executable, input, and output files related to a case study example and three exercises, but the descriptive material is presented in the book in Box 3 and the Exercises. This is how it looks a) on the GWP book webpage and b) how the link appears in the book:

a) The book's webpage, showing the download to supplementary materials.



b) Where the supplementary materials link to the webpage appeared in the book.



Getting Started with MODFLOW — Richard B. Winston

This exercise consists of three model simulations.

1. Base simulation – steady-state flow with no well discharge.
2. Simulation A – transient flow with a discharge well and constant head boundaries on the north and south. The specified assigned values equal to the heads calculated for the base simulation.
3. Simulation B – transient flow with discharge well and no-flow boundaries on the north and south.

The base simulation is necessary to establish the starting heads for the transient simulations A and B. The head, drawdown, and water budget output from simulations A and B will be examined and compared to answer several questions about the effects of the boundary conditions on the system.

Return to where text links to Exercise 6.1

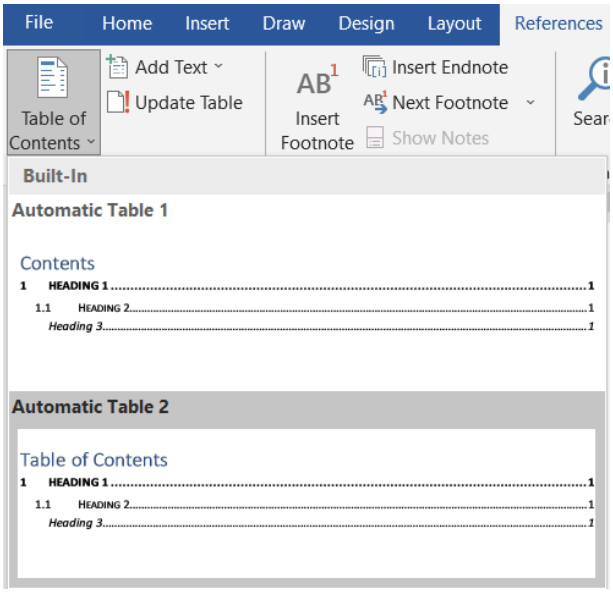
Creating the Base Simulation - Steady-State Flow with No Well Discharge

Steady-state heads are needed as starting heads for the constant-head cells along the north and south boundaries in run A. These steady-state heads also provide meaningful starting heads for the transient flow simulations of runs A and B. This simulation will save the steady-state heads calculated by the base simulation in an unformatted binary file. The binary file cannot be edited or displayed on the screen with a text editor, but it can be processed by MODFLOW to provide starting heads for simulations A and B.

Rather than build this model (P53Base), the P53Base files can be extracted from the zip file provided on the book page Getting-Started-With-MODFLOW_Exercises.zip*, then imported to a Graphical User Interface. Examine the contents of the model folder, then run MODFLOW to generate its output, import the calculated heads to visualize the head distribution, and view the results in the listing file. The model P53Base is supplied both in the form of a ModelMuse file and as the MODFLOW input files. If you are working through the exercises using ModelMuse, you can start with the ModelMuse file. Otherwise, use the model input files.

24 Inserting and Updating Table of Contents

The table of contents (TOC) is created automatically from the headings in the book. Place the cursor on the page/paragraph destinated to accommodate the TOC. Then go to MS Word ribbon *References* > *Table of Contents* button on the far left and select Automatic *Table 2*.



When you are finished writing and formatting, the last step should be to update the TOC. To do this, locate the cursor anywhere in the table and right click, then select *Update The Entire Table*.

Then manually add a space between the TOC heading and the first item of contents and delete the ghost word lines (invisible text) from the TOC. They will still be visible in the navigation pane.

25 Modifications to Revised Books

When a book is revised, the revision number and date is added to the bottom right of page ii below the publisher in Benguiat BQ 9 pt font as shown in the box below.

The Groundwater Project
Guelph, Ontario, Canada
Version 2, August 25, 2022

A list of modifications is required for revisions of a book that has been published. It is important to carefully note modifications as they are made so each change can be shown in the section. The box at the end of this subsection displays the layout and fonts that should be used in the modification section.

The modification section is preceded by a section break. Page numbering for this section is capital letters starting with A.

The section title is assigned an unnumbered, level-1 heading titled Modifications to Original Release. The page numbers refer to page numbers in the previous version of the PDF. The section may have one or both of the bold subheadings "General changes" and "Specific changes". An example is shown at the end of this section.

