# My Amazing NOAA Tech Memo Metadata 2020-11-23

## Code Author

Writiten by Emily Markowitz, emilyhmarkowitz@gmail.com/emily.markowitz@noaa.gov

## Date Code Ran:

2020-11-23 01:48:27

## System Info:

Windows x86\_64-w64-mingw32

## R Version

R version 4.0.3 (2020-10-10): Bunny-Wunnies Freak Out

## R Packages Loaded

stats

graphics

grDevices

utils

datasets

methods

base

### forcats

0.5.0

Tools for Working with Categorical Variables (Factors)

Helpers for reordering factor levels (including
moving specified levels to front, ordering by first appearance,
reversing, and randomly shuffling), and tools for modifying factor
levels (including collapsing rare levels into other, 'anonymising',
and manually 'recoding').

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre"),
email = "hadley@rstudio.com"),
person(given = "RStudio",
role = c("cph", "fnd")))

http://forcats.tidyverse.org, https://github.com/tidyverse/forcats

### stringr

1.4.0

Simple, Consistent Wrappers for Common String Operations

A consistent, simple and easy to use set of
wrappers around the fantastic 'stringi' package. All function and
argument names (and positions) are consistent, all functions deal with
"NA"'s and zero length vectors in the same way, and the output from
one function is easy to feed into the input of another.

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre", "cph"),
email = "hadley@rstudio.com"),
person(given = "RStudio",
role = c("cph", "fnd")))

http://stringr.tidyverse.org, https://github.com/tidyverse/stringr

### dplyr

1.0.2

A Grammar of Data Manipulation

A fast, consistent tool for working with data frame
like objects, both in memory and out of memory.

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre"),
email = "hadley@rstudio.com",
comment = c(ORCID = "0000-0003-4757-117X")),
person(given = "Romain",
family = "François",
role = "aut",
comment = c(ORCID = "0000-0002-2444-4226")),
person(given = "Lionel",
family = "
Henry",
role = "aut"),
person(given = "Kirill",
family = "Müller",
role = "aut",
comment = c(ORCID = "0000-0002-1416-3412")),
person(given = "RStudio",
role = c("cph", "fnd")))

https://dplyr.tidyverse.org, https://github.com/tidyverse/dplyr

### purrr

0.3.4

Functional Programming Tools

A complete and consistent functional programming
toolkit for R.

c(person(given = "Lionel",
family = "Henry",
role = c("aut", "cre"),
email = "lionel@rstudio.com"),
person(given = "Hadley",
family = "Wickham",
role = "aut",
email = "hadley@rstudio.com"),
person(given = "RStudio",
role = c("cph", "fnd")))

http://purrr.tidyverse.org, https://github.com/tidyverse/purrr

### readr

1.4.0

Read Rectangular Text Data

The goal of 'readr' is to provide a fast and
friendly way to read rectangular data (like 'csv', 'tsv', and 'fwf').
It is designed to flexibly parse many types of data found in the wild,
while still cleanly failing when data unexpectedly changes.

C++11

c(person(given = "Hadley",
family = "Wickham",
role = "aut",
email = "hadley@rstudio.com"),
person(given = "Jim",
family = "Hester",
role = c("aut", "cre"),
email = "james.hester@rstudio.com"),
person(given = "Romain",
family = "Francois",
role = "ctb"),
person(given = "R Core Team",
role = "ctb",
comment = "Date time code adapted from R"),
person(given = "RStudio",
role = c("cph", "fnd")),
person(given = "Jukka",
family = "Jylänki",
role = c("ctb", "cph"),
comment = "grisu3 implementation"),
person(given = "Mikkel",
family = "Jørgensen",
role = c("ctb", "cph"),
comment = "grisu3 implementation"))

https://readr.tidyverse.org, https://github.com/tidyverse/readr

### tidyr

1.1.2

Tidy Messy Data

Tools to help to create tidy data, where each column is a
variable, each row is an observation, and each cell contains a single value.
'tidyr' contains tools for changing the shape (pivoting) and hierarchy
(nesting and 'unnesting') of a dataset, turning deeply nested lists
into rectangular data frames ('rectangling'), and extracting values out
of string columns. It also includes tools for working with missing values
(both implicit and explicit).

