An introduction to R Markdown

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ENDANGERED WILDLIFE TRUST
Protecting forever, together.

SEEC - Statistics in Ecology, Environment and Conservation

What is Markdown?

- Simple, plain text formatting language (syntax)
- Designed to write HTML valid code without tags
- Goal of easy-to-read and easy-to-write
- Alternative to “what you see is what you get” editors
- Many Markdown language variations
- .md file extension

Markdown vs HTML

This is a **bulleted list** with *several* important things:

- Item 1
- Item 2
- Item 3

```
This is a **bulleted list** with _several_ important things:

* Item 1
* Item 2
* Item 3
```

```
<p>This is a <strong>bulleted list</strong> with <em>several</em> important things:</p>

<ul>
<li>Item 1</li>
<li>Item 2</li>
<li>Item 3</li>
</ul>
```

What is R Markdown?

Embed R code chunks in **.Rmd** file

.md

Pandoc.org

rmarkdown package

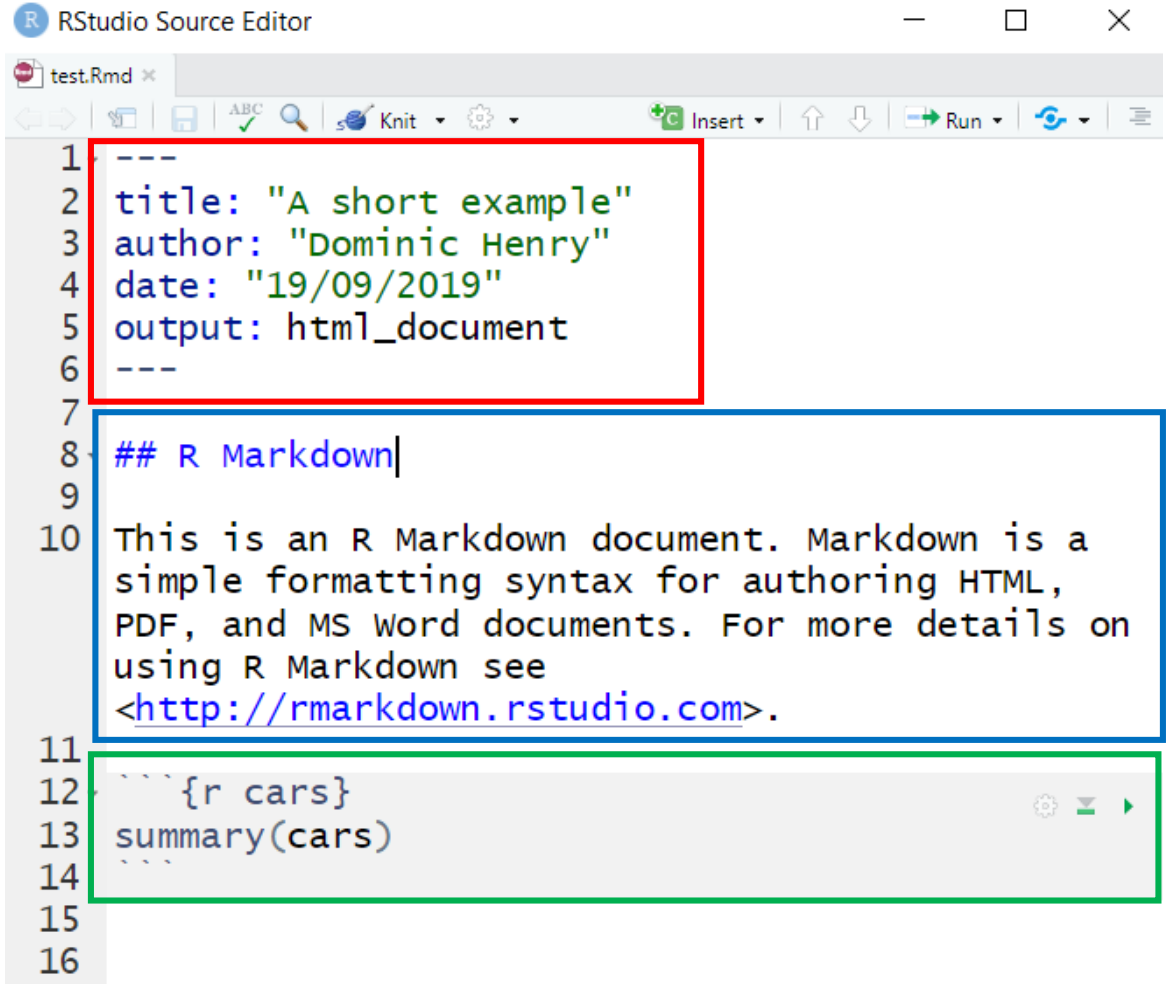
Developed in 2014 and has evolved into a comprehensive platform for authoring documents