The content is fully justified paragraphs separated by a blank line with no space before or after the paragraph and single line spacing with Palatino Linotype size 11 pt font. Two blank lines will occur above the "Specific changes" section heading.

If appropriate, a first paragraph similar to that of the general section (as shown in the box below) will be included. Only include items that actually changed in the book; however, it is not necessary to list every general item that was changed. A paragraph of this nature is almost always needed because there are generally items where the overall formatting can be improved but it is not necessary to note each of the pages where the change is manifested.

If you have trouble deciding whether an item belongs in the general section, consider whether it would be noticeable to the reader. For example, a slight change to the format of a subscript or superscript should not be mentioned (e.g., lowering or raising by 1.5), but changing an item from normal text to a subscript or superscript should be mentioned in the specific section because this would not only be readily visible to the reader but may also affect the reader's understanding of the material.

Items in the specific section always begin with the full word "page" in lower-case letters followed by the page number and a comma before the change is described. The descriptions are generally not complete sentences. They start with a lower-case letter and do not have a period at the end. The page number is that of the PDF of the previous version.

An example of a Modifications page follows..

Example of a Modifications Page.

Modifications to Original Release

Changes from the Original Version to Version 2

Page numbers refer to the PDF of the original version

General changes

Formatting changes were made such as: adjustment of margin width in some sections; small adjustments of the width of some captions, figures, and tables; title, author and copyright pages were added to the table of contents; sections start on a new page; Modification Section was added; and the Table of Contents was updated.

Specific changes

page iii, number of pages in the book was updated

page vi, the List of Figures was removed

page 10, the phrase "in response to geologic considerations" was added to the 3rd paragraph

Changes from Version 2 to Version 3

page numbers refer to the PDF of version 2

General changes

xxxxx

Specific changes

xxxxx

26 For Editors

As an editor for the GWP, you may apply stylistic editing and copyediting to an assigned book. You will receive instruction from the project manager on the level and type of editing required for any given document. In stylistic editing (sometimes called *line editing*), editors scrutinize the text at the level of the sentence for factors that affect readability such as word choice, paragraph and sentence length; clarity, conciseness; consistency; flow; grammar and syntax; and repetition (such as word echoes).

- In copyediting (often called *rules-based editing*), editors also examine the text at the level of the sentence and word for readability factors such as paragraph and sentence length, clarity, repetition, consistency, word choice, punctuation and grammar, but also for standard and consistent spelling, grammar, punctuation, and formatting.

The book document you receive may not have any of the GWP formatting, in which case, start editing by importing the proper styles using the template as described in Section 6.5 *Importing Styles Using the DOT template*. If the document already has the proper styles, use the checklist in Section 26.2 to identify formatting problems and correct them.

26.1 Copyediting Task List

As copyeditor of a GWP book, you will apply rules-based editing at the level of the sentence and word to identify:

- paragraphs fully justified, consistently indented, and without blank lines
- appropriate paragraph and section breaks
- repetition of words or phrases (e.g., word echoes)
- clarity of meaning
- appropriate phrasing
- wordiness (e.g., 'in order to'→'to')
- accurate word choices (e.g., amiable versus amenable)
- readability of the text
- consistency and accuracy of details
- correct section sequencing and breaks
- correct punctuation
- similarities or differences in names or events
- standard and consistent spelling and punctuation
- standard grammar and syntax
- standard paragraph indentation
- clarity and readability of images and tables
- equations, reactions, and periodic table elements correctly formatted with Equations Editor
- superscripts and subscripts raised and lowered accurately and consistently

- accurate and matching intext citations and reference list entries
- references and intext citations correctly formatted in APA (2020)
- header and footer appears on each page
- page numbering is roman in the front matter then Arabic in the main body and back matter
- page numbering in the main body begins with 1 and then is continuous through to the end of the back matter
- correct format and GWP_Styles applied to tables, figures, equations, and parameter lists
- no orphaned lines, headings, captions, tables, figures, or equations
- correct and consistent adherence to GWP_Styles

Excellent resources for copyeditors are Einsohn and Schwartz's (2019) *The Copyeditor's Handbook: A Guide for Book Publishing and Corporate Communications* (4th edition), Cutt's (2020) *Oxford Guide to Plain English* (5th edition), and Sword's (2023) *Stylish Academic Writing*.