C++11

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre"),
email = "hadley@rstudio.com"),
person(given = "RStudio",
role = "cph"))

https://tidyr.tidyverse.org, https://github.com/tidyverse/tidyr

### tibble

3.0.4

Simple Data Frames

Provides a 'tbl\_df' class (the 'tibble') that
provides stricter checking and better formatting than the traditional
data frame.

c(person(given = "Kirill",
family = "M\u00fcller",
role = c("aut", "cre"),
email = "krlmlr+r@mailbox.org"),
person(given = "Hadley",
family = "Wickham",
role = "aut",
email = "hadley@rstudio.com"),
person(given = "Romain",
family = "Francois",
role = "ctb",
email = "romain@r-enthusiasts.com"),
person(given = "Jennifer",
family = "Bryan",
role = "ctb",
email = "jenny@rstudio.com"),
person(given = "RStudio",
role = "cph"))

https://tibble.tidyverse.org/, https://github.com/tidyverse/tibble

### ggplot2

3.3.2

Create Elegant Data Visualisations Using the Grammar of Graphics

A system for 'declaratively' creating graphics,
based on "The Grammar of Graphics". You provide the data, tell 'ggplot2'
how to map variables to aesthetics, what graphical primitives to use,
and it takes care of the details.

c(
person("Hadley", "Wickham", , "hadley@rstudio.com", "aut",
comment = c(ORCID = "0000-0003-4757-117X")),
person("Winston", "Chang", , role = "aut",
comment = c(ORCID = "0000-0002-1576-2126")),
person("Lionel", "Henry", , role = "aut"),
person("Thomas Lin", "Pedersen", , "thomas.pedersen@rstudio.com",
role = c("aut", "cre"), comment = c(ORCID = "0000-0002-5147-4711")),
person("Kohske", "Takahashi", role = "aut"),
person("Claus", "Wilke", role = "aut",
comment = c(ORCID = "0000-0002-7470-9261")),
person("Kara", "Woo", role = "aut",
comment = c(ORCID = "0000-0002-5125-4188")),
person("Hiroaki", "Yutani", role = "aut",
comment = c(ORCID = "0000-0002-3385-7233")),
person("Dewey", "Dunnington", role = "aut",
comment = c(ORCID = "0000-0002-9415-4582")),
person("RStudio", role = c("cph", "fnd"))
)

http://ggplot2.tidyverse.org, https://github.com/tidyverse/ggplot2

### tidyverse

1.3.0

Easily Install and Load the 'Tidyverse'

The 'tidyverse' is a set of packages that work in
harmony because they share common data representations and 'API'
design. This package is designed to make it easy to install and load
multiple 'tidyverse' packages in a single step. Learn more about the
'tidyverse' at <https://tidyverse.org>.

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre"),
email = "hadley@rstudio.com"),
person(given = "RStudio",
role = c("cph", "fnd")))

http://tidyverse.tidyverse.org,
https://github.com/tidyverse/tidyverse

### knitcitations

1.0.11

Citations for 'Knitr' Markdown Files

Provides the ability to create dynamic citations
in which the bibliographic information is pulled from the web rather
than having to be entered into a local database such as 'bibtex' ahead of
time. The package is primarily aimed at authoring in the R 'markdown'
format, and can provide outputs for web-based authoring such as linked
text for inline citations. Cite using a 'DOI', URL, or
'bibtex' file key. See the package URL for details.

person("Carl", "Boettiger", role=c("aut", "cre"),
email="cboettig@gmail.com", comment = "https://orcid.org/0000-0002-1642-628X")

https://github.com/cboettig/knitcitations

### RMarkReports

0.0.0.9000

Write smart R Markdown reports with these basic and easy
funcitons!

Write smart R Markdown reports with these basic and easy funcitons!

person(given = "Emily",
family = "Markowitz",
role = c("aut", "cre"),
email = "Emily.Markowitz@noaa.gov",
comment = c(ORCID = "0000-0001-5757-4230"))

### packrat

0.5.0

A Dependency Management System for Projects and their R Package
Dependencies

Manage the R packages your project depends
on in an isolated, portable, and reproducible way.

https://github.com/rstudio/packrat/

### devtools

2.3.2

Tools to Make Developing R Packages Easier

Collection of package development tools.

c(person(given = "Hadley",
family = "Wickham",
role = "aut"),
person(given = "Jim",
family = "Hester",
role = c("aut", "cre"),
email = "jim.hester@rstudio.com"),
person(given = "Winston",
family = "Chang",
role = "aut"),
person(given = "RStudio",
role = "cph"),
person(given = "R Core team",
role = "ctb",
comment = "Some namespace and vignette code extracted from base R"))

https://devtools.r-lib.org/, https://github.com/r-lib/devtools

### usethis

1.6.3

Automate Package and Project Setup

Automate package and project setup tasks that are otherwise
performed manually. This includes setting up unit testing, test
coverage, continuous integration, Git, 'GitHub', licenses, 'Rcpp', 'RStudio'
projects, and more.