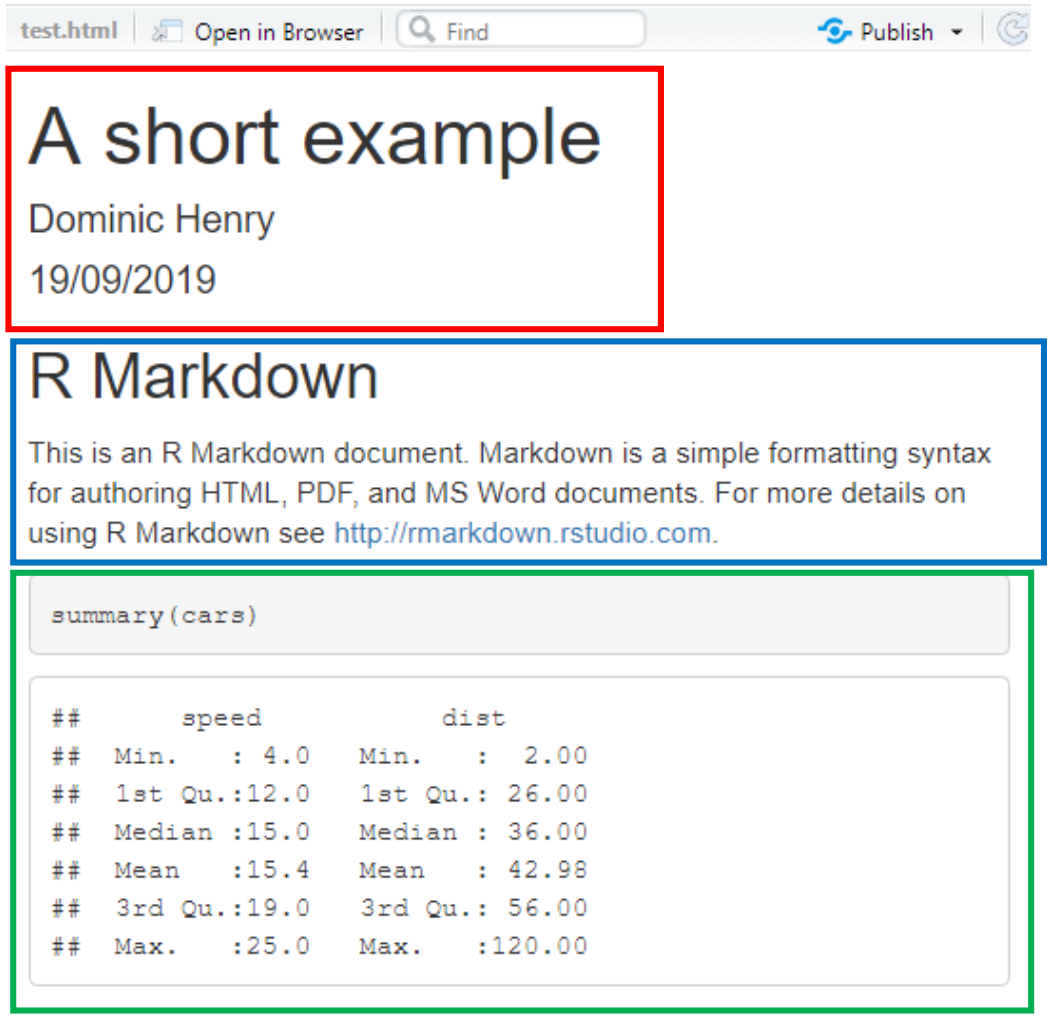
`rmarkdown::render & knitr::knit`

Uses:

- Compile a single R Markdown document to a report in different formats (PDF, Word, Powerpoint, etc.)
- Create notebooks in which code chunks can run interactively
- Build slide presentations (LaTeX Beamer, PowerPoint, ioslides).
- Build interactive apps (*shiny* package)
- Write journal articles and books (*bookdown* package)
- Create websites and blogs