26.2 If You Need to Fully Format a Book

If the document has not yet been changed to the GWP template formatting, please follow these steps to effect that change.

1. Download the.dotm template file from the Resource Page for Authors↗.
2. Import the.dotm file as described in Section 6.4 *Importing Styles Using the DOT template*. This will change the styles to the GWP styles and give you a head start on changing the format to GWP format.
3. Go through the document, find each item that requires formatting and assign the appropriate style as explained in this guide.
4. The header should appear on each page like this:

   Title (no subtitle) Authors

5. The footer should appear on each page like this:

26.3 Detailed Final Editing Checklist

The list presented in this section can be used as a guide for your final checking of the formatting of a book to ensure that all aspects of the book use the appropriate GWP format.

This is a partial list because it is difficult to think of everything, so we add items as they occur to us and will update the formatting guide on the website.

If you think of items to add to this list as you do your editing work, please send them along with the edited file(s) and we will add them to this list. To facilitate moving to sections within this document, you can turn on the navigation pane by using *View > Navigation Pane.*

Final checklist for editors

Check	Instructions
Track Changes	Turn on track changes so that any changes will be visible, and you can communicate with the rest of the team and the author(s) about what you have done with the manuscript and what needs their attention. As the markups can be distracting while you do your work, you can go to *Review* and select *Simple Markup* from the dropdown menu.
Cover Page	Check that the title and subtitle and authors' names are spelled correctly, in the correct order and font, and with Title Case capitalization.
Copyright Page	a. Is the list of Groundwater Project Board Members up to date:? John Cherry, Shafick Adams, Gabriel Eckstein, Richard Jackson, Ineke Kalwij, Renée Martin-Nagle, Everton de Oliveira, Marco Petitta, and Eileen Poeter. b. Is the publication date accurate? Is the page count correct (i.e., does not include back cover)? c. Are the DOI and URL entered but not live? d. Is the citation in APA 7th edition style? e. Does the image credit include what, when, by whom?
All Contents	Confirm that all required sections of the book listed in Sections 4 and 7 are present.
Invisible Text	Confirm that invisible text elements are present on the Title page, Author page, and Copyright page (Section 9.1).
Groundwater Project Foreword	Check that the current GWP Foreword is inserted and the date at the end of this section is set to January of the year.
Preface	Check that the Preface includes clear and concise Learning Objectives.
Other Front Matter	Insert Donations page before Copyright page and ensure that appears in ToC
Add Comments or Queries	Add comments or queries for any item you are unsure about or revisions you wish to suggest by going to *Review > New Comment*.
GWP_Styles	Check that all styles are correctly applied to each piece of the document based on the styles explained in Section 6 and subsequent sections of this guide.
Headings	a. All headings are to be in title case with the first letter capitalized except for short words such as "a, the, for" and so on: Full Formatting with the GWP Template. b. For all headings, the correct level of GWP_Style is applied after highlighting the heading GWP_Heading_1, GWP_Heading_2, and so on. c. For GWP_Heading_1, go *Layout > Paragraph >Spacing* and check that Before and After are set to 0.
Extra Spaces	a. Check for extra spaces and remove them. One efficient way to do this is to make a global search for two spaces in sequence and replace them with one space. The *Replace All* button can be used again and again until all multiple spaces are found and changed to one space. b. Alternatively, PerfectIt software will complete this task.
Extra Punctuation	Check for extra punctuation as for extra spaces but with a search for two terminal periods in sequence to be replaced with one period. Alternatively, PerfectIt software will complete this task.
Lists	Check that GWP_List_Bullet or Numbered is applied to all lists, that the indentation is correct (i.e., lined up with paragraph indent), and correct punctuation is applied at the end of each list entry. Section 9.6 provides examples.
Blank Lines	Check for blank lines and remove them (e.g., after equations).
Nonbreaking Spaces and Hyphens	Ensure that nonbreaking dashes and spaces are used between the necessary words (e.g., Equation (1), Table 3, Figure Box 3-1, but not Figure 1). Section 9.8 provides further details on how and where to insert them. Non-breaking dashes/hyphens can be

