

Using Quarto to Generate Custom Soil Reports

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Quarto Showcase



UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

■ Cooperative Extension

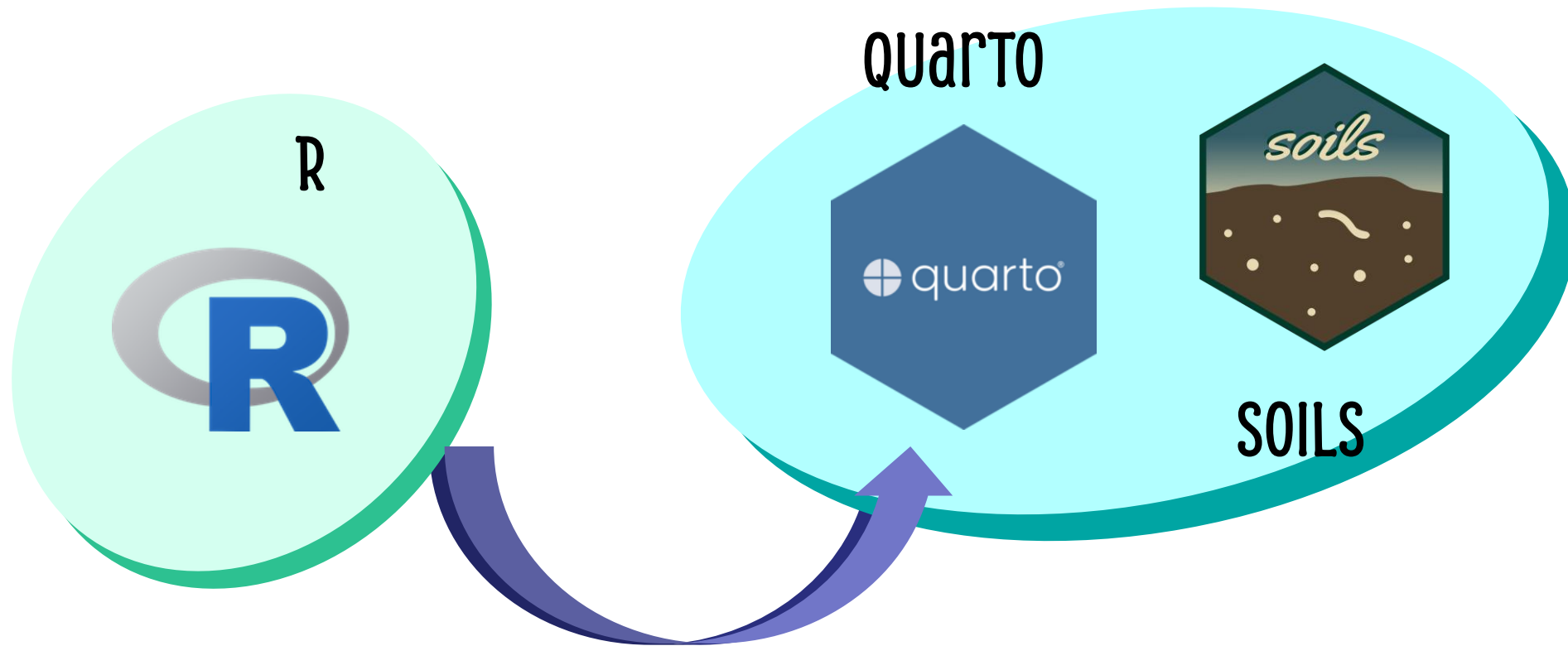
Introduction



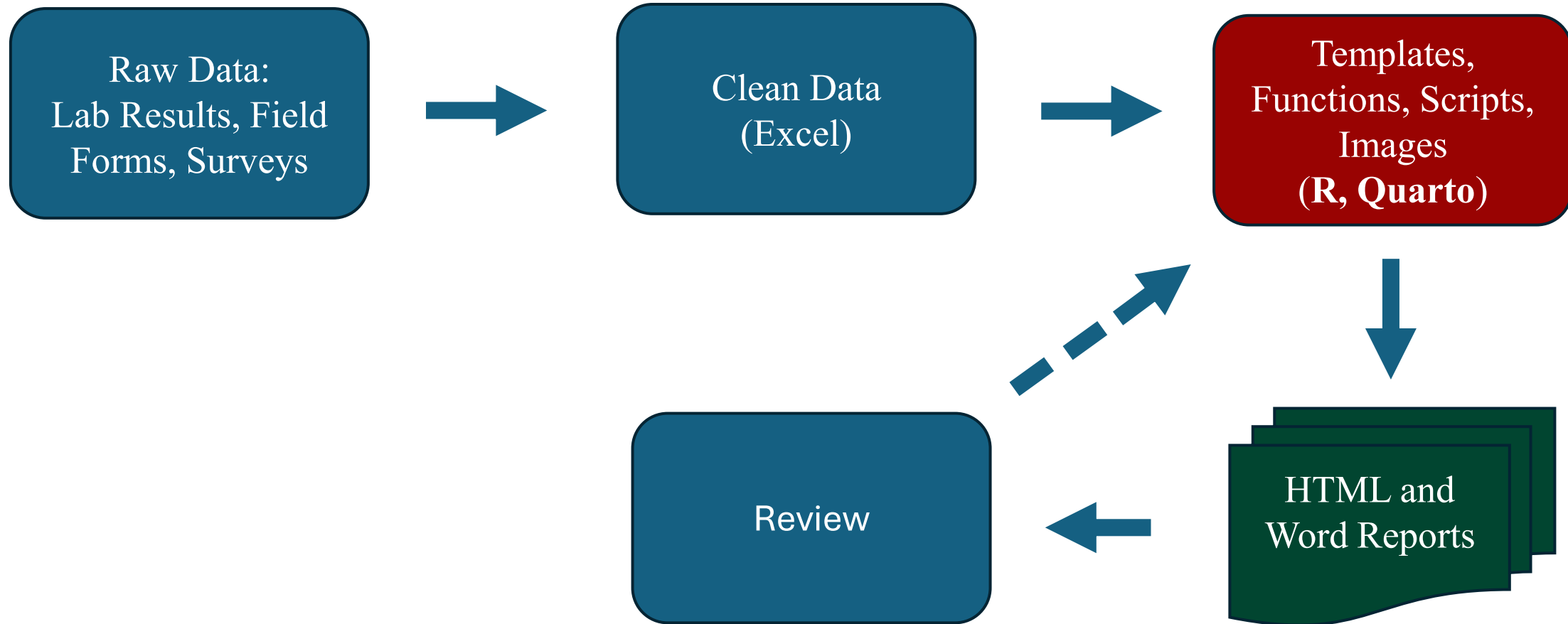
{soils} R package logo

- **{soils}**: An R Package for Soil Health Reporting
- Developed by **Washington State Department of Agriculture (WSDA)** and **Washington State University (WSU)**
- Help growers:
 - **Access** their soil health data
 - **Interpret** within their crop and region context
 - **Translate** into informed management decisions

