

Package: twriTemplates (via r-universe)

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Type Package

Title Templates for TWRI reports

Version 0.3.0

Description Provides word and pdf Rmarkdown templates that meet TWRI branding guidance.

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Encoding UTF-8

LazyData true

Imports bookdown, cowplot, fs, ggplot2, lifecycle, methods, officedown, rlang, systemfonts

Suggests testthat (>= 3.0.0), flextable, magick, ragg, rmarkdown, tinytex

RoxygenNote 7.2.3

Depends R (>= 2.10)

Config/testthat/edition 3

Roxygen list(markdown = TRUE)

URL <https://github.com/TxWRI/twriTemplates>,
<https://txwri.github.io/twriTemplates/>

BugReports <https://github.com/TxWRI/twriTemplates/issues>

Repository <https://txwri.r-universe.dev>

RemoteUrl <https://github.com/TxWRI/twriTemplates>

RemoteRef HEAD

RemoteSha 0e3813ea3e762eba55d78dc2d9d0378cdab47d71

Contents

add_TWRI_logo	2
arroyo_wetland	3
dissolved_oxygen	4

easterwood_weather	5
get_twri_palettes	6
ggplot_box_legend	6
install_font	7
mission_aransas_nerr	8
neon_stage_discharge	9
path_to_file	10
scale_custom	11
theme_TWRI_pres	12
theme_TWRI_print	12
twri_docx	13
twri_pal	14
twri_pdf	15
uranium_tds	15

Index	17
--------------	-----------

add_TWRI_logo	<i>Add logo to ggplot</i>
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Description

Add logo to ggplot

Usage

```
add_TWRI_logo(plot, scale = 0.25, halign = 0.01, valign = 0.01)
```

Arguments

plot	ggplot object
scale	scale the logo, defaults to 0.25
halign	aligns logo within the ggplot [0-1]
valign	aligns the logo within the ggplot [0-1]

Value

ggplot object

arroyo_wetland

Water quality data from two sites on the Arroyo Colorado

Description

Includes water quality monitoring data from two sites on the Arroyo Colorado from 1973 through 2022. Multiple parameters are included. Station 13079 is upstream of station 13074. In 2011 a treatment wetland started operation at a wastewater treatment plant between the two stations. This data is typical of data downloaded from the TCEQ SWQMIS database.

Usage

```
data(arroyo_wetland)
```

Format

A data frame with 7005 rows and 13 variables:

basin_id two digit basin identifier

segment_id TCEQ segment identifier

on_segment data flag indicating location of station

rfa_tag_id trip identifier, records with the same value were collected on the same trip and location

station_id station identifier

end_date monitoring trip date

end_time time of collection

end_depth depth sample was collected at

monitoring_type monitoring type codes are used to distinguish monitoring purpose. TCEQ DMRG includes a record and description of type codes

parameter_code distinct parameter codes described below

greater_than_less_than censored data flag; "<" indicates below the minimum detection limit, ">" indicates above the maximum detection limit

value measured value

mdl minimum detection limit reported by the lab

Details

Additional details... LIST OF UNIQUE PARAMETERS

- 00010 TEMPERATURE, WATER (DEGREES CENTIGRADE)
- 00061 FLOW STREAM, INSTANTANEOUS (CUBIC FEET PER SEC)
- 00070 TURBIDITY, (JACKSON CANDLE UNITS)
- 00076 TURBIDITY,HACH TURBIDIMETER (FORMAZIN TURB UNIT)
- 00094 SPECIFIC CONDUCTANCE,FIELD (US/CM @ 25C)

