

The Water Research Foundation

GUIDELINES FOR PREPARING RESEARCH REPORTS AND PRODUCTS

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2021



THE
Water
Research
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Communications Planning for WRF Researchers

The value of The Water Research Foundation's research is enhanced by the availability and clarity of the message in its reports and products. The purpose of this document is to provide researchers with guidelines to ensure production of a high-quality product that subscribers will find valuable. WRF recommends that you read through these guidelines as you begin work on your project. Authors are required to follow the most current version of these guidelines in place at the time of submittal of the final products.

If you have any questions about this document, product format, submission, production, or any other details regarding product preparation, please contact WRF's Communications and Marketing Team at 303-347-6100.

The objective of WRF's work is to identify, perform, and communicate research that informs technical, regulatory, legislative, and public information outcomes. Thus, an essential component of this process is to convert research results into outcomes with operational, environmental, social, or economic benefits, and then make that information readily available to WRF subscribers and other interested parties.

Planning for Communication

WRF researchers are asked to take an active role in communications to strengthen the relationship with research users. From the beginning of your project, think about how you plan to tell people about your research objectives and results. Communications planning should be part of the proposal process. An outline of the communications plan should be included in the proposal. Throughout the first year of the project, a more detailed strategy will need to be developed. By building communications planning into the research process, the necessary links with the target audience(s) can be established early on.

The WRF Research Program Manager will help you develop your final communications plan. A member of the WRF Communications and Marketing Team will be able to work with you to ensure that your product is compatible with WRF's standards and requirements.

Preparing Your Communications Plan

Addressing the following questions will help you form a foundation for a communications plan, which will help ensure that your research is communicated to the end-user in an effective way. It will also improve the use and application of research by WRF subscribers and interested parties, such as utilities, municipalities, consulting firms, and national and local agencies.

What are your research objectives and possible outcomes?

WRF research priorities are determined in response to the needs of its subscribers and the water sector. Those needs have guided your research objectives, and will set the direction for your communications plan. Think about the possible outcomes of your research. What

information do you hope to get from it and how might that be used? The answers to these questions will influence the communication method that you choose to use.

Who will be interested in your research? Who is your target audience?

Identify your primary target audiences and think about the best way(s) to reach these diverse groups. Potential audiences may include scientists, water resource recovery facilities, water quality industry members, treatment plant and other managers, laboratories, stormwater utilities, policy makers, consultants, equipment manufacturers, state and federal agencies, community groups, water service customers, and others.

You may need to use different communication tools and varying levels of complexity for different audiences. For your communications to be effective, you need to match your message to the target audience, considering readability, medium for delivery, and more. In addition, printed and electronic media call for different styles and different ways of packaging your research.

- Printed material: WRF provides several outlets for printed research. In addition to a printed research report, research projects can be covered in *Advances in Water Research* magazine, press releases, topic-specific mailings, fact sheets, and partner publications.
- Electronic media: WRF's website is an ideal medium for written research results intended for a broad target audience. Think about how your research can best be presented online or through electronic communications. Tools based on Excel spreadsheets, electronic presentations, and online databases are well served by this medium (see [Web Tool Criteria and Feasibility Study](#) for tool guidelines). Also, the WRF website lets subscribers view the progress of WRF research projects. Keep in mind that you will be required to provide periodic updates on your research, concisely summarizing your progress in a manner that will generate continued interest in your work.
- Conferences: Events such as WEF's WEFTEC conference, AWWA's ACE conference, and other specialty conferences provide researchers with opportunities to participate in workshops or seminars, share the importance of their research results, and build relationships with people interested in the subject matter. These events are also good opportunities to receive face-to-face feedback.

Follow-Through

A clear summary of your research results written in plain English is useful for several WRF products. It can also be indispensable for providing key information to stakeholders who might find a lengthy technical report daunting.

As a WRF researcher, you are expected, where appropriate, to take an active role in communicating your research outcomes to the target audience(s) that you and the WRF Research Program Manager have identified. Make sure that you build this important process into your planning and budgeting. Determine, early on, who will be interested in your results and how you intend to communicate with them.

Final Products: Research Reports

This section provides information on what WRF Principal Investigators need to submit with each product, and introduces you to WRF's publication process.

