**Free, Online Readings to Accompany the MARAMA R Training**

You will find it helpful to read or skim these (preferably before) each respective webinar if you have the time, especially if you are new to R, coding, or both.

Introduction to R for Air Quality Applications

* Readings to prioritize are bold.
* The following sections from *R for Data Science* by Garrett Grolemund and Hadley Wickham:
  + [**2 – Introduction**](https://r4ds.had.co.nz/explore-intro.html)
  + [**4 – Workflow: basics**](https://r4ds.had.co.nz/workflow-basics.html)
  + [6 – Workflow: scripts](https://r4ds.had.co.nz/workflow-scripts.html)
  + [7 – Exploratory Data Analysis](https://r4ds.had.co.nz/exploratory-data-analysis.html)
  + [8 – Workflow: projects](https://r4ds.had.co.nz/workflow-projects.html)
  + [11 – Data import](https://r4ds.had.co.nz/data-import.html)

Tidyverse

* The following sections from *R for Data Science* by Garrett Grolemund and Hadley Wickham:
  + [5 – Data transformation](https://r4ds.had.co.nz/transform.html)
  + [18 – Pipes](https://r4ds.had.co.nz/pipes.html)

OpenAir

* Check out the [OpenAir manual](http://www.openair-project.org/PDF/OpenAir_Manual.pdf)

Ggplot2

* The following section from *ggplot2: Elegant Graphics for Data Analysis* by Hadley Wickham:
  + [2 – Getting started with ggplot2](https://ggplot2-book.org/getting-started.html)

Future Learning

All remaining chapters of R for Data Science are recommended as a reference for future learning.