- 00300 OXYGEN, DISSOLVED (MG/L)
- 00400 PH (STANDARD UNITS)
- 00530 RESIDUE, TOTAL NONFILTRABLE (MG/L)
- 00600 NITROGEN, TOTAL (MG/L AS N)
- 00610 NITROGEN, AMMONIA, TOTAL (MG/L AS N)
- 00620 NITRATE NITROGEN, TOTAL (MG/L AS N)
- 00625 NITROGEN, KJELDAHL, TOTAL (MG/L AS N)
- 00630 NITRITE PLUS NITRATE, TOTAL ONE LAB DETERMINED VALUE (MG/L AS N)
- 00665 PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)
- 00671 ORTHOPHOSPHATE PHOSPHORUS,DISS,MG/L,FLDFILT<15MIN
- 00680 CARBON, TOTAL ORGANIC, NPOC (TOC), MG/L
- 01351 FLOW SEVERITY:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=Dry
- 31616 FECAL COLIFORM,MEMBR FILTER,M-FC BROTH, #/100ML
- 31648 E. COLI, MTEC, MF, #/100 ML
- 31699 E. COLI, COLILERT, IDEXX METHOD, MPN/100ML
- 70507 ORTHOPHOSPHATE PHOSPHORUS,DISS,MG/L,FILTER >15MIN
- 72053 DAYS SINCE PRECIPITATION EVENT (DAYS)
- 74069 STREAM FLOW ESTIMATE (CFS)
- 82078 TURBIDITY,FIELD NEPHELOMETRIC TURBIDITY UNITS, N
- 82903 DEPTH OF BOTTOM OF WATER BODY AT SAMPLE SITE
- 89835 FLOW MTH 1=GAGE 2=ELEC 3=MECH 4=WEIR/FLU 5=DOPPLER

Source

TCEQ SWQMIS database.

dissolved_oxygen	<i>Dissolved oxygen measurements from the Tres Palacios river</i>
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Description

Data from the Texas Commission on Environmental Quality Surface Water Quality Monitoring Information System. The Average_DO` ` field is the mean of dissolved oxygen concentrations (mg/L) measured at field is the minimum dissolved oxygen concentration measured at that site on that day.

Usage

data(dissolved_oxygen)

Format

A data frame with 236 rows and 6 variables:

station_id unique water quality monitoring station identifier

end_date sampling date in yyyy-mm-dd format

parameter_code unique parameter code

parameter_description parameter description with units

average_do mean of dissolved oxygen measurement, in mg/L

min_do minimum of dissolved oxygen measurement, in mg/L

Source

<https://www80.tceq.texas.gov/SwqmisWeb/public/crpweb.faces#>

easterwood_weather	<i>Temperature and precipitation data at Easterwood Airport</i>
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Description

Data from the National Oceanic Atmospheric Administration (NOAA) Climate Data Online for Easterwood Airport in College Station, Texas. Includes daily maximum temperature and daily precipitation records from approximately 2010 through 2017.

Usage

```
data(easterwood_weather)
```

Format

A data frame with 4045 rows and 5 variables:

station station identifier

date sampling date in yyyy-mm-dd format

name station name

dailymaximumdrybulbtemperature daily maximum temperature in degrees F.

dailyprecipitation daily total precipitation in inches

Source

<https://www.ncei.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:USW00003904/detail>

<code>get_twri_palettes</code>	<i>Get names of all unique palettes provided in twriTemplates</i>
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Description

Get names of all unique palettes provided in twriTemplates

Usage

```
get_twri_palettes(full = FALSE)
```

Arguments

<code>full</code>	Whether to include full palette names (with suffixes, e.g. <code>_cont</code>) or just stubs
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Value

Vector of palette name stubs or full names

Examples

```
get_twri_palettes()
```

<code>ggplot_box_legend</code>	<i>Create a Boxplot Legend</i>
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Description

Create a legend that explains the features of a boxplot. Can be added easily to existing ggplots using [plot_grid](#) or [plot_arithmetic](#).

Usage

```
ggplot_box_legend(
  font_family = "OpenSansCondensed_TWRI",
  point_label = " - Measured values"
)
```

Arguments

<code>font_family</code>	defaults to "OpenSansCondensed_TWRI". Can be modified to any locally installed font.
<code>point_label</code>	character string - how you want to label to point in a legend. If you overlay measured points in the box plot, " - Measured values" is appropriate. If the points only indicate outliers, " - values outside the\ninterquartile range" is appropriate. This can be customized as necessary. Use "\n" to indicate where a line break should occur.