Check	Instructions
	identified by increasing viewing to 150% or above (up to 170%) and turning on Show Hidden Symbols (Home>Page>¶), where regular hyphens are short and dark, but non-breaking hyphens appear longer and thinner.
Formatting Tables and Figures	Check that all tables and figures and their associated captions are correctly formatted as shown in Sections 3.3, 3.4, 9.8, 10,.and 18. If there are any problems with the figures, try to fix them yourself. a. A good procedure is to click on the figure and *Save As Image*, then insert the image in PowerPoint and use various tools to fix the problem. b. A common example is a figure with surrounding white space. In this case, after saving the figure, snap it without surrounding white space and reinsert it in the MS Word document. c. Another common example is authors using A, B, and so on for parts of a figure rather than a), b) and so on. In this case, you can paste a solid white text box over their label and add a text box of your own to insert a), b), and so on. Next, use a snapping program (HyperSnap is good because many adjustments can be made, if necessary, but other snipping tools may be sufficient) to snap an image of the PowerPoint slide using many dots per centimeter, then trim any surrounding white space and save as a.png to be inserted into the MS Word document. d. If they have inserted more than one image to create a figure, save each from the Word document and insert in PowerPoint and snap them as one image. Rearrange them if it provides a better appearance without altering the science. e. Sometimes units can be converted to SI with this procedure. f. Sometimes there are typographical errors that can be fixed with a text box. g. Sometimes the image is blurry, and you can clean it up by overlaying it with PowerPoint lines or by creating new text boxes and so on. Occasionally, you can download the publication it was taken from and snap a sharper version of the image and insert that. h. There may be other problems that are specific to individual books. i. Always send the PowerPoint and all the.pngs you create to the editor who will forward them to the Authors with the revised book for their perusal. j. Check that GWP_Table or Figure_Captions have been applied. k. For tables, check that GWP_Table_Contents has been applied. l. For figures, check that GWP_Figure_Image has been applied. m. Do captions and figure images separate across a page in any locations? These must be kept together. n. Provide a list of all Figure issues that need fixing by the formatting team when you submit the edited book (e.g., Figure 1 – labels need to be redrawn, hard to read; Figure 2 – fuzzy, can it be sharpened)
Boxes	a. Any appendices become Boxes. b. Tables longer than two pages are placed in Boxes. c. Check that Boxes do not use live cross references to the tables, figures, or equations included within them. d. Check that tables, figures, and equations in Boxes are written as follows: Figure Box 1-1, Table Box 1-1, Equation Box (1-1). e. Check that internal links to/from the main text mention are working. Only the first mention of a Box in the text is linked to the Box. f. Boxes should have this link at the end of each Box: Return to where main text linked to Box 5
Numbering of Tables, Figures, & Equations	a. Check that the numbering of tables, figures, and equations is in the proper sequence. PerfectIt software will check this; otherwise, you will need to do this manually. b. Check that each table, figure, and equation is mentioned by number in the paragraph preceding its occurrence and, if it is not, add a reference. This can be done by adding the words “as shown in Figure #” or “as shown in Table #” or “as shown by Equation (#)” at the end of a relevant sentence, or by adding (Figure #),