Please see the Project Report Guidelines section of the WRF website for the Research Report Template and additional guidelines: <https://www.waterrf.org/project-report-guidelines>.

When submitting a final product package to WRF, the Principal Investigator must:

- Include all required report sections (see list of these items below);
- Create the document using the required word processing and file formats;
- Correctly format tables, figures, and other graphics;
- **Obtain and supply copyright permission for items that are extracted or adapted from previously published works.**

Draft Report

This submission presents the last opportunity for authors to ensure that the report adheres to WRF guidelines. The draft report will undergo rigorous review by the WRF Communications and Marketing Team for adherence to guidelines set forth in this document. When submitting this report, please include:

- All required sections of the report acknowledgments, executive summary, body, and references.
- Electronic files (Microsoft Word or PDF) of the complete report and any other deliverables.
- Copyright Permission Form and copyright permission letters (see Copyright Permission section).

Final Report

This is the version of the report that goes into production and is ultimately published. Final reports will be accepted for production only if they are complete according to the terms of these guidelines. If your submission does not comply with WRF requirements, publication will be delayed. When submitting this report, you must include:

- Electronic files (Microsoft Word) of the entire report and any additional deliverables.
- Copyright Permission Form and copyright permission letters (see Copyright Permission section).

Required Sections for WRF Final Reports

The current WRF Research Report Template can be found on the Project Report Guidelines section of the WRF website at <https://www.waterrf.org/project-report-guidelines>.

1. **Title Page:** Title, and proper names and affiliations of report preparation team (authors).
2. **About WRF, Copyright, and Disclaimer Page:** Supplied by WRF. Available in the Research Report Template.

3. **Acknowledgments:** List all report contributors, with affiliations, including project subcommittee members. principal investigator(s). and project team members. *Provide full names, degrees earned, and professional designations (e.g., ScD, PhD, PE, etc.).* Preferably listed in alphabetical order.
4. **Table of Contents:** Include chapter titles and up to two levels of subheadings; e.g., Chapter 2 (main head), 2.1 (sub level 1), 2.1.2 (sub level 2)
5. **List of Tables:** Titles of tables listed must match the titles of tables in the body of the report. Do not list tables from the Executive Summary or the appendices.
6. **List of Figures:** Titles of figures listed must match the titles of figures in the body of the report. Do not list tables from the Executive Summary or the appendices.
7. **Abbreviations and Acronyms:** Recommended. Place immediately before the Executive Summary.
8. **Executive Summary:** This very important component of the final report summarizes the purpose, methods, and findings of the research. The Executive Summary should answer the questions outlined in the Research Report Template. The Executive Summary should be easily read and understood, presenting the main points of the project, including the most relevant graphics from the report. The information and data included in the Executive Summary must be readily understood without referring to the main report.
9. **Body of Report:** The report should be concise. Eliminate redundant text. Move all nonrelevant or backup data or cumbersome items (e.g., lengthy tables, protocols, etc.) to the appendices.
10. **Appendices:** Supplementary material. Page numbering should continue in Arabic numerals, continuing from the main body of the report. Figures and tables within appendices should be labeled, for example, Table A-1, A-2, etc., and should not be listed in the List of Tables or List of Figures. If the final report is printed, WRF reserves the right to determine whether the appendices will or will not be included in the final printed product. All appendices will be made available in electronic format on the WRF website.
11. **References:** All sources cited in the text must have corresponding reference list entries, and all sources on the reference list must have corresponding in-text citations. Refer to *The Chicago Manual of Style* and the Research Report Template for details on reference list format. Page numbering should continue in Arabic numerals.
12. **Glossary of Terms:** Recommended. Page numbering should continue in Arabic numerals.

Software Requirements and Electronic Files

Equations: Equation numbers should consist of the chapter number, hyphen, sequential number of equation (e.g., 4-1 then the next equation in the chapter would be 4-2; see the Research Report Template). All terms must be defined below the equation.

Files: Products should be created in **Microsoft Word** – version 2007 or later. Under certain circumstances, desktop publishing programs such as InDesign may be used. Please check with the WRF Communications and Marketing Team before proceeding.