Value

a ggplot object

Author(s)

Laura DeCicco

References

<https://waterdata.usgs.gov/blog/boxplots/>

Examples

```
library(ggplot2)
library(cowplot)
ggplot(dissolved_oxygen) +
  geom_boxplot(aes(as.factor(station_id),
                  average_do,
                  group = station_id)) +
  geom_jitter(aes(as.factor(station_id),
                  average_do,
                  group = station_id),
              width = 0.1, alpha = 0.25) +
  theme_TWRI_print() -> p1
file <- tempfile(fileext = '.png')
ragg::agg_png(file)
plot_grid(p1, ggplot_box_legend(), rel_widths = c(2,1))
dev.off()
```

install_font

Open and install fonts

Description

Helper function to open font folders in your GUI so you can install fonts for local use.

Usage

```
install_font(font)
```

Arguments

font one of c("CrimsonPro", "OpenSansCondensed")

Value

Hopefully nothing

Examples

```
install_font("CrimsonPro")
```

mission_aransas_nerr	<i>Water quality data for Mission and Aransas National Estuarine Research Reserve (NERR)</i>
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Description

Fifteen minute water quality data. Includes station, date-time, temperature, specific conductance, salinity, and associated data qualifiers from 2020 through 2021 for the Mission and Aransas (MAR) National Estuarine Research Reserve (NERR). Data from NOAA NERRS Centralized Data Management Office.

Usage

```
data(mission_aransas_nerr)
```

Format

A data frame with 140352 rows and 10 variables:

StationCode station identifier, factor with levels marabwq and marcewq for Aransas Bay and Copano East stations respectively.

DateTimeStamp sampling date-time in yyyy-mm-dd hh:mm:ss format.

Temp water temperature in degrees Celsius.

F_Temp data qualifier, <0> indicates approved data.

SpCond specific conductance in $\mu\text{S}/\text{cm}$.

F_SpCond data qualifier, <0> indicates approved data.

Sal Salinity in ppt.

F_Sal data qualifier, <0> indicates approved data.

DO_mgl dissolved oxygen in mg/L.

F_DO_mgl data qualifier, <0> indicates approved data.

Source

NOAA National Estuarine Research Reserve System (NERRS). 2022. System-Wide Monitoring Program. NOAA NERRS Centralized Data Management Office. <https://cdmo.baruch.sc.edu/>.

neon_stage_discharge *Discharge measurements from field-based surveys*

Description

Includes field based stream discharge and stage measurements at the Como Creek NEON field station.

Usage

```
data(neon_stage_discharge)
```

Format

A data frame with 134 rows and 36 variables. Primary variables of interest include:

averageVelocityUnits
averageVelocityUnitsQF
collectDate
collectedBy
dataQF
dischargeUnitsQF
domainID
filterParamTime
finalDischarge Corrected measured stream discharge
flowCalcQF
flowCalculation
handheldDeviceID
lowVelocityFinalQF
namedLocation
profileName
publicationDate
recorduid
release
samplingProtocolVersion
siteID
stageImpractical
startDate
stationEntryTest
streamStage Measured stream stage in meters

streamStageUnits
streamStageUnitsQF
tapeDistanceUnits
tapeDistanceUnitsQF
totalDischarge
totalDischargeCalcQF
totalDischargeUnits
uid
velocitySensorID
waterDepthUnits
waterDepthUnitsQF
waterEdge

Source

NEON (National Ecological Observatory Network). n.d. Discharge Field Collection (DP1.20048.001), RELEASE-2022. doi:[10.48443/eaaktt31](https://doi.org/10.48443/eaaktt31).

path_to_file	<i>Get file path to example data</i>
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Description

twriTemplates comes with five bundled example data files in its inst/extdata directory. This function makes them easy to access for practice reading with [read.csv\(\)](#) or [readr::read_csv\(\)](#).