Components of R Markdown document



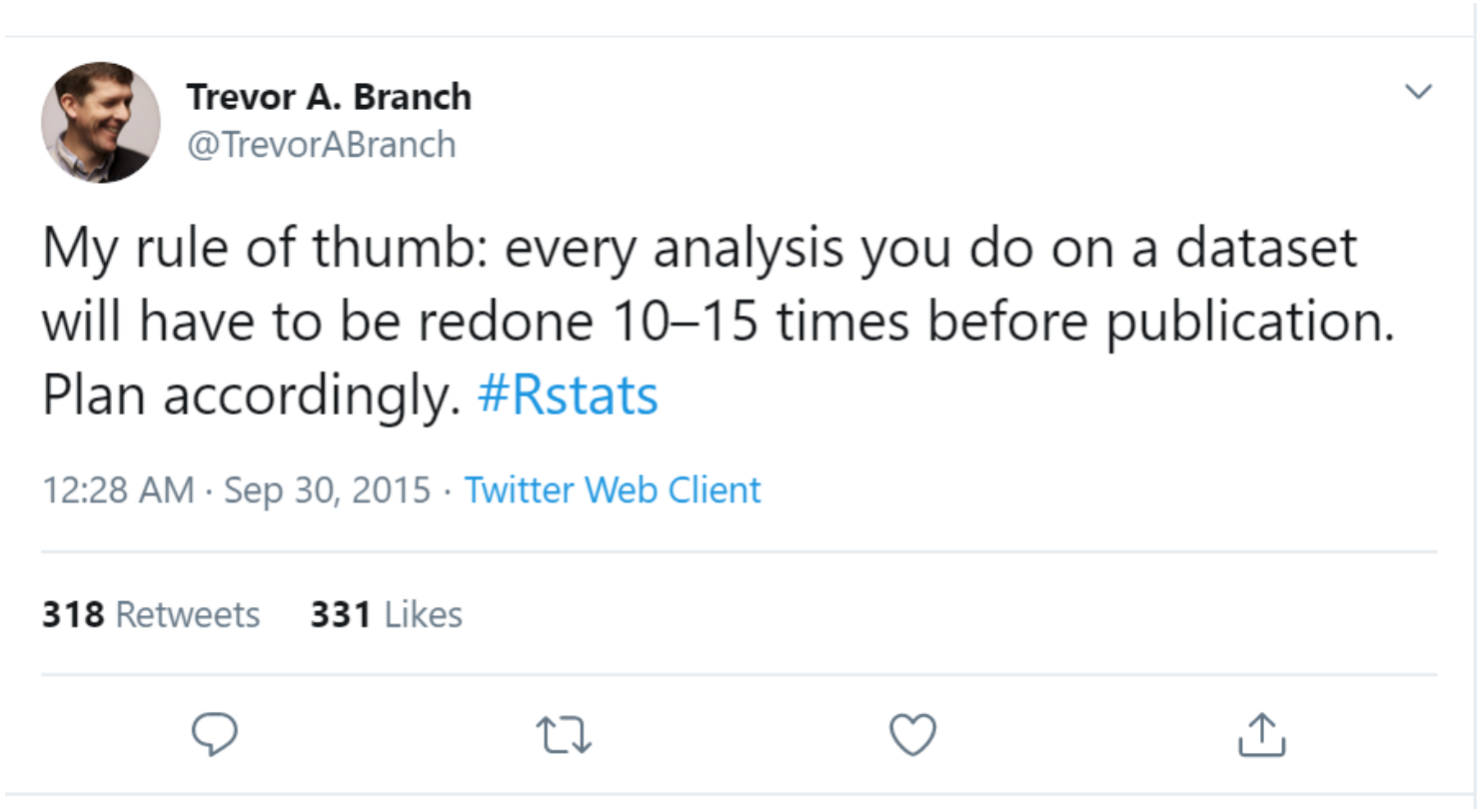


Benefits of using *rmarkdown* package

- Dynamic analysis documents that combine code, rendered outputs and narrative
- Interactive analysis within the RStudio IDE
- Effectively communicate your results & render across platforms

Benefits of using *rmarkdown* package

- Reproduce, collaborate and share results



Basic workflow

```
install.packages("rmarkdown")
Install.packages("knitr")
```

i. Open - Open a file that uses the .Rmd extension.

ii. Write - Write content with the easy to use R Markdown syntax

iii. Embed - Embed R code that creates output to include in the report

iv. Render - Replace R code with its output and transform the report into a slideshow, pdf, html or ms Word file.

Demo

- Creating a template
- Conventions: text and chunks
- Graphics
- Publishing documents

Resources

- *The* R Markdown Book - https://bookdown.org/yihui/rmarkdown/
- R markdown cheat sheet
- Templates - https://rmarkdown.rstudio.com/gallery.html
- Rpubs - https://rpubs.com/
- RStudio Connect - https://www.rstudio.com/products/connect/
- Rstudio talks - https://resources.rstudio.com/webinars
- remedy package - https://github.com/ThinkR-open/remedy
- Custom themes - https://prettydoc.statr.me/
- rmdformats package - https://github.com/juba/rmdformats

Thank you

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https://github.com/DomHenry/SEEC-Rmd-Toolbox

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