R Markdown Manual for EGAP NRG Metaketa III

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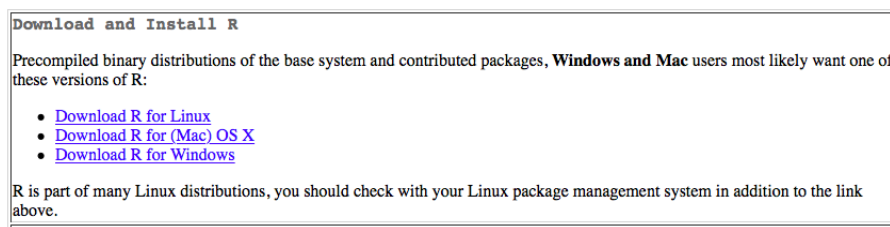Aug 28, 2017

Contents

1 What is Markdown

R Markdown is a format for making documents within R using a plain text format. When compiled, these text formats end up looking like nice, formatted PDFs. You can use Markdown on Windows and Mac OSX, and you can also edit the file in an ordinary text editor.

This document briefly explains how to edit documents in this format using either RStudio or various text editors. It also provides basic information on syntax.

2 Option I: Working in R and R Studio

Before getting started, please make sure you have the latest versions of R and RStudio installed on your machine. (R is a statistical application program and RStudio is a nice GUI shell to access R. Most users use them together but they are separate programs.)

You can download the latest version of R (for Windows or Mac OSX) by clicking [here].

You can download the latest version of RStudio by clicking [here]. Just download the latest version for your operating system and install.

R Studio   rstudio::conf   Products   Resources   Pricing   About Us   Blogs   🔍

RStudio Desktop 1.0.153 — Release Notes

RStudio requires R 2.11.1+. If you don't already have R, download it here.

Installers for Supported Platforms

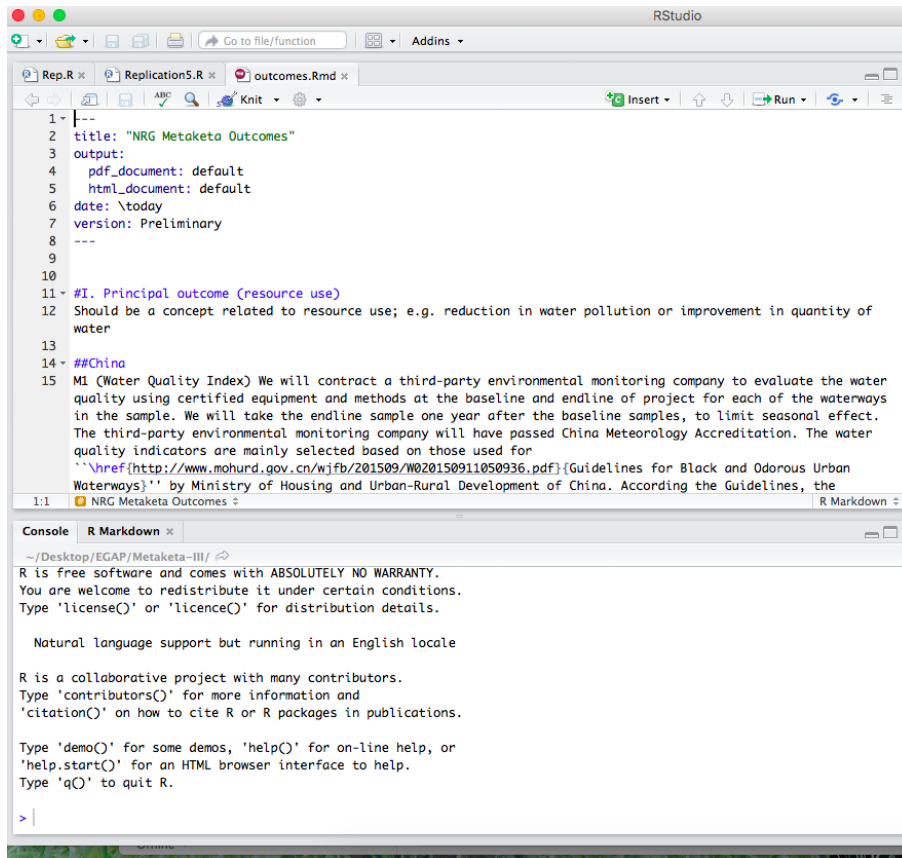| Installers	Size	Date	MD5
RStudio 1.0.153 - Windows Vista/7/8/10	81.9 MB	2017-07-20	b3b4bbc82865ab105c21cb70b17271b3
RStudio 1.0.153 - Mac OS X 10.6+ (64-bit)	71.2 MB	2017-07-20	8773610566b74ec3e1a88b2fdb10c8b5
RStudio 1.0.153 - Ubuntu 12.04-15.10/Debian 8 (32-bit)	85.5 MB	2017-07-20	981be44f91fc07e5f69f52330da32659
RStudio 1.0.153 - Ubuntu 12.04-15.10/Debian 8 (64-bit)	91.7 MB	2017-07-20	2d0769bea2bf6041511d6901a1cf69c3
RStudio 1.0.153 - Ubuntu 16.04+/Debian 9+ (64-bit)	61.9 MB	2017-07-20	d584cbab01041777a15d62cbef69a976
RStudio 1.0.153 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (32-bit)	84.7 MB	2017-07-20	8dfee96059b05a063c49b705eca0ceb4
RStudio 1.0.153 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (64-bit)	85.7 MB	2017-07-20	16c2c8334f961c65d9bfa8fb813ad7e7