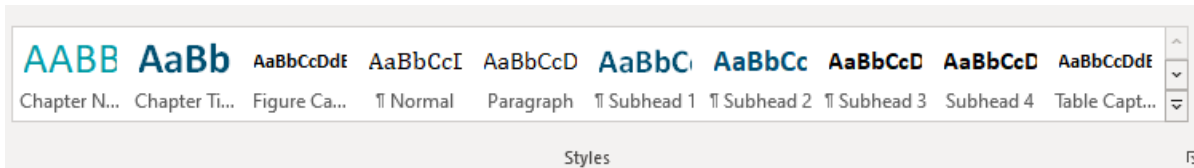
- Do *not* create the document with another software program and then convert to Microsoft Word. Equations, symbols, graphics, tables, etc., will not convert properly. If you have already done substantial work in another program, please contact WRF’s Communications

and Marketing Team.

- Do not use the toggle field feature in MS Word to create the Table of Contents, References, and Lists of Tables and Figures.
- Do not use text boxes for any text.
- Read-only files are not acceptable.

Style and Format

Font: The report should be formatted using the styles specified in the Research Report Template and included in the template’s styles gallery (see figure below), and following the instructions below.

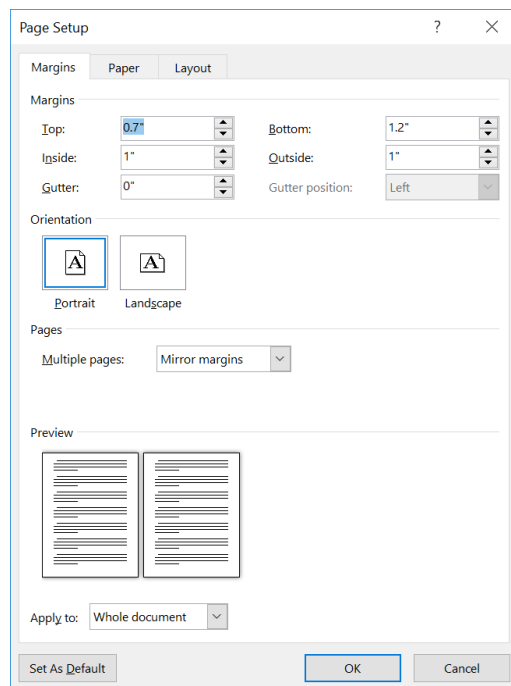


Use boldface, capital letters, and italics only where you want them to be used in the finished text. Do not use caps lock or type in all caps unless it is a capitalized word (e.g., U.S. EPA).

Margins: Set margins under Layout – Page Setup – Margins tab:

- Top: 0.7”
- Bottom: 1.2”
- Inside: 1.0”
- Outside: 1.0”

Pages should be set to “Mirror margins.”



Spacing and indents: Use the style Paragraph included in the Research Report Template. Use a single space after periods. Never use the space bar to align text or to create indents. Extra spaces are difficult to find and remove.

Use only one tab between the subhead numbering and the subhead. Don't use tabs to center type or to line up columns.

Subheadings: Use up to four levels of subheadings in your chapters. (See the Research Report Template for subhead styles.) Follow standard rules for capitalization of titles.

Report Body Content

The body of the report should be accurate, concise, and readily comprehended by readers with different levels of knowledge of the subject. Write in an active voice and illustrate major points. Write in the third-person (e.g., use the research team, not we). Avoid overuse of bulleted and numbered lists. Large amounts of raw data should be placed in appendices, not in the body of the report.

The Chicago Manual of Style can be a useful reference. This publication is available from booksellers and online (<http://www.chicagomanualofstyle.org/home.html>). This guide is useful not only for style, but also for helping researchers to communicate effectively.

The table of contents and lists of tables and figures should not be heavily formatted. *Do not* link to the body of the report. These features in Word often do not work properly, and their use may delay report publication.

Reference Style

Refer to *The Chicago Manual of Style* and the Research Report Template for in-text citation and the reference list styles. If you have already done substantial work using another style, continue in that style, being sure to maintain thorough consistency. Regardless of style, it is critical that the reference list agrees exactly with the in-text citations and vice-versa.