Check	Instructions
	(Table #) or (Equation (#)) at the end of a relevant sentence. However, the parenthetical form would not be used if the sentence ends with a ")" to avoid double parentheses. c. The sentence immediately prior to the table, figure, or equation should end in a period, not a colon.
Equations & Parameters	a. Check that each equation and its associated parameter definitions are formatted correctly, that is, italicized and formatted in Equations Editor b. Equations are set out in invisible three column table with equation centered in second column and (#) right justified in third column. c. Equation (#) is written with a nonbreaking space, appears in the final sentence of the preceding paragraph, followed by a terminal period, and (#) cross referenced to the invisible table number that corresponds to it (#) d. Check that each parameter is defined after the first equation in which it appears and deleted from later lists of parameters if it is defined again. e. If parameters are defined in the text of a paragraph, add "where:" and a three-column table of parameters and put the definitions in the table. Then delete the definitions in the paragraph. f. Check for equations in line with text in paragraphs and convert them to Equation Editor format (Sections 3.9 and 20). g. Adjust the size and position of superscripts and subscripts on parameters that are in line with text and the appear in equations as explained in Section 15.
Mathematical Operators	Check that operators such as minus, addition, and multiplication signs are inserted from Equations Editor, not the keyboard, and super- and subscripts are formatted correctly in the running text (Section 20). The exception is a value raised to a power, which should look like this example in the main text (Palatino Linotype 11 pt font): $18x10^{-3}$
Greek Letters	Greek letters are found in Equations Editor. If inserted in the main text, raise to 12 pt font.
Links to Boxes	Check that a link is provided from the first mention of a box in the text to the box and that a return link is provided to go back to the location where the text links to the box. If such links do not exist, add them in the proper format as described in Section 17.2.
Exercises & Exercise Solutions	a. If Exercises and Solutions are shown by section, they also need to be merged into the primary Exercise and Solution sections in our books b. Ensure there are no figure, table or equation numbers in Exercises and Exercise Solutions nor cross references to these elements when they appear within Exercises and Exercise Solutions.
Links to/from Exercises & Solutions	a. Check that a link is provided from each exercise to its solution and that a return link is provided at the end of the solution to go back to the exercise. If such links do not exist, add them in the proper format as described in Sections 11.2 and 17.3. b. Bookmark the mention of the Exercise in the text, the Exercise's heading in the Exercise section, and the Solution's heading in the Solution Exercise (e.g., Exer#Text. Exer#, and Exer#Sol). c. Ensure that the correct wording is used in the links and that the correct arrow format is inserted. Solution to Exercise 5↴ Return to where text linked to Exercise 5↑ d. For Exercise Solutions, each one should have these links: Return to Exercise 5↑ Return to where text linked to Exercise 5↑
More on Links	a. Check that all links are colored as required (black or blue) and the relevant symbols follow each link and are in the correct color (red or blue). b. Check that the links are functional and send the reader to the appropriate internal or external destination.

Check	Instructions
Cross References	Check that cross references have been applied correctly and are working properly (Section 11 and Box 6).
US Spelling	Check for words that should be in American English rather than British English. If you have PerfectIt software, set the language to US Spelling and the program will find any errors.
Dates	Check that dates are written 1950s, not 1950's, and that centuries are spelled out.
Temperature	Check that degrees are written out correctly (i.e., C+nonbreaking space+degree symbol: C °).
Reference List Entries	If References are broken out by section, they need to be merged into one section at the end of the book and duplicates removed. Always be diligent about APA 7th edition formatting for reference list entries (Section 8). Check that each URL or DOI at the end of a reference list entry is correct and the link is working. Always check the source information for journal articles. Check the spacing for journal article entries before a DOI and add a hard entry if necesary.
Reference List Entries versus Intext Citations	a. Check that all references cited in the text appear in the reference list. If they do not, add a comment for the AU and add the author/year at the appropriate location in the reference list. b. Check that every reference in the reference list appears in the text. Make note of those that you cannot find in the text using *Review* > *New Comment*.
Figure Citations	a. Check every figure image to see if there is a reference cited in the image. This can occur when a figure from another work is used. Authors often miss including these because they cannot be found by searching the document. b. When one is found to be missing, attempt to determine the citation and include it for the author's consideration. This can be done by finding the reference for the figure online, downloading it and finding the reference in the figure in the reference list of that document. c. Alternatively, query the author as to the source of the image. d. If images are original to the book, add a note to the Acknowledgments section that in the absence of a citation to a source for the image, they are original to the book.
Citation Format	Check that every citation in the text is formatted as described in Sections 8.2 and 8.3 and APA (2020).
Reference List Format	Check that every entry in the reference list is formatted as described in Section 8.1 and 8.3 and APA (2020).
Bold or Underline	Change bold or underlining to italics for emphasis as described in Section 9.9.
Abbreviations	Adjust abbreviations as describe in Section 9.2.
US and Metric Measures	Check for US and metric measurements, and that equivalents are included in captions as required for clarity. For example, if values are in US (imperial) in the image, provide an equivalent in the caption in metric.
Dimensions v Units	Check that all parameter variables are in dimensions and are in green font as specified. Where ambiguous if dimension or unit (e.g., L for length, L for liter), add a parenthetic note.
Quotations	a. Check that the correct format from GWP_Styles is used for intext quotations and long (block) quotations. b. Check that citation to source is included, with page number.
Latitude and Longitude	a. Check that latitude comes first, then longitude. b. Check that the format is correct (Section 13).
Temperature	a. Check that temperature is reported in degrees Celsius unless Kelvin is used in the original document. b. Check that the format is correct (Section 13).
Level 1 Headings	Home>Page>Spacing Before/After set to zero.
Page numbering	Check that page numbers are continuous, especially after a section break.
Page size & margins	Check that page size is set to A4 throughout and the margins are Top 2.54 cm, Bottom 2.54 cm, Left 2.54 cm, Right 3 cm.
Double spaces	Check for extra spaces by Home>Page>¶.