Usage

```
path_to_file(file = NULL)
```

Arguments

file	Name of the file in quotes with extension; "arroyo_swqm.txt", "dissolved_oxygen_raw.csv", "easterwood.csv", "marabwq2021.csv", or "marcewq2021.csv" will work. If NULL, the example files will be listed.
------	---

Value

file path

Source

This function is adapted from `readxl::readxl_example()`

Examples

```
path_to_file()
path_to_file("easterwood.csv")
head(read.csv(path_to_file("easterwood.csv")))
```

scale_custom	<i>Custom color and fill scales</i>
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Description

Custom coloring and filling functions based on unique color palettes

Usage

```
scale_color_discrete_twri(palette = "twri", extend = FALSE, ...)
scale_colour_discrete_twri(palette = "twri", extend = FALSE, ...)
scale_fill_discrete_twri(palette = "twri", extend = FALSE, ...)
scale_color_opinionated_twri(palette = "twri", ...)
scale_colour_opinionated_twri(palette = "twri", extend = FALSE, ...)
scale_fill_opinionated_twri(palette = "twri", ...)
scale_color_diverging_twri(palette = "twri", ...)
scale_colour_diverging_twri(palette = "twri", ...)
scale_fill_diverging_twri(palette = "twri", ...)
scale_color_continuous_twri(palette = "twri", ...)
scale_colour_continuous_twri(palette = "twri", ...)
scale_fill_continuous_twri(palette = "twri", ...)
```

Arguments

palette	Name of color palette
extend	Whether to extend discrete color palette to make sufficient colors for levels needed
...	Additional arguments to be passed to internal scale function

Details

Specific functions include:

- `scale_(color/colour/fill)discrete_twri` Discrete palette with either fixed or dynamically extended number of shades
- `scale(color/colour/fill)opinionated_twri` Discrete palette with specific values for "good", "bad", and "neutral"
- `scale(color/colour/fill)diverging_twri` Continuous diverging color palette
- `scale(color/colour/fill)_continuous` Continuous color palette

theme_TWRI_pres	<i>a ggplot2 theme formatted in the TWRI style for presentations</i>
-----------------	--

Description

Provides a [ggplot2](#) theme formatted consistent with TWRI style guidance. Figure aesthetics prioritize design and legibility for use in power point presentations. The intended output is 10 inches by 7.5 inches as 200dpi.

Usage

```
theme_TWRI_pres(
  base_size = 16,
  base_family = "Oswald_TWRI",
  base_line_size = 1,
  base_rect_size = 1
)
```

Arguments

base_size	default text size in px
base_family	defaults to "Moriston_personal". Generally, use a sensible sans serif font that is available on your system.
base_line_size	default line size
base_rect_size	default rect size

theme_TWRI_print	<i>a ggplot2 theme formatted in the TWRI style</i>
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Description

Provides a [ggplot2](#) theme formatted consistent with TWRI style guidance. Use this theme for figures intended for printed reports. The default font is "Open Sans Condensed". The suggest export width is 6.5 inches at 300 dpi.

Usage

```
theme_TWRI_print(
  base_size = 9.5,
  base_family = "OpenSansCondensed_TWRI",
  base_line_size = 0.5,
  base_rect_size = 0.5
)
```

Arguments

`base_size` default text size in px

`base_family` defaults to "OpenSansCondensed_TWRI". Which is provided in the package. Generally, use a sensible sans serif font that is available on your system.

`base_line_size` default line size

`base_rect_size` default rect size

twri_docx

RMD docx template for TWRI

Description**[Deprecated]**

Development on `twri_docx()` is complete. It is recommended to use `officedown::rdocx_document()` directly. This function is retained for older templates that include the function, although rendered documents might be inconsistent. It is suggested to update any reports to the latest version of `twriTemplates` as `twri_docx()` may be removed in future versions.

Loads an Rmarkdown template that will produce a Microsoft word document consistent with institute brand guidance.

Usage

```
twri_docx(
  base_format = "bookdown::word_document2",
  tables = list(),
  plots = list(),
  lists = list(),
  mapstyles = list(),
  page_size = list(),
  page_margins = list(),
  reference_num = TRUE,
  toc = FALSE,
  number_sections = TRUE,
  fig_captions = TRUE,
  reference_docx = "format.docx",
  ...
)
```