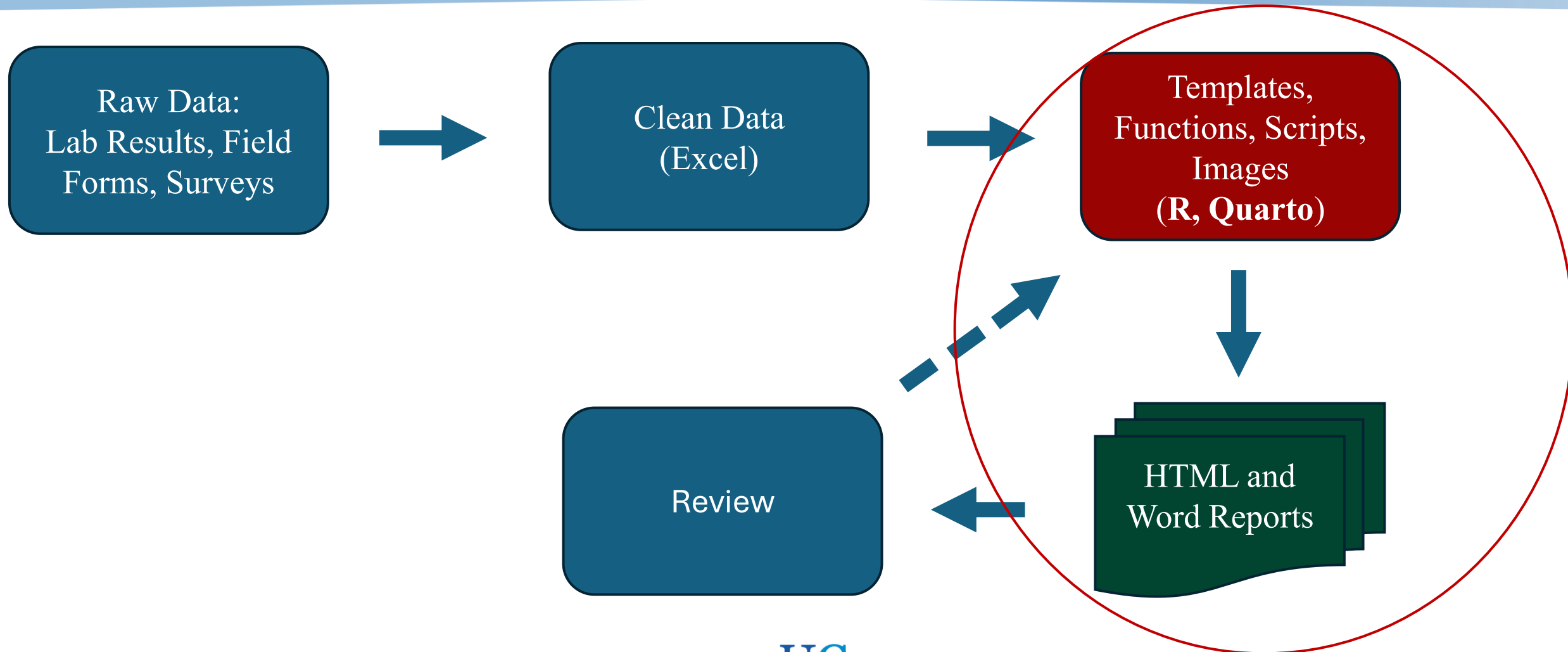
~~Painstakingly by Hand in Excel and Word~~



From Raw Data to Final Reports



From Raw Data to Final Reports



How do you get started?

{soils} package website




<https://wa-department-of-agriculture.github.io/soils/>

A screenshot of the {soils} package website. The header is dark green with white text for 'soils 1.0.1' and navigation links: 'Primers', 'Tutorials', 'Examples', and 'Functions'. The main content area is white. It features a hexagonal logo with the word 'soils' and a soil profile. Below the logo, there are three bullet points: 'Announcing Dirt Data Reports: a no-code soil health reporting tool built on {soils} using Shiny', 'Try it here if you don't need full customization or prefer not to code.', and 'Read more about it in this blog post.' The 'Overview' section states that {soils} is an R package for soil health data visualization and reporting. The 'Installation' section provides two methods: installing from r-universe (with a code block) or from GitHub (with a code block). The bottom section shows how to load the example datasets and functions with a code block.

soils 1.0.1 [Home](#) [Primers](#) [Tutorials](#) [Examples](#) [Functions](#)

soils



- 🔊 Announcing Dirt Data Reports: a no-code soil health reporting tool built on {soils} using Shiny
- 👉 Try it [here](#) if you don't need full customization or prefer not to code.
- 📖 Read more about it in this [blog post](#).

Overview

{soils} is an R package for all your soil health data visualization and reporting needs. {soils} provides an RStudio interface for generating soil health reports. These reports compare to similar reports from other counties, and across the state.

Any scientist leading a project can use {soils} to generate reports for all participants. Democ managers who contribute data can use {soils} to generate reports to empower each participant.