Check	Instructions
Table of Contents	a. Update the Table of Contents (Section 3.2). b. Check that headings are at the correct level (Section 7.3).
Saving the file as a PDF to check formatting	a. Save the file. Then use *File* > *Save As*, select a folder location, and save a copy of the manuscript with a new label. b. For this copy, *Save As* but this time in the dropdown menu for *Save as type*, select.pdf. An *Options* box will appear. Select that and click *Create bookmarks using* and choose the button for *Headings*. Then click *OK* and *Save*. c. Alternatively (in Windows 10 and 11), you may see the following option when you click on File: *File* > *Save as Adobe pdf*. Choose *Browse locations* and save the pdf in an appropriate folder. d. Check through the pdf and identify any issues that show up. e. Check that all headings are exported properly. If there are extra headings that appear in the navigation bar of the pdf, be sure to remove them by editing the Word document. This may occur if an item, even a blank line has been assigned a heading style. If a blank line has been assigned a heading style, it can be corrected by using one of the following methods: • Applying the normal style (GWP_Normal). • Depending on the problem, the Section 5.5 *Correcting Heading Numbering* may also be helpful. • Alternatively, turn on Show Hidden Symbols (*Home* > ¶), to the blank line in the *View* > *Navigation Pane*, and select *References* > *Add Text* > select *Do not show in Table of Contents* to remove the blank line. f. Go to the Word version of the book and correct the issues you've identified. g. Check the navigation pane (*View>Navigation Pane*) for any discrepancies. h. Correct them and Save.
Find and correct links that aren't working	When you save the file as a pdf, you may find that the links need to be regenerated. If that occurs—and it happens more often than not—you will need to regenerate them by returning to MS Word. a. In Word, *File>Save* As a new document. b. Press this sequence of keys: Ctrl+Fn+F9 (in Lenovo computers) or Ctrl+F9 on some other devices to refresh the cross reference links in the book. If some links are broken, an ErrorReference message will replace a broken link. c. Press the sequence again to return to the normal appearing link. d. Then go to *Editing>Find* and select *Replace>Find and Replace>Find* from the dropdown menu. Insert "error" (without the scare quotes). Where the *Find what* message appears. e. Go to the *Find in* menu at the bottom of the window. f. Select *Main Document.* Word will locate any hyperlink that is not working, which will have **ERROR!!** in the text where a nonworking hyperlink is found. g. Correct the link and Save your document.

27 References

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28 Boxes

Box 1 - Appearance of GWP Styles

Style Name
GWP_black_link
GWP_blue_link
GWP_Book_Title_Cover
GWP_BoxHead
GWP_Cambria
GWP_Cambria_sub
GWP_Cambria_super
GWP_Exercise_Solution
GWP_Exercises_Boxes_Link
GWP_Figure_Caption
GWP_Figure_Image
GWP_FrontHead
1 GWP_Heading_1
1.1 GWP_Heading_2
1.1.1 GWP_Heading_3
GWP_Heading_4

GWP_Heading_5

Hyperlink

- GWP_List_Bullet

1. GWP_List_Number

GWP_Long_Quote

GWP_Normal

GWP_Normal_sub

GWP_Normal_super

GWP_Quote

GWP_References

GWP_Table_Caption

GWP_Table_Caption_Center

GWP_Table_Contents

GWP_Table_Footnotes

GWP_Table_Sub

GWP_Table_super

Return to where text linked to Box 1

Box 2 - Adding Macros

To use the macros described in this guide, it is essential to have them added to the GWP MS Word document for each book. However, throughout the review process—perhaps due to many people who use different versions of MS Word working with each document—the previously added macros can be lost.

There are two ways to create macros. They can be added via the *Developer tab* or the *View tab*. The necessary steps for adding them into the document using the *Developer tab* are listed below. Each macro must be created separately.

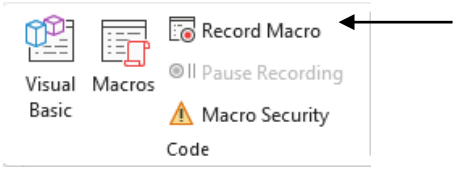
It may be necessary to add the *Developer tab* to the main MS Word ribbon, because it is not displayed by default. It can be added as follows.

