



Web Tool Criteria and Feasibility Requirement for The Water Research Foundation Project Deliverables

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Web tools are web- and software-based interactive tools that help professionals understand and apply research results. Web tools come in a variety of forms, for example, spreadsheets, websites, calculators, and others (e.g., databases). Only certain projects justify the development of these products, which are often more costly and labor intensive. Many factors need to be considered before developing a web tool.

Technologies and platforms are continually evolving, but here is a current snapshot of the types of web tools WRF may accept:

Type of tool	Does WRF accept?	Will WRF host?
Excel spreadsheet	Yes	Yes
Excel spreadsheet with macros	Yes	No
Website	Yes	Case-by-case basis, depends on platform and/or need for content updates
Interactive PDF, Video	Yes	Yes
Other (e.g., database)	Case-by-case basis	Case-by-case basis

Any project that will produce a web tool is required to complete and submit a Feasibility Requirement to The Water Research Foundation (WRF) to provide a clear road map for the web tool. Regardless of who hosts the tool, certain criteria must be met for any web tool that WRF is funding. The Feasibility Requirement should address the questions on page 3 of this document and must comply with the product requirements below. Completed Feasibility Studies should be [submitted via JotForm](#).

Expectations

The #1 expectation is that researchers communicate with WRF **early and often, before** developing any web tool. The following items should be discussed with the WRF RPM and Communications and Marketing team, and will be considered on a case-by-case basis:

- The type of tool the research team would like to develop
- Some tools may require hosting by the research team. In these cases, the project contract will include considerations for data hosting and ownership, including the location, provider, and ongoing data management (including backup/recovery)—see [Exhibit G](#) for more details.

- Domain names and ownership of domain names are subject to discussion with, and approval by, WRF.
- How the user will interact with the web tool; WRF expects web tools to be easy to navigate and respectful of user privacy
 - WRF prefers that web tools not require user login/credentials or authentication. WRF's website has existing functionality to prompt for login before sending the user to the web tool. Any other method of authentication requires a discussion to determine what might be allowed. If there is an exception, the research team will be responsible for implementing and supporting the end user.
 - Use of the web tool should not require the installation of executable or add-on applications
- Whether data can/will be entered by users and/or saved and if saved, how that data will be secured
 - WRF does not allow the tool to request or store personal information in the tool.

Once the Feasibility Requirement has been accepted and the web tool has been approved, ongoing communication with the RPM and Communications and Marketing team should be conducted to successfully launch the tool.

General Requirements

- Web tools must provide features and functionality that cannot be delivered in any other way.
- All technology and ongoing maintenance costs associated with a web tool must be cost-justified (i.e., the benefit provided outweighs the costs).
- Web tools should utilize commonly available technologies to the extent feasible and follow current security best practices to secure the tool and protect the end user.
- If a web tool will be hosted by WRF, it **must** use common technology that does not require licensing. WRF does not provide maintenance of web tools, nor does it provide third parties with administrator access to the WRF hosting platform.
- Web tools should be designed such that only minimal ongoing maintenance is needed by the research team (WRF does not provide maintenance).
- Web tools should not require end users to install third-party software, aside from commonly found enterprise software applications such as MS Office or Adobe Acrobat Reader.
- Web tools must comply with applicable data privacy regulations (CCPA, GDPR, PIPEDA, etc.).
- Web tools must comply with the WRF [End User License Agreement](#).
- Web tools should be designed to ensure ease of use for end-users and follow current best practices for user experience and/or website development.
- Applicable source code must be documented with in-line comments.
- Any encryption passwords should be provided to WRF.
- End user documentation such as technology requirements, a user guide, or FAQs must be provided in addition to the web tool. Web tools should include self-guided end-user training or support; individualized end-user training and support should not be required.
- All web tools should reflect our visual identity standards by adhering to WRF's [Brand Guidelines](#).

- The tool must acknowledge WRF and additional co-sponsors when applicable (see next section for specific details).

Acknowledgment of WRF

- The product must mention the WRF project title and project number, and link back to the main project page on the WRF website.
- The WRF logo, sponsorship, and copyright information should be prominently displayed in the web tool, for example on the title screen/page or footer:

Sponsored by:
The Water Research Foundation

Copyright ©2023
by
The Water Research Foundation
ALL RIGHTS RESERVED

- Include the standard disclaimer from the WRF [Research Report Template](#).
- If the project has co-funding organizations, their logos should be included alongside WRF's, and their names included under "Sponsored by" section and in the disclaimer.
- Contact the Communications and Marketing team (cm@waterrf.org) to obtain the WRF logo and logos of any co-funding organizations. Please specify how the logo is intended to be used and your preferred file format. For more information about proper use of the WRF logo, refer to WRF's [Brand Guidelines](#).
- If the web tool is not hosted on WRF's website, it must include a link back to www.waterrf.org.

Feasibility Requirement Questions - [Submit answers online via JotForm](#)

The Feasibility Requirement will be used by WRF staff, researchers, and the Project Advisory Committee to determine whether the proposed web tool is an appropriate fit for the project. Once a project team is chosen, the successful proposer should answer the following [Feasibility Requirement questions](#) in order to kick off additional discussion to reach agreement of the tool:

1. Detail the proposed features and functionality that can't be delivered in any other way, i.e., why is this tool needed?
2. Choose the type of tool that will be created. See specific Development Requirements per tool type further down in this form:
 - MS Excel Spreadsheet (or similar)
 - Interactive PDF
 - Video
 - Website
 - Other, please describe:
3. Who will benefit most from the web tool (e.g., utilities, regulators, academics, etc.?)
4. Describe what the tool will do. For example, is it primarily a data repository or will user interactions lead to a decision or analysis?

