An **R** package with the aim to

SIMPLIFY WORKFLOWS OF D6 RESEARCH PROJECTS

Cédric Scherer

4 MAIN FUNCTIONALITIES (SO FAR)

- Create standardized project directories

- Provide standardized Rmarkdown templates

- Rendering of all Rmarkdown reports

- Install a set of common packages

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- Rendering of all Rmarkdown reports

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STANDARDIZED PROJECT DIRECTORIES

```
.
└── project
    ├── data-raw
    ├── docs
    ├── output
    ├── plots
    └── R
```

`new_project("project")`

STANDARDIZED PROJECT DIRECTORIES

```
.
└── project
    ├── data-raw
    │   └── geo-raw
    ├── docs
    │   ├── admin
    │   ├── literature
    │   ├── manuscript
    │   ├── presentations
    │   └── reports
    ├── output
    │   ├── data-proc
    │   └── geo-proc
    ├── plots
    ├── R
    │   ├── 00_start.R
    │   └── XX_submit.R
    ├── .gitignore
    ├── .Rbuildignore
    ├── DESCRIPTION
    ├── NAMESPACE
    └── project.Rproj
```

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    └── project.Rproj
```
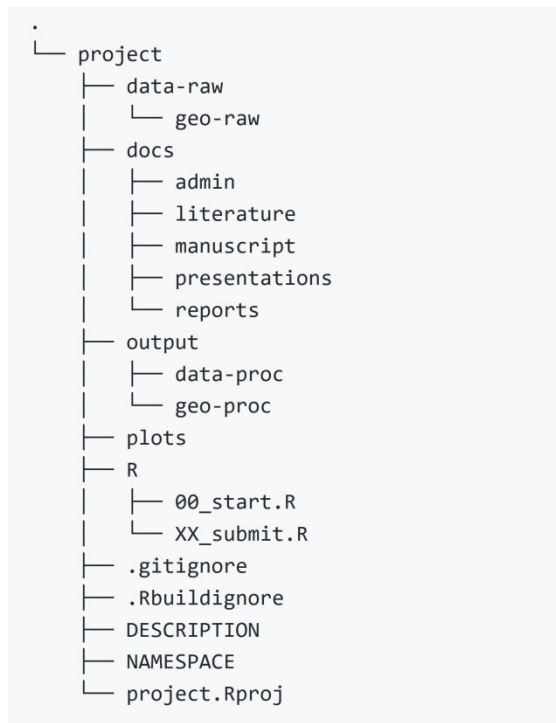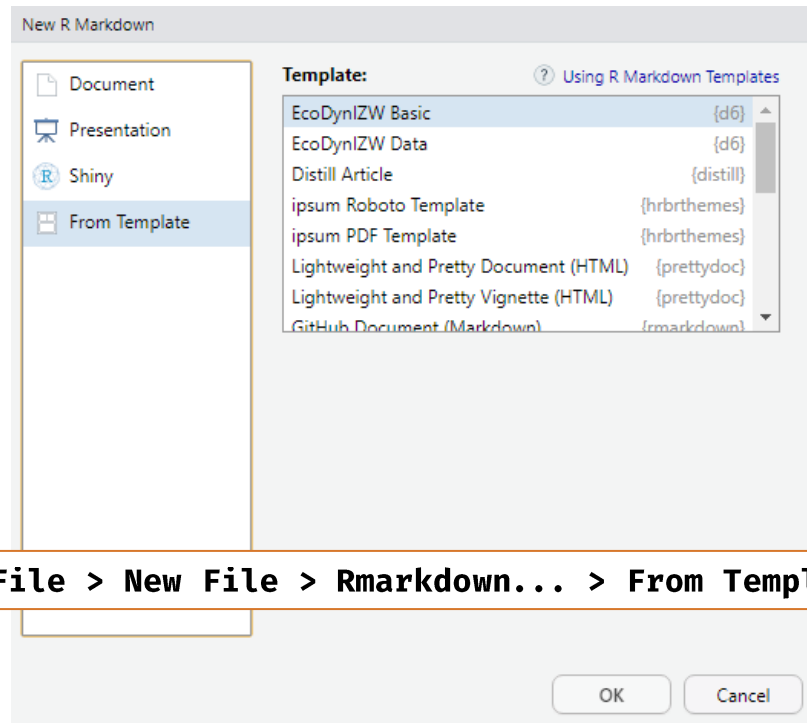
```
new_project("project",
            path = "C:/Users/Cedric",
            github = TRUE,
            private_repo = TRUE,
            geo = TRUE)
```
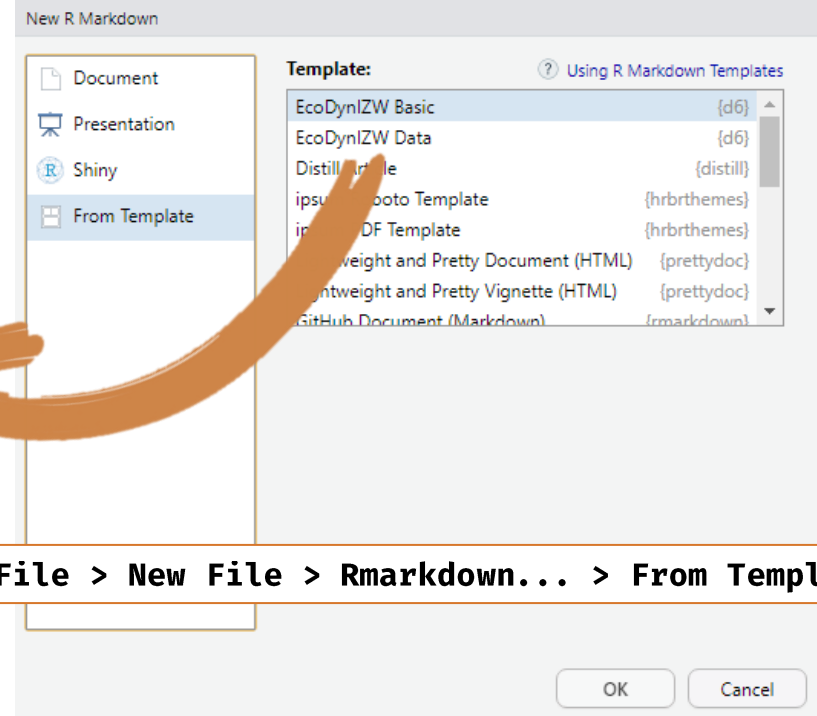
STANDARDIZED PROJECT DIRECTORIES

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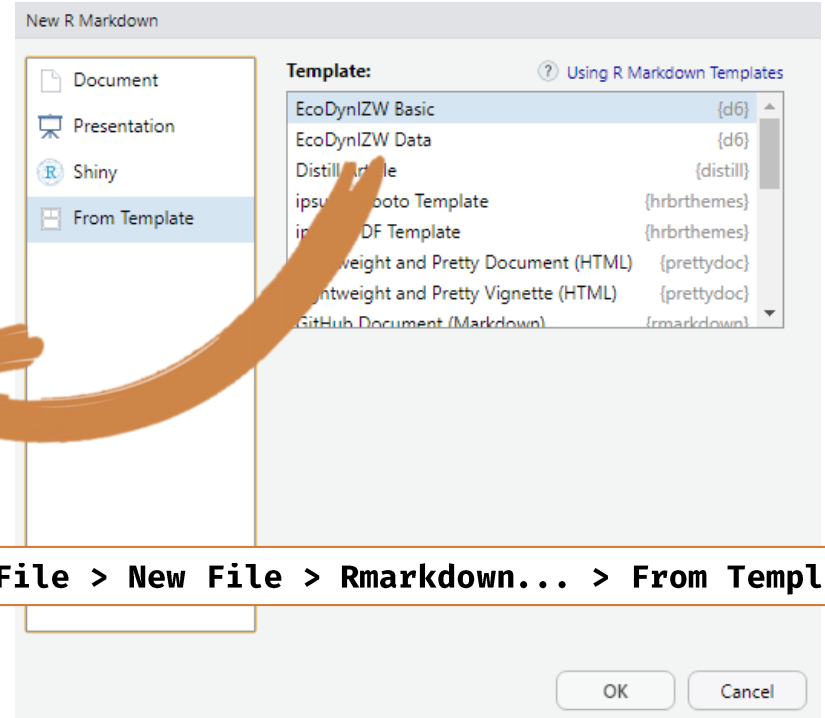# STANDARDIZED RMARKDOWN TEMPLATES

`File > New File > Rmarkdown... > From Template`