- In the File tab, go to Options > Customize Ribbon.
- Under Main Tabs, select the Developer check box.

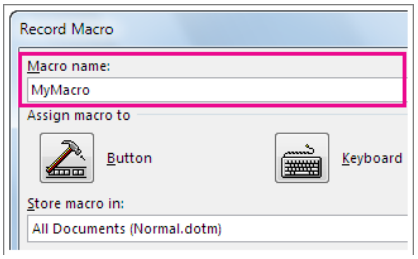
After that, the *Developer tab* will stay visible in the ribbon unless you need to reinstall a Microsoft Office program or clear the check box.

From this point, the procedure is the same using the *Developer tab or the View tab.*

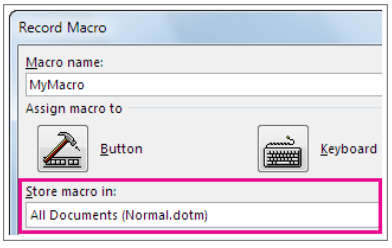
1. Click *Developer* > *Record Macro.*



2. Type a name for the macro as shown in the table on next page.



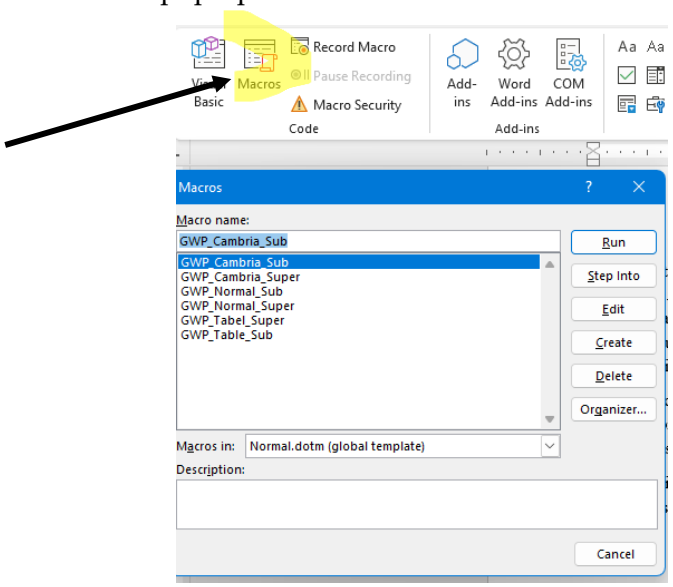
3. To use this macro in any new documents, be sure that the *Store macro* in the box says *All documents* (Normal.dotm) or (Normal) (the word in the parentheses depends on the version of MS Word being used).



4. The standard macros, as described in the Formatting Guide, are not added as buttons but use Keyboard shortcuts. To add them you choose to *Assign macro* to and press the *Keyboard* button.
5. In the new box go to *Press new shortcut* key, then and enter the keys for the macro as displayed in the table presented in Section 7.11.
6. Once the shortcut is added click *Assign* and close the box.
7. Record the macro by highlighting some text and entering the items needed to change the format to the desired appearance. Check to be sure the desired format occurs.
8. Go back to the *Developer* tab and click in *Stop Recording*.
9. Check that the macro works by highlighting some other text and entering the macro key.

The Macro is now added to the file and can be used by selecting a part of the text for which the style is not properly applied and using the shortcut key. If needed, the modification can be undone by using *Ctrl + z*. Make sure to add the macros one by one, it is not possible to add all of them at once following the previously given steps.

To check if the macros are available in the document, go to the *Developer* tab and click on *Macros*. A list of macros will pop up in a new box.



Return to where text linked to Box 2↑

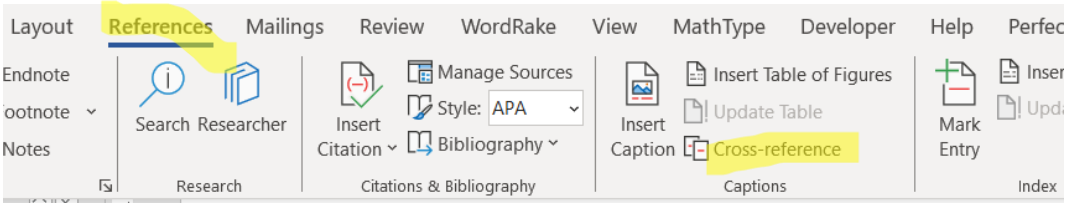
Box 3 - Template for Copying Cross References for Equations

To insert cross references for Equations, follow these steps. The template is immediately after the steps and has working equation links from previously published GWP books.