Tables, Figures, and Other Graphics

The requirements below for graphics in final reports are critical for producing a high-quality product with the most efficient use of resources. All graphics must be included (embedded) in the Microsoft Word document for clarity and placement. Each graphic should also have a call out (mention) in the narrative text, either immediately before or after the graphic, explaining its contents.

Size: All artwork must fit on standard 8.5" x 11" paper.

Captions: Captions for all graphics, figures, and tables should be typed into the Microsoft Word document. Captions should not be embedded in the graphic itself or in a text box.

Photographs: Electronic photo files must be in .tif or .jpg format and scanned at 300 dpi minimum.

Numbering: Graphics such as figures and tables should be numbered in the following manner: Table 3-1, where the “3” represents the chapter in which the table appears. Numbering should be typed into the document itself and not embedded in the graphic or in a text box.

Source Lines: You must acknowledge the source of any graphics taken directly from, adapted from, or created using data from other sources (see Copyright Permission section below for details on reprinting graphics from other sources). For graphics taken directly from other sources, use the source line specified in the reprint permission letter; if not specified, use “*Source: author date.*” For graphics adapted from those in other sources, use the source line specified in the reprint permission letter; if not specified, use “*Source: Adapted from author date.*” If the graphic was created based on data from another source, use “*Source: Data from author date.*”

Placement of Art Relative to Text: Create tables and figures using your desktop publishing software and place them as close as possible to the first mention of them (call out) in the text. The following guidelines apply when placing art within the text:

- Art should follow its first call out in the text as closely as possible.
- Text wrapping style should be set as “in line with text.”
- For tables and figures that run two or more pages:
 - First page of table/figure includes table/figure number and title.
 - On all following pages, include table/figure numbers and the phrase “(continued).”
 - For tables, repeat column heads on each page of table.
 - Place all notes at the end of the graphic.

Alt Text: To increase the accessibility of the final report, it is recommended, but not required, that alt text be included for each graphic. To add alt text to figures, right click on the figure and select “Edit Alt Text.” For tables, right click on the table, select “Table Properties,” and then go to the “Alt Text” tab. Alt text should describe the graphic meaningfully and concisely.

Important Reminders

Consistency

Ensure that things that should be consistent (from use of acronyms or proper names or organizations/people/projects to past vs. present tense) are consistent throughout the product.

Acknowledgments

Double check your acknowledgments. Ensure there are no misspelled names, missing individuals, missing degrees, and incorrect affiliations.

Table of Contents

Do not over-format or link to the body of the report.

Section Headings

Avoid listing one heading immediately following another heading. There needs to be body text that explains that section. If there is nothing to say in that section, then there is no need for the heading.

Equations

Check those equations! Be sure that all terms are defined (include units). Use parentheses, brackets, and braces according to conventional order of operations.

Equations, Symbols, and Tables

Ensure that all of your equations, symbols, and tables are accurate and readable in Microsoft Word. Create the document in Word (most current version if possible); do not attempt to convert from another software application.

References and In-Text Citations

Do not use “et al.” in the list of References – list all authors. All sources on the reference list must be cited in the text, and all sources cited in the text must appear on the reference list.

Copyright Permission Documentation

Not supplying WRF with a completed Copyright Permission Form and all applicable copyright permission letters will significantly delay publication of a report. Request reprint permission early, and include letters granting permission in the draft and final report packages. WRF will not publish your report if the documents granting WRF permission to reprint previously copyrighted material are missing. See the Copyright Permission section for additional details.

Use Active Voice

Avoid passive voice. Instead of “Toxic compounds were characterized by Jones and Smith (2018),” say “Jones and Smith (2018) characterized the toxic compounds.”

Appendices

Move material of secondary importance, detailed methodologies, long tables of data, etc. into appendices. Keep the main body of the report uncluttered; don't obscure major findings with too many details.

Call Outs for Graphics, etc.

Be sure that all call outs (in-text mentions of) tables, figures, equations, and appendices are correct. Always indicate location of graphic in Microsoft Word document by embedding the actual artwork.

Tables, Graphs, or Charts

Review these items carefully. Do the pieces of the pie charts add up to 100%? Do columns add up properly? Are call outs correct?

Checklist for WRF Final Reports and Products

This form is for you to use to ensure your final report package is complete. It does **not** need to be submitted with the final report package. Please visit the Project Report Guidelines webpage at <https://www.waterrf.org/project-report-guidelines> for information on preparing a report, the Research Report Template, and other essential information.