Zip/Tarballs

Zip/tar archives	Size	Date	MD5
RStudio 1.0.153 - Windows Vista/7/8/10	117.6 MB	2017-07-20	024b5714fa6ef337fe0c6f5e2894cbcb
RStudio 1.0.153 - Ubuntu 12.04-15.10/Debian 8 (32-bit)	86.2 MB	2017-07-20	f8e0ffa7ec62665524f9e2477facd346
RStudio 1.0.153 - Ubuntu 12.04-15.10/Debian 8 (64-bit)	92.7 MB	2017-07-20	2077c181311d1aad6fb8d435f8f1f45f
RStudio 1.0.153 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (32-bit)	85.4 MB	2017-07-20	92e1a22d14952273ec389e5a55be614f
RStudio 1.0.153 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (64-bit)	86.6 MB	2017-07-20	0b71c5a7fc53c84b3fe67242240b3531

Source Code

A tarball containing source code for RStudio v1.0.153 can be downloaded from here
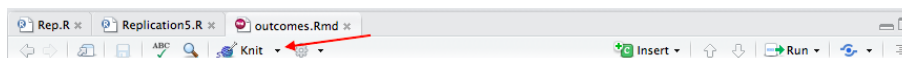
2.1 Editing .Rmd documents in RStudio

You can open any document with a .Rmd file extension with RStudio. I have opened "outcomes.Rmd" found in the "harmonization_docs" folder.
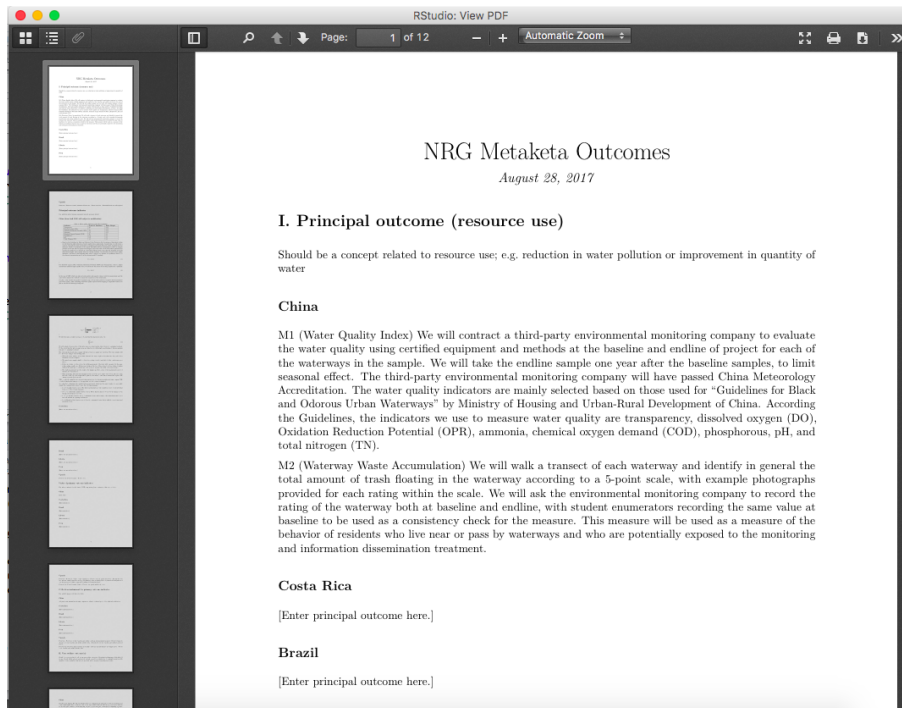
You can now edit the text directly in the R Studio window. For syntax, please see the "Syntax" section in this .pdf.

When finished editing, simply save your changes.