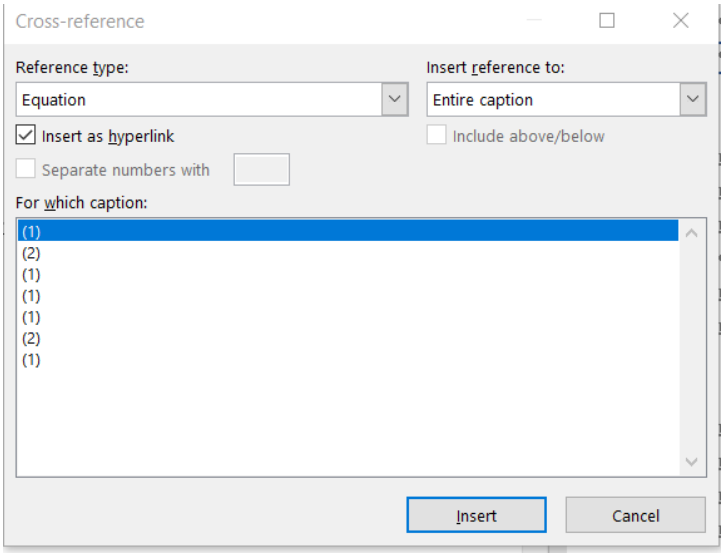
1. In the template that follows on the next page of this guide, copy the first Equation (1) link in the far right cell of the invisible equation table (this is the source of the working equation link).

$$0 = \left(\frac{\partial^2 h}{\partial x} + \frac{\partial^2 h}{\partial y}\right) \quad (5)$$

2. Open the book to where you need to insert an Equation (1) link and paste the equation link in the far right cell of the invisible equation table (this is the destination of the working equation link).
3. Place your cursor in the running text where you will add the mention to the Equation.
4. Go to *References* > *Captions* > *Cross reference*.



5. Click on *Cross reference*. Go to *Reference type* and select *Equation* from the dropdown menu.
6. Go to *Insert reference type* and select *Entire caption.*
7. You should now see (1) in the dropdown list. Select this and press *Insert* to place a cross reference link in the paragraph where you placed your cursor.



Equation Template

Use this working template (Figure Box 3-1) as you follow the instructions for cross referencing equations.

Equation (2) describes steady conditions and Equation (3) describes transient conditions.

$$0 = \left(\frac{\partial^2 h}{\partial x} + \frac{\partial^2 h}{\partial y}\right) \quad (6)$$

$$S\frac{\partial h}{\partial t} = T\left(\frac{\partial^2 h}{\partial x} + \frac{\partial^2 h}{\partial y}\right) \quad (7)$$

where:

S = storativity (dimensionless)
h = hydraulic head (L)
t = time (T)
T = transmissivity (L^2T^{-1})
x,y = coordinates (L)

Figure Box 3-1 – Template for equations.

Return to where text linked to Box 3↑

Box 4 - List of Links for Assistance and Formatting

For Assistance

GWP director of operations: Amanda Sills (amanda.sills@g360group.org)↗

GWP staff: https://GWP.org/about/↗

Links to GWP Resources

latest version of this formatting guide↗

Guidance for Authors and Reviewers↗

https://author.gw-project.org/↗

Box 5 - File Format Considerations (.dotm vs. .docx)

Due to compatibility issues experienced with .dotm files in some systems and during version control, it is strongly recommended to convert the document to .docx format after the content has been fully edited or formatted. This helps ensure better compatibility, especially when sharing files or uploading final versions.

How to Convert a .dotm File to .docx Format

Note: Use this procedure **after formatting or editing is complete**, to ensure compatibility and avoid macro-related issues.

1. Open the .dotm file
2. Click on File in the top left corner
3. Select **Save As**
4. Choose a folder where you want to save the new version.
5. In the 'Save as type' dropdown, select: **Word Document (*.docx)**
6. Rename the file if needed
7. Example: change Book_Template.dotm to Book_Formatted.docx.
8. Click Save