Refer to the checklist below to ensure your final report package is complete. **WRF will not accept an incomplete package.**

The report should include the following required report sections (**in order of appearance**):

- _____ Title Page
- _____ About WRF, Disclaimer, and Copyright Page
- _____ Acknowledgments Page
- _____ Table of Contents
- _____ List of Tables
- _____ List of Figures
- _____ List of Acronyms and Abbreviations (recommended)
- _____ Executive Summary
- _____ Main Body of Report
- _____ Appendices (if applicable)
- _____ Glossary of Terms (recommended)
- _____ Reference List

Copyright Permission

- _____ Completed Copyright Permission Form
- _____ Copyright permission letters for applicable figures, tables, or other information from sources not original to the research in the report (See the Sample Letter Requesting Permission to Use Copyrighted Materials).

Final Products: Other Options

In addition to the more typical methods of disseminating WRF research such as research reports, executive summaries, and white papers, there are many other means for WRF research to reach a wide audience. Other examples of products include, but are not limited to:

- Fact sheets or case studies
- Special topic brochures
- Practical guidance manuals
- PowerPoint presentations
- Excel spreadsheets
- Infographics
- Presentation materials that WRF staff and volunteers can use to promote the research
- Briefing materials (rather than testimony) for legislative or regulatory hearings
- Stakeholder briefing materials
- Article submissions to technical/scientific journals (please refer to [Intellectual Property \(IP\) Guidelines for PIs and Co-PIs](#))
- Partner organization journal articles
- Press releases
- WRF e- newsletters
- Periodic research area newsletters
- Other electronic communications
- Web tools* (please refer to [Web Tool Criteria and Feasibility Study](#))
- Learning modules*
- Workshops
- Web seminars
- Short videos
- Media engagement strategies
- Smartphone or tablet applications
- Social media pages

*These items may require a separate plan to ensure compatibility with WRF's content management system before product design and development are complete.

For information on these or any communication tools, please contact your Research Program Manager. A member of the WRF Communications and Marketing Team will be able to work with you to ensure that your product is compatible with WRF's standards and requirements.

Copyright Permission

All authors are contractually responsible for obtaining permission to reprint all copyrighted material.

Copyrighted material includes figures, tables, charts, and graphs or any other material duplicated, in full or in part, from any other copyrighted work that is not in the public domain. Permission must be granted from the publisher of the book, journal, etc.

If either data or physical art itself is not yours, you must include a source note with the art. The scholarly responsibility of acknowledging sources is separate from the legal responsibility of obtaining permission for material under copyright. Art without a source note will be assumed both to be your data and to be your creation. For example, if you have created a table or graph to display significant data from another source, you should cite the source of the data (using the author-date system).

This source note, which fulfills the scholarly responsibility to acknowledge the source, is separate from copyright permission, which obtains legal permission to reproduce any art that closely resembles or is directly reproduced from a copyrighted publication. A sample copyright permission letter that you can use to request and obtain permission to reproduce artwork or data is available on the next page.

A completed [Copyright Permission Form](#) and copyright permission letters **must be** submitted to WRF in both the draft and final report packages. WRF will not publish reports that are submitted without the required Copyright Permission Form and letters. Substantial publication delays will result if you do not obtain copyright permission for all previously published material.

Sample Letter Requesting Permission to Use Copyrighted Materials

Date: *[date]*

To: *[name, company]*

E-Mail: *[e-mail address]*

From: *[name, company]*

E-Mail: *[e-mail address]*

We are requesting permission to reprint the table(s) and/or figure(s) and/or information listed below from your publication, *[author, publication title, date]*.

[list page numbers and titles of figures, tables, or graphics, or other identifying information]

This information will appear in The Water Research Foundation publication, *[publication title]*.

We are requesting nonexclusive world rights, for all languages and all subsequent reprints, as well as permission to include the material in an electronic format on WRF's website (www.waterrf.org). The material may be altered slightly to conform to WRF style and space limitations. Please indicate agreement by signing on the line at the bottom and returning a copy of this letter to *[name, company, email address]*.