c(person(given = "Hadley",
family = "Wickham",
role = "aut",
email = "hadley@rstudio.com",
comment = c(ORCID = "0000-0003-4757-117X")),
person(given = "Jennifer",
family = "Bryan",
role = c("aut", "cre"),
email = "jenny@rstudio.com",
comment = c(ORCID = "0000-0002-6983-2759")),
person(given = "RStudio",
role = c("cph", "fnd")))

https://usethis.r-lib.org, https://github.com/r-lib/usethis

### officer

0.3.15

Manipulation of Microsoft Word and PowerPoint Documents

Access and manipulate 'Microsoft Word' and 'Microsoft PowerPoint' documents from R.
The package focuses on tabular and graphical reporting from R; it also provides two functions
that let users get document content into data objects. A set of functions
lets add and remove images, tables and paragraphs of text in new or existing documents.
The package does not require any installation of Microsoft products to be able to write Microsoft
files.

c(
person("David", "Gohel", role = c("aut", "cre"),
email = "david.gohel@ardata.fr"),
person("Frank", "Hangler", role = "ctb", email = "frank@plotandscatter.com", comment = "function body\_replace\_all\_text"),
person("Liz", "Sander", role = "ctb", email = 'lsander@civisanalytics.com', comment = "several documentation fixes"),
person("Anton", "Victorson", role = "ctb", email = 'anton@victorson.se',comment = "fixes xml structures"),
person("Jon", "Calder", role = "ctb", email = 'jonmcalder@gmail.com', comment = "update vignettes"),
person("John", "Harrold", role = "ctb", email = 'john.m.harrold@gmail.com', comment = "fuction annotate\_base"),
person("John", "Muschelli", role = "ctb", email = 'muschellij2@gmail.com', comment = "google doc compatibility")
)

https://ardata-fr.github.io/officeverse/,
https://davidgohel.github.io/officer/

### here

1.0.0

A Simpler Way to Find Your Files

Constructs paths to your project's files.
Declare the relative path of a file within your project with 'i\_am()'.
Use the 'here()' function as a drop-in replacement for 'file.path()',
it will always locate the files relative to your project root.

c(person(given = "Kirill",
family = "M\u00fcller",
role = c("aut", "cre"),
email = "krlmlr+r@mailbox.org",
comment = c(ORCID = "0000-0002-1416-3412")),
person(given = "Jennifer",
family = "Bryan",
role = "ctb",
email = "jenny@rstudio.com",
comment = c(ORCID = "0000-0002-6983-2759")))

https://here.r-lib.org/, https://github.com/r-lib/here

### rmarkdown

2.5

Dynamic Documents for R

Convert R Markdown documents into a variety of formats.