To format the document and produce .pdf output, you click on the "knit" button in the top toolbar. The first time you do this, it is likely that RStudio will ask you to load a few packages — just click "OK" here.
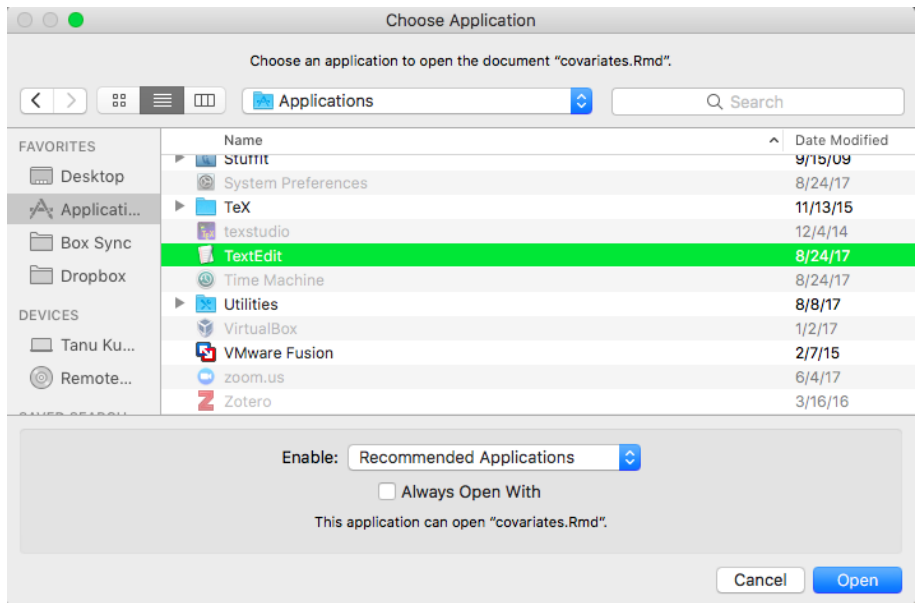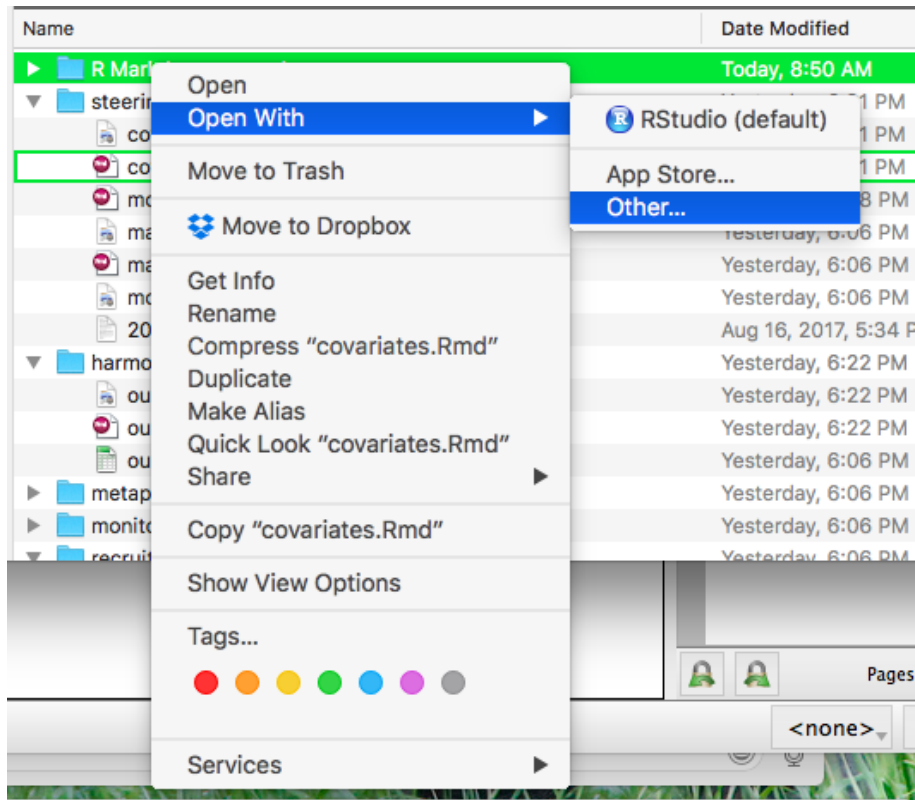

After a few moments, RStudio will provide you a preview of the .pdf document in a separate window.