Full credit will be given to the source named above in the standard scholarly form, including author, title, publisher, and date, unless you specify otherwise.

We request that you please return this completed letter by *[date]*.

Thank you in advance for your cooperation.

Permission Granted:

Signed: _____ **Date:** _____

Use of Copyrighted Materials

When to Request Permission

You are responsible for obtaining written permission to use any material copyrighted by others. You must request permission before submitting your final report.

What Is Copyrightable?

A copyright may exist for a work of authorship reduced to a tangible medium of expression. It can be a literary work; musical work; dramatic work; choreographic work; pictorial, graphic, or sculptural work; motion picture or other audiovisual work; sound recording; or architectural work. Copyright law may apply to a work even though:

- Author has not filed for copyright officially.
- There is no legend indicating copyright ownership on a work.
- A work is unpublished.

As a result, if you use a work or a portion of a work, you should request permission from the publisher (for a published work) or from the author (for an unpublished work) before using it in any materials to be published by The Water Research Foundation.

Most government publications are in the public domain because public funds supported their development. This is true for all U.S. federal government publications, and may be true for some state, country, and city government publications and for government publications of other countries. “Public domain” means that material is not protected by copyright and may be used without requesting permission. However, it is best to check with the government entity that created the work to ensure that there is no ownership of the work, for example, by a private contractor who may have jointly created the work with the government. Any work published before 1906 is in the public domain and is not copyrighted. For a helpful introduction to copyright basics, watch the following video:

<http://www.copyright.com/learn/media-download/copyright-basics/>

Fair Use

Portions of some copyrighted materials may be used without permission. If you are using an “insubstantial” portion of a copyrighted work for scholarly and noncommercial purposes, permission is not required under interpretation of fair use. However, the definition of fair use varies depending on the facts of each case. To avoid difficulties, you need to request permission for all uses of previously copyrighted works of authorship.

In the case of artwork, for example, you must obtain permission to use in your report any tables, charts, photographs, etc., taken from a previously published, copyrighted source. If you take data from several sources and create your own table or figure from that data, you do not need to request permission, but you must list your sources beneath the new piece of art.

Acknowledgment of Source

You should always list the source for material that is not yours, regardless of whether or not you need to request permission for a quote, figure, or table. The scholarly responsibility of

providing acknowledgment is separate from the legal responsibility of obtaining permission for reuse of copyrighted material. For example, if you take raw data from several sources or use materials that are not copyrighted, you should properly cite the source of such data or materials, but do not need permission for this use.

How to Request Permission

When requesting permission, clearly identify the material, and state how and where you intend to use it. Be specific, stating author, title, and year of publication.

Identify figures and tables by numbering from the copyrighted source, and text materials by beginning and ending wording. If the material is from a journal, include the journal title, volume and page numbers, article title, and author's name. *Make sure to request permission from the original publisher, not from the author or from a publisher that reproduced the material.* The format of the permission request may be determined by the publisher- for example completion of an online form, or use of a specific email address. Send the written permissions or copies of your requests for permission (if permission has not yet been granted) to the WRF Research Program Manager along with the draft and final report packages. WRF will file them with other contract materials. If the publisher requests any fees, talk to the Research Program Manager.

Copyright Permission Form

You need to document your use of copyrighted materials. Complete a [Copyright Permission Form](#) by logging every table and figure in your report, regardless of whether they are original or not.

Granting Permission to Use Work Belonging to The Water Research Foundation

The Water Research Foundation copyrights reports to protect the work they represent. In your contract with The Water Research Foundation, you assigned copyright to WRF. If you receive any requests to reprint material from your WRF work, forward the request to WRF. See your contract with WRF for additional information on interim publications during the project period.

Guidelines on Publishing or Presenting WRF Project Materials

Any material created from WRF research where a Project Funding Agreement (PFA) or Multi-Funded Research Agreement (MFRA) was signed is WRF's Intellectual Property (IP). WRF's IP includes text, tables, and figures that were created during the project and that are included in the periodic reports, draft report, final report, or other materials produced during the course of a project. For information on use of such IP from your project, see the [Intellectual Property \(IP\) Guidelines for PIs and Co-PIs](#), or contact Alyse Greenberg at 303-347-6116 or agreenberg@waterrf.org.