

An introduction to knitcitations

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knitcitations

- **Author:** [Carl Boettiger](#)
- **License:** [MIT](#)
- [Package source code on Github](#)
- **Submit Bugs and feature requests**

knitcitations is an R package designed to add dynamic citations to dynamic documents created with [Yihui's knitr package](#).

Installation

Install the development version directly from Github

```
library(devtools)
install_github("knitcitations", "cboettig")
```

Or install the current release from your CRAN mirror with `install.packages("knitcitations")`.

Quick start: rmarkdown (pandoc) mode

Start by loading the library. It is usually good to also clear the bibliographic environment after loading the library, in case any citations are already stored there:

```
library("knitcitations")
cleanbib()
```

Set pandoc as the default format:

```
options("citation_format" = "pandoc")
```

(Note: The old method will eventually be deprecated. For documents using `knitcitations <= 0.5` it will become necessary to set this as `"compatibility"`).

Cite by DOI

Cite an article by DOI and the full citation information is gathered automatically. By default this now generates a citation in pandoc-flavored-markdown format. We use the inline command `citep("10.1890/11-0011.1")` to create this citation (Abrams et al. 2012).

An in-text citation is generated with `citet`, such as `citet("10.1098/rspb.2013.1372")` creating the citation to Boettiger and Hastings (2013).

Cite by URL

Not all the literature we may wish to cite includes DOIs, such as [arXiv](#) preprints, Wikipedia pages, or other academic blogs. Even when a DOI is present it is not always trivial to locate. With version 0.4-0, `knitcitations` can produce citations given any URL using the [Greycite API](#). For instance, we can use the call `citep("http://knowledgeblog.org/greycite")` to generate the citation to the Greycite tool (Lord 2012).

Cite bibtex and bibentry objects directly

We can also use `bibentry` objects such as R provides for citing packages (using R's `citation()` function): `citep(citation("knitr"))` produces (Xie 2014a; Xie 2013; Xie 2014b). Note that this package includes citations to three objects, and pandoc correctly avoids duplicating the author names. In pandoc mode, we can still use traditional pandoc-markdown citations like `@Boettiger_2013` which will render as Boettiger and Hastings (2013) without any R code, provided the citation is already in the `.bib` file we name (see below).

Re-using Keys

When the citation is called, a key in the format `FirstAuthorsLastName_Year` is automatically created for this citation, so we can now continue to cite this article without remembering the DOI, using the command `citep("Abrams_2012")` creates the citation (Abrams et al. 2012) without mistaking it for a new article.

Displaying the final bibliography

At the end of the document, include a chunk containing the command:

```
write.bibtex(file="references.bib")
```

Use the chunk options `echo=FALSE` and `message=FALSE` to hide the chunk command and output.

This creates a Bibtex file with the name given. [Pandoc](#) can then be used to compile the markdown into HTML, MS Word, LaTeX, PDF, or many other formats, each with the desired journal styling. Pandoc is now integrated with [RStudio](#) through the [rmarkdown](#) package. Pandoc appends these references to the end of the markdown document automatically. In this example, we have added a yaml header to our Rmd file which indicates the name of the bib file being used, and the optional link to a [CSL](#) stylesheet which formats the output for the ESA journals:

```
---
bibliography: "references.bib"
csl: "ecology.csl"
output:
  html_document
---
```

Example file for RStudio / rmarkdown

This vignette itself is written as an `.Rmd` file with the `yaml` header discussed above for working with RStudio's `knit` buttons or the `rmarkdown` R package. You can see the [tutorial source file here](#). Calling `rmarkdown::render("tutorial.Rmd")` from R on the tutorial compiles the output markdown, with references in the format of the ESA journals.

References

- Abrams, Peter A., Lasse Ruokolainen, Brian J. Shuter, and Kevin S. McCann. 2012. “Harvesting Creates Ecological Traps: Consequences of Invisible Mortality Risks in Predatorprey Metacommunities.” *Ecology* 93 (2). Ecological Society of America: 281–93. doi:[10.1890/11-0011.1](https://doi.org/10.1890/11-0011.1).
- Boettiger, C., and A. Hastings. 2013. “No Early Warning Signals for Stochastic Transitions: Insights from Large Deviation Theory.” *Proceedings of the Royal Society B: Biological Sciences* 280 (1766). The Royal Society: 20131372–72. doi:[10.1098/rspb.2013.1372](https://doi.org/10.1098/rspb.2013.1372).
- Lord, Phillip. 2012. “Greycite.” *Knowledge Blog*. <http://knowledgeblog.org/greycite>. <http://knowledgeblog.org/greycite>.
- Xie, Yihui. 2013. *Dynamic Documents with R and Knitr*. Boca Raton, Florida: Chapman; Hall/CRC. <http://yihui.name/knitr/>.
- . 2014a. *Knitr: A General-Purpose Package for Dynamic Report Generation in R*. <http://yihui.name/knitr/>.
- . 2014b. “Knitr: A Comprehensive Tool for Reproducible Research in R.” In *Implementing Reproducible Computational Research*, edited by Victoria Stodden, Friedrich Leisch, and Roger D. Peng. Chapman; Hall/CRC. <http://www.crcpress.com/product/isbn/9781466561595>.