pandoc (>= 1.14) - http://pandoc.org

c(
person("JJ", "Allaire", role = "aut", email = "jj@rstudio.com"),
person("Yihui", "Xie", role = c("aut", "cre"), email = "xie@yihui.name", comment = c(ORCID = "0000-0003-0645-5666")),
person("Jonathan", "McPherson", role = "aut", email = "jonathan@rstudio.com"),
person("Javier", "Luraschi", role = "aut", email = "javier@rstudio.com"),
person("Kevin", "Ushey", role = "aut", email = "kevin@rstudio.com"),
person("Aron", "Atkins", role = "aut", email = "aron@rstudio.com"),
person("Hadley", "Wickham", role = "aut", email = "hadley@rstudio.com"),
person("Joe", "Cheng", role = "aut", email = "joe@rstudio.com"),
person("Winston", "Chang", role = "aut", email = "winston@rstudio.com"),
person("Richard", "Iannone", role = "aut", email = "rich@rstudio.com", comment = c(ORCID = "0000-0003-3925-190X")),
#
# Contributors, ordered alphabetically by first name
person("Andrew", "Dunning", role = "ctb", comment = c(ORCID = "0000-0003-0464-5036")),
person("Atsushi", "Yasumoto", role = c("ctb", "cph"),
comment = c(ORCID = "0000-0002-8335-495X",
cph = "Number sections Lua filter")),
person("Barret", "Schloerke", role = "ctb"),
person("Christophe", "Dervieux", role = "ctb"),
person("Frederik", "Aust", role = "ctb", email = "frederik.aust@uni-koeln.de", comment = c(ORCID = "0000-0003-4900-788X")),
person("Jeff", "Allen", role = "ctb", email = "jeff@rstudio.com"),
person("JooYoung", "Seo", role="ctb", comment = c(ORCID = "0000-0002-4064-6012")),
person("Malcolm", "Barrett", role = "ctb"),
person("Rob", "Hyndman", role = "ctb", email = "Rob.Hyndman@monash.edu"),
person("Romain", "Lesur", role = "ctb"),
person("Roy", "Storey", role = "ctb"),
person("Ruben", "Arslan", role = "ctb", email = "ruben.arslan@uni-goettingen.de"),
person("Sergio", "Oller", role = "ctb"),
#
# Copyright holders
person(family = "RStudio, PBC", role = "cph"),
person(family = "jQuery Foundation", role = "cph",
comment = "jQuery library"),
person(family = "jQuery contributors", role = c("ctb", "cph"),
comment = "jQuery library; authors listed in inst/rmd/h/jquery-AUTHORS.txt"),
person(family = "jQuery UI contributors", role = c("ctb", "cph"),
comment = "jQuery UI library; authors listed in inst/rmd/h/jqueryui-AUTHORS.txt"),
person("Mark", "Otto", role = "ctb",
comment = "Bootstrap library"),
person("Jacob", "Thornton", role = "ctb",
comment = "Bootstrap library"),
person(family = "Bootstrap contributors", role = "ctb",
comment = "Bootstrap library"),
person(family = "Twitter, Inc", role = "cph",
comment = "Bootstrap library"),
person("Alexander", "Farkas", role = c("ctb", "cph"),
comment = "html5shiv library"),
person("Scott", "Jehl", role = c("ctb", "cph"),
comment = "Respond.js library"),
person("Ivan", "Sagalaev", role = c("ctb", "cph"),
comment = "highlight.js library"),
person("Greg", "Franko", role = c("ctb", "cph"),
comment = "tocify library"),
person("John", "MacFarlane", role = c("ctb", "cph"),
comment = "Pandoc templates"),
person(family = "Google, Inc.", role = c("ctb", "cph"),
comment = "ioslides library"),
person("Dave", "Raggett", role = "ctb",
comment = "slidy library"),
person(family = "W3C", role = "cph",
comment = "slidy library"),
person("Dave", "Gandy", role = c("ctb", "cph"),
comment = "Font-Awesome"),
person("Ben", "Sperry", role = "ctb",
comment = "Ionicons"),
person(family = "Drifty", role = "cph",
comment = "Ionicons"),
person("Aidan", "Lister", role = c("ctb", "cph"),
comment = "jQuery StickyTabs"),
person("Benct Philip", "Jonsson", role = c("ctb", "cph"),
comment = "pagebreak Lua filter"),
person("Albert", "Krewinkel", role = c("ctb", "cph"),
comment = "pagebreak Lua filter")
)

https://github.com/rstudio/rmarkdown

### knitr

1.30

A General-Purpose Package for Dynamic Report Generation in R

Provides a general-purpose tool for dynamic report generation in R
using Literate Programming techniques.

Package vignettes based on R Markdown v2 or
reStructuredText require Pandoc (http://pandoc.org). The
function rst2pdf() require rst2pdf
(https://github.com/rst2pdf/rst2pdf).