```
1   ---
2   title: "Your Project"        ## name of your project
3   author: "Your Name"          ## your name(s)
4   date: "`r Sys.Date()`"       ## current date
5   output:
6     rmdformats::readthedown:
7       highlight: kate          ## choose code style
8       code_folding: hide       ## hide or show code by default?
9       toc_depth: 3             ## 3-level TOC
10      toc_float: true          ## TOC in sidebar
11      code_download: true      ## allow download of source code
12  ---
13
14  ```{r setup, include=FALSE}
15  ## You can ignore this chunk in most cases
16  ## If you want to modify chunk options, you can do it here for all chunks or
17  ## add the options in the repsective chunk header, e.g. `{r, message = FALSE}`
18  knitr::opts_chunk$set(echo = TRUE, warning = TRUE, message = TRUE,
19                        fig.width = 9, fig.height = 6, dpi = 500,
20                        retina = 1, fig.showtext = TRUE)
21  ```
22
23  * **Research question:**
24  * **Study area:**
25  * **Data:**
26
27  # Setup
28
29  ```{r packages}
30  ## for non-CRAN packages please keep install instruction
31  ## but commented so it is not run each time, e.g.
32  # devtools::install_github("EcoDynIZW/template")
33
34  ## libraries used in this script
35  ## please add ALL LIBRARIES NEEDED HERE
36  ## please remove libraries from the list that are not needed anymore
37  ## at a later stage
38  library()
39  ```
40
41
42  # Data
43
44  ```{r data}
45
46  ```
47
48  ***
49
50  <details><summary>Session Info</summary>
51
52  ```{r sessionInfo}
53  ## DO NOT REMOVE!
54  ## We store the settings of your computer and the current versions of the
55  ## packages used to allow for reproducibility
56  Sys.time()
57  sessionInfo()
58  ```
59
60  </details>
```

New R Markdown

Document
Presentation
Shiny
From Template

Template: ? Using R Markdown Templates

EcoDynIZW Basic   {d6}
EcoDynIZW Data   {d6}
Distill Article   {distill}
ipsum oto Template   {hrbrthemes}
i DF Template   {hrbrthemes}
     weight and Pretty Document (HTML)   {prettydoc}
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GitHub Document (Markdown)   {rmarkdown}

OK   Cancel

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21 ```
22
23 * **Research question:** Is unicorn abundance correlated with the presence
   of muffin flowers?
24 * **Study area:** Sugarland
25 * **Data:** Camera traps, Corine Land Cover classes, Presence/Absence data
   muffin flowers (10x10m)
26
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38 library()
39 ```
40
41
42 # Data
43
44 ## Camera-Trap Data
45
46 We conducted a camera trap survey covering an area of...
47
48 ```{r data}
49 df_traps <- readr::read_csv("Your Data")
50 ```
51
52 ## Geo Data
53
54 To extract landuse classes, we use the data provided by...
55
56 ```{r geo-data}
57 df_traps <- sf::read_sf("Your Geodata")
58 ```
```

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Your Project

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- **Study area:** Sugarland
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Setup

Data

Camera-Trap Data

We conducted a camera trap survey covering an area of…

Geo Data

To extract landuse classes, we use the data provided by…

Results

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▼ Session Info

```
## [1] "2020-10-05 10:34:43 CEST"
```

```
## R version 4.0.2 (2020-06-22)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 18362)
##
## Matrix products: default
##
## locale:
## [1] LC_COLLATE=German_Germany.1252  LC_CTYPE=German_Germany.1252
## [3] LC_MONETARY=German_Germany.1252 LC_NUMERIC=C
## [5] LC_TIME=German_Germany.1252
## system code page: 65001
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## loaded via a namespace (and not attached):
## [1] bookdown 0.20    sysfonts 0.8.1    showtextdb 3.0    digest 0.6.25
```

Your Name
2020-10-05

STANDARDIZED RMARKDOWN TEMPLATES

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STANDARDIZED RMARKDOWN TEMPLATES

Your Project

Setup
Data
Results

Your Name
2020-10-05

Your Project

Code ▾

- **Research question:** Is unicorn abundance correlated with the presence of muffin flowers?
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Setup

Code

Data

Camera-Trap Data

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Geo Data

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Results

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

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STANDARDIZED RMARKDOWN TEMPLATES

Your Project

Setup
Data
Camera-Trap Data
Geo Data
Results

Camera-Trap Data

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Hide

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Results

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

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##  [5] magrittr_1.5    evaluate_0.14    rmdformats_0.3.7 rlang_0.4.7
##  [9] stringi_1.4.6   rmarkdown_2.3    tools_4.0.2      stringr_1.4.0
## [13] showtext_0.8-1  xfun_0.16       yaml_2.2.1       compiler_4.0.2
## [17] base64enc_0.1-3 htmltools_0.5.0 knitr_1.29
```

Your Name
2020-10-05

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OK   Cancel

RENDERING OF (ALL) REPORTS INTO THE CORRECT FOLDER

PROJECT WORKFLOW WORKSHOP

MONDAY, OCTOBER 12 2020, 2PM

TOPICS:

Project Organisation
R Projects and Rmarkdown
Version Control with GitHub

PROJECT WORKFLOW WORKSHOP

MONDAY, OCTOBER 12 2020, 2PM