3 Option II: Editing .Rmd documents with an ordinary text editor

You can also edit .Rmd documents with a standard text editor. To do so, simply open any document that has an .Rmd file extension with a text editor. Some text editor programs include TextEdit (comes installed on Mac), Notepad (comes installed on Windows), Atom (install by clicking [here]), and Brackets (install by clicking [here]). Simply ask your machine to open the .Rmd file with any one of these programs. You will not be able to preview the .pdf when you edit from an ordinary text editor, but all of your changes will be saved.

You should see a text version of a document open. You can edit this document and save it. For syntax, please see the "Syntax" section in this document.

```
---
title: "NRG Metaketa Outcomes"
output:
  pdf_document: default
  html_document: default
date: \today
version: Preliminary
---


#I. Principal outcome (resource use)
Should be a concept related to resource use; e.g. reduction in water pollution or improvement in quantity of water

##China
M1 (Water Quality Index) We will contract a third-party environmental monitoring company to evaluate the water quality using
certified equipment and methods at the baseline and endline of project for each of the waterways in the sample. We will take the
endline sample one year after the baseline samples, to limit seasonal effect. The third-party environmental monitoring company will
have passed China Meteorology Accreditation. The water quality indicators are mainly selected based on those used for
``\href{http://www.mohurd.gov.cn/wjfb/201509/W020150911050936.pdf}{Guidelines for Black and Odorous Urban Waterways}'' by Ministry
of Housing and Urban-Rural Development of China. According the Guidelines, the indicators we use to measure water quality are
transparency, dissolved oxygen (DO), Oxidation Reduction Potential (OPR), ammonia, chemical oxygen demand (COD), phosphorous, pH,
and total nitrogen (TN).

M2 (Waterway Waste Accumulation) We will walk a transect of each waterway and identify in general the total amount of trash
floating in the waterway according to a 5-point scale, with example photographs provided for each rating within the scale. We will
ask the environmental monitoring company to record the rating of the waterway both at baseline and endline, with student
enumerators recording the same value at baseline to be used as a consistency check for the measure. This measure will be used as a
measure of the behavior of residents who live near or pass by waterways and who are potentially exposed to the monitoring and
information dissemination treatment.

##Costa Rica
[Enter principal outcome here.]
<!---Comment: Please use two line breaks to denote a line break. Bullet points can written using the dash (-) key.
-->

##Brazil
[Enter principal outcome here.]
<!---Comment: Please use two line breaks to denote a line break. Bullet points can written using the dash (-) key.
-->

##Liberia
[Enter principal outcome here.]
<!---Comment: Please use two line breaks to denote a line break. Bullet points can written using the dash (-) key.
-->

##Peru
[Enter principal outcome here.]
<!---Comment: Please use two line breaks to denote a line break. Bullet points can written using the dash (-) key.
-->

##Uganda

Forest use
- Forest use 'events'; instances of forest use.
- Forest cover loss.
- Household forest use; self-reported.
```

4   Markdown Syntax

Markdown is designed to be lightweight to use, and the documents that we are collaborating on all use very basic Markdown syntax. In fact, if you don't want to learn any Markdown syntax, you don't have to. Just type in whatever you want to say in the appropriate location. Or take a look at how something else is formatted and reuse what you see there.

R Markdown is designed to have syntax that is intuitive to write and read in its plain text format. Some basic rules are below. You shouldn't need much more than these, but if you are curious, you can see some more syntax rules [here].

4.1   Manual line breaks

End a line with two or more spaces:

```
Roses are red,
Violets are blue.
```

You can also end a line with two line spaces:

```
Roses are red

Violets are blue
```

4.2   Emphasis

```
*italic*    **bold**

_italic_    __bold__
```

4.3   Headers

```
#Header 1
###Header 2
###Header 3
```

4.4   Lists

4.4.1   Unordered lists

```
* Item 1
* Item 2
  * Item 2a
  * Item 2b
```

The output will look as follows:

- Item 1
- Item 2
    - Item 2a
    - Item 2b

Unordered lists can also be made using "-" and "+":

```
- Item 1
- Item 2
- Item 3
    - Item 3a
    - Item 3b


+ Item 1
+ Item 2
+ Item 3
    + Item 3a
    + Item 3b
```

4.4.2 Ordered lists

```
1. Item 1
2. Item 2
3. Item 3
   * Item 3a
   * Item 3b
```

The output will look as follows:

1. Item 1
2. Item 2
3. Item 3
   - Item 3a
   - Item 3b

4.5 Comments

Comments are notes to coauthors or yourself within the document. They will not be visible in the formatted .pdf version.

```
<!--- Comment text here-->
```

4.6 Markdown and LaTex

Markdown integrates relatively painlessly with LaTex. If you use standard LaTex commands, such as `\textbf`, `\textit`, or the `\itemize` environment, Markdown can interpret them properly and format your material accordingly.