c(
person("Yihui", "Xie", role = c("aut", "cre"), email = "xie@yihui.name", comment = c(ORCID = "0000-0003-0645-5666")),
person("Adam", "Vogt", role = "ctb"),
person("Alastair", "Andrew", role = "ctb"),
person("Alex", "Zvoleff", role = "ctb"),
person("Andre", "Simon", role = "ctb", comment = "the CSS files under inst/themes/ were derived from the Highlight package http://www.andre-simon.de"),
person("Aron", "Atkins", role = "ctb"),
person("Aaron", "Wolen", role = "ctb"),
person("Ashley", "Manton", role = "ctb"),
person("Atsushi", "Yasumoto", role = "ctb", comment = c(ORCID = "0000-0002-8335-495X")),
person("Ben", "Baumer", role = "ctb"),
person("Brian", "Diggs", role = "ctb"),
person("Brian", "Zhang", role = "ctb"),
person("Cassio", "Pereira", role = "ctb"),
person("Christophe", "Dervieux", role = "ctb"),
person("David", "Hugh-Jones", role = "ctb"),
person("David", "Robinson", role = "ctb"),
person("Doug", "Hemken", role = "ctb"),
person("Duncan", "Murdoch", role = "ctb"),
person("Elio", "Campitelli", role = "ctb"),
person("Ellis", "Hughes", role = "ctb"),
person("Emily", "Riederer", role = "ctb"),
person("Fabian", "Hirschmann", role = "ctb"),
person("Fitch", "Simeon", role = "ctb"),
person("Forest", "Fang", role = "ctb"),
person(c("Frank", "E", "Harrell", "Jr"), role = "ctb", comment = "the Sweavel package at inst/misc/Sweavel.sty"),
person("Garrick", "Aden-Buie", role = "ctb"),
person("Gregoire", "Detrez", role = "ctb"),
person("Hadley", "Wickham", role = "ctb"),
person("Hao", "Zhu", role = "ctb"),
person("Heewon", "Jeon", role = "ctb"),
person("Henrik", "Bengtsson", role = "ctb"),
person("Hiroaki", "Yutani", role = "ctb"),
person("Ian", "Lyttle", role = "ctb"),
person("Hodges", "Daniel", role = "ctb"),
person("Jake", "Burkhead", role = "ctb"),
person("James", "Manton", role = "ctb"),
person("Jared", "Lander", role = "ctb"),
person("Jason", "Punyon", role = "ctb"),
person("Javier", "Luraschi", role = "ctb"),
person("Jeff", "Arnold", role = "ctb"),
person("Jenny", "Bryan", role = "ctb"),
person("Jeremy", "Ashkenas", role = c("ctb", "cph"), comment = "the CSS file at inst/misc/docco-classic.css"),
person("Jeremy", "Stephens", role = "ctb"),
person("Jim", "Hester", role = "ctb"),
person("Joe", "Cheng", role = "ctb"),
person("Johannes", "Ranke", role = "ctb"),
person("John", "Honaker", role = "ctb"),
person("John", "Muschelli", role = "ctb"),
person("Jonathan", "Keane", role = "ctb"),
person("JJ", "Allaire", role = "ctb"),
person("Johan", "Toloe", role = "ctb"),
person("Jonathan", "Sidi", role = "ctb"),
person("Joseph", "Larmarange", role = "ctb"),
person("Julien", "Barnier", role = "ctb"),
person("Kaiyin", "Zhong", role = "ctb"),
person("Kamil", "Slowikowski", role = "ctb"),
person("Karl", "Forner", role = "ctb"),
person(c("Kevin", "K."), "Smith", role = "ctb"),
person("Kirill", "Mueller", role = "ctb"),
person("Kohske", "Takahashi", role = "ctb"),
person("Lorenz", "Walthert", role = "ctb"),
person("Lucas", "Gallindo", role = "ctb"),
person("Marius", "Hofert", role = "ctb"),
person("Martin", "Modrák", role = "ctb"),
person("Michael", "Chirico", role = "ctb"),
person("Michael", "Friendly", role = "ctb"),
person("Michal", "Bojanowski", role = "ctb"),
person("Michel", "Kuhlmann", role = "ctb"),
person("Miller", "Patrick", role = "ctb"),
person("Nacho", "Caballero", role = "ctb"),
person("Nick", "Salkowski", role = "ctb"),
person("Niels Richard", "Hansen", role = "ctb"),
person("Noam", "Ross", role = "ctb"),
person("Obada", "Mahdi", role = "ctb"),
person("Qiang", "Li", role = "ctb"),
person("Ramnath", "Vaidyanathan", role = "ctb"),
person("Richard", "Cotton", role = "ctb"),
person("Robert", "Krzyzanowski", role = "ctb"),
person("Romain", "Francois", role = "ctb"),
person("Ruaridh", "Williamson", role = "ctb"),
person("Scott", "Kostyshak", role = "ctb"),
person("Sebastian", "Meyer", role = "ctb"),
person("Sietse", "Brouwer", role = "ctb"),
person(c("Simon", "de"), "Bernard", role = "ctb"),
person("Sylvain", "Rousseau", role = "ctb"),
person("Taiyun", "Wei", role = "ctb"),
person("Thibaut", "Assus", role = "ctb"),
person("Thibaut", "Lamadon", role = "ctb"),
person("Thomas", "Leeper", role = "ctb"),
person("Tim", "Mastny", role = "ctb"),
person("Tom", "Torsney-Weir", role = "ctb"),
person("Trevor", "Davis", role = "ctb"),
person("Viktoras", "Veitas", role = "ctb"),
person("Weicheng", "Zhu", role = "ctb"),
person("Wush", "Wu", role = "ctb"),
person("Zachary", "Foster", role = "ctb")
)

https://yihui.org/knitr/