The [Washington State Department of Agriculture](#) developed {soils} as part of the [Soil Health Reporting Tool](#). Read more about {soils} in this [blog post](#).

Installation

Install the development version of {soils} from our [r-universe](#) with:

```
install.packages("soils", repos = c("https://wa-department-of-agriculture.r-universe.dev"))
```

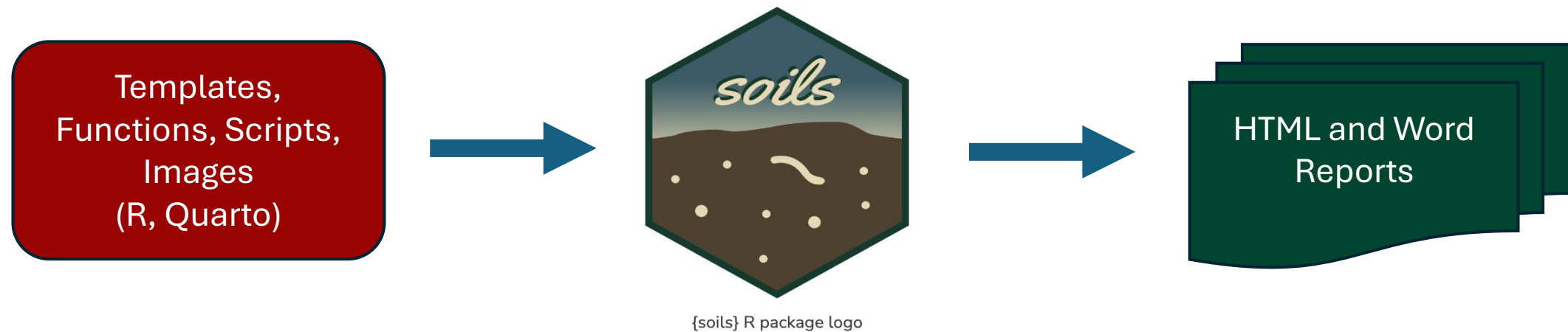
Or install from GitHub with [{pak}](#):

```
# Uncomment the below line if {pak} is not installed.  
# install.packages("pak")  
pak::pkg_install("WA-Department-of-Agriculture/soils")
```

Load the example datasets and functions with:

```
library(soils)
```

Using Soils Package in Quarto



Render about 100 Reports

The screenshot displays the RStudio interface during the rendering of a Quarto report. The source editor on the left shows the following R code:

```
43 )
44
45 ## Bind HTML and docx report dfs together
46 reports <- dplyr::bind_rows(reports_html, reports_docx)
47
48 # Render all reports to the project directory =====
49 reports |>
50   purrr::pwalk(
51     quarto::quarto_render,
52     input = "01_producer-report.qmd",
53     .progress = TRUE
54   )
55
56 # Move rendered reports to a different directory =====
57
```

The console at the bottom shows the output of the rendering process, including the file path and the progress bar:

```
R - R 4.5.0 - ~/Desktop/workshop testing/
document-css: false
link-citations: true
date-format: long
lang: en
title: '![images/logo.png] Results from PROJECT NAME'
subtitle: Fall 2023
knitr:
  opts_chunk:
    dev: ragg_png
    tbl.cap: null
    ft.align: left
    toc-location: left

Output created: 2023_WUY05_Report.html
```

The Environment pane on the right shows the data objects:

Object	Size
data	100 obs. of 42 variables
reports_html	83 obs. of 3 variables

The Files pane on the right shows the project structure:

- 08_looking-forward.qmd (512 B)
- 09_acknowledgement.qmd (655 B)
- data
- figure
- figure-output
- images
- R
- resources
- workshop testing.Rproj (276 B)
- 01_producer-report.docx (6.4 MB)
- 2023_WUY05_Report.html (0 B)
- 2022_RHM05_Report.html (6.4 MB)
- 01_producer-report_files
- 2023_FMR07_Report.html (1.2 MB)

Questions?

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