5. What will the web tool's useful life be? What are the limiting factors for the web tool's lifespan?
6. Will the tool need content updates during the life of the tool? Further discussion will be needed and is dependent on the type of tool being proposed.
7. Provide a brief cost-benefit analysis of the proposed tool. Does the research team have the equipment, time, availability, and budget to create and test the web tool? What are the anticipated level of effort, timeline, and cost for tool development?
8. What degree of technical expertise will the user need to use the tool? Will users need guidance to use the tool? If so, what are you creating to meet that need? (e.g., FAQs, User Guide)
9. Please describe your plan for debugging, testing, and ensuring usability during development. Please note that all web tools should be submitted to WRF as early as possible in the project life cycle to ensure adequate time for WRF to test and review.

If the proposed type of tool is either a Website or Other, please answer these additional questions:

10. Which technology platforms, programming languages, and/or systems will the web tool utilize (please also include any third-party tools used to develop the tool, if applicable)? Can the tool be delivered to WRF as described under "Development Requirements for Website" below?
11. Will users need to enter any data into the tool? If so, how will this data be secured and protected from cybersecurity risks such as viruses, traffic interception, breaches, etc.?
12. If the web tool needs to be hosted by the research team due to ongoing updates to the content or is built with technology WRF cannot support, review Webtool Deliverables - [Exhibit G](#) for hosting obligations of the research team.

This entails keeping the web tool current with software patches and/or maintenance. Associated costs should be referenced in the proposed project budget and may include the following:

- a. Website hosting
 - b. Domain registration
 - c. SSL certificates
 - d. Up-front software licenses and annual maintenance OR annual subscriptions
 - e. Hardware and any other technology platforms required
 - f. Ongoing maintenance, patching, security updates, and backup/recovery
13. For web tools hosted by the research team, what is the plan to secure the web tool from cybersecurity threats over its expected life?

14. For web tools hosted by the research team, how will the web tool be managed to ensure compatibility over its expected life with the latest and at least one previous version of major browsers, plug-ins, or third-party software?

Development Requirements

MS Excel Spreadsheet (or similar)

- WRF will not host Excel files that use Macros. Macros are written in VBA and are susceptible to viruses. See Microsoft guidance and security changes that may impact the usability of the tool where IT departments block users from accessing files with Macros.
<https://learn.microsoft.com/en-us/deployoffice/security/internet-macros-blocked> If the Research Team proceeds with macros, they will need to submit [Exhibit G](#) and host the tool themselves.
- Any passwords protecting sheets and/or cells should be provided to WRF

Interactive PDF

- Any passwords for security should be provided to WRF
- Any form functionality must enable the "Extend Features to Reader" users, i.e., the tool must not require users to purchase the full version of Adobe Acrobat

Video

- If the video is longer than three minutes, chapters should be built in to enable users to pause and/or resume where they left off
- Provide a format as either .mp4 or .mov for delivery on YouTube

Website

Folders and Filenames:

- All folders and filenames should be lowercase
- Use hyphens between words (instead-of-spaces)
- Avoid special characters (.!@#\$\$%*)
- Shorter names reflecting the content of the page, such as "about-us", "faqs", etc., are generally better for user experience
- For images, use a name that reflects picture and be sure to include an "alt" tag describing the image for the visually impaired

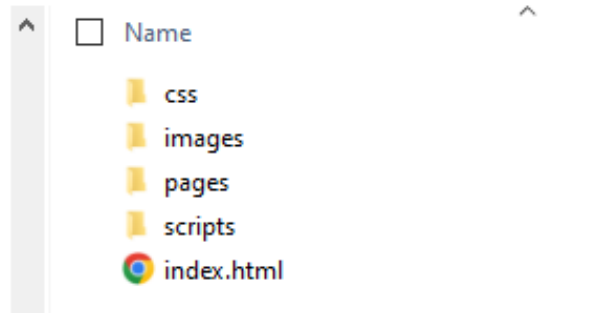
Structure of Files:

All WRF-hosted, web-based web tools become subsites on our web hosting environment.

- For ease of delivery to WRF for hosting, it is highly recommended that you build your web tool with a structure as depicted in the image below for the different file types (Note: your tool may

not have all these file types).

WRF-WEBTOOLS-SAMPLE-STRUCTURE > Webtool-1234 >



- WRF asks you to zip your files and provide that compressed file to your Research Program Manager. WRF will unzip your files and place into a root folder that is often the project number.
- An "index.html" or "index.htm" page **is required** to be placed in your web tool's root folder so it will be accessible from the web at webtools.waterrf.org/xxx/. This will become your homepage. It may be an introductory page for the web tool, or it may be the first page of your tool.

Footer or Header:

Your tool should include the WRF logo, adhere to our Brand Guidelines, and link back to WRF's website in either your tool's header or footer.

Other

Detailed and frequent conversations will ensure that other types of tools comply with requirements.