Arguments

base_format	character, either <code>rmarkdown::word_document</code> or <code>bookdown::word_document2</code> (default)
tables	empty list, used by <code>officedown::rdocx_document()</code>
plots	empty list, used by <code>officedown::rdocx_document()</code>
lists	empty list, used by <code>officedown::rdocx_document()</code>
mapstyles	empty list, used by <code>officedown::rdocx_document()</code>
page_size	empty list, used by <code>officedown::rdocx_document()</code>
page_margins	empty list, used by <code>officedown::rdocx_document()</code>
reference_num	if TRUE text for references to sections will be the section number. If FALSE the text for references to sections will be the section title. Default is TRUE.
toc	logical defaults FALSE. The template utilizes the TOC function in Word that can be manually removed or customized.
number_sections	logical
fig_captions	logical
reference_docx	character, specifies the template document to use.
...	additional arguments to <code>officedown::rdocx_document()</code>

twri_pal

TWRI complementary color palette

Description

This is a test palette

Usage

```
twri_pal
```

```
twri_pal_op
```

```
twri_pal_cont
```

```
twri_pal_div
```

Format

An object of class character of length 5.

An object of class character of length 3.

An object of class character of length 2.

An object of class character of length 3.

twri_pdf

RMD PDF Template for TWRI

Description

Loads an Rmarkdown template that will produce a pdf document consistent with institute brand guidance.

Usage

```
twri_pdf(
  toc = TRUE,
  toc_depth = 2,
  number_sections = TRUE,
  latex_engine = "lualatex",
  ...
)
```

Arguments

toc	Logical
toc_depth	numeric
number_sections	logical
latex_engine	character, one of "pdflatex", "lualatex", or "xelatex"
...	arguments passed to pdf_document

uranium_tds

Uranium and total dissolved solids

Description

Example dataset from Helsel et al. (2020) that includes measured concentrations of total dissolved solids (tds) in mg/L and uranium in parts per billion from the Ogallala aquifer.

Usage

```
data(uranium_tds)
```

Format

A data frame with 44 rows and 4 variables:

tds Total dissolved solids in mg/L
uranium Uranium concentration in ppb
hco3 cation composition percent milliequivalents
definition not documented

Source

Helsel, D.R., Hirsch, R.M., Ryberg, K.R., Archfield, S.A., and Gilroy, E.J., 2020, Statistical Methods in Water Resources - Supporting Materials: U.S. Geological Survey data release, [doi:10.5066/P9JWL6XR](https://doi.org/10.5066/P9JWL6XR)

Index

- * **datasets**
 - arroyo_wetland, [3](#)
 - dissolved_oxygen, [4](#)
 - easterwood_weather, [5](#)
 - mission_aransas_nerr, [8](#)
 - neon_stage_discharge, [9](#)
 - twri_pal, [14](#)
 - uranium_tds, [15](#)
- add_TWRI_logo, [2](#)
- arroyo_wetland, [3](#)
- dissolved_oxygen, [4](#)
- easterwood_weather, [5](#)
- get_twri_palettes, [6](#)
- ggplot2, [12](#)
- ggplot_box_legend, [6](#)
- install_font, [7](#)
- mission_aransas_nerr, [8](#)
- neon_stage_discharge, [9](#)
- officedown::rdocx_document(), [14](#)
- path_to_file, [10](#)
- plot_arithmetic, [6](#)
- plot_grid, [6](#)
- read.csv(), [10](#)
- readr::read_csv(), [10](#)
- scale_color_continuous_twri
(scale_custom), [11](#)
- scale_color_discrete_twri
(scale_custom), [11](#)
- scale_color_diverging_twri
(scale_custom), [11](#)
- scale_color_opinionated_twri
(scale_custom), [11](#)
- scale_colour_continuous_twri
(scale_custom), [11](#)
- scale_colour_discrete_twri
(scale_custom), [11](#)
- scale_colour_diverging_twri
(scale_custom), [11](#)
- scale_colour_opinionated_twri
(scale_custom), [11](#)
- scale_custom, [11](#)
- scale_fill_continuous_twri
(scale_custom), [11](#)
- scale_fill_discrete_twri
(scale_custom), [11](#)
- scale_fill_diverging_twri
(scale_custom), [11](#)
- scale_fill_opinionated_twri
(scale_custom), [11](#)
- theme_TWRI_pres, [12](#)
- theme_TWRI_print, [12](#)
- twri_docx, [13](#)
- twri_pal, [14](#)
- twri_pal_cont(twri_pal), [14](#)
- twri_pal_div(twri_pal), [14](#)
- twri_pal_op(twri_pal), [14](#)
- twri_pdf, [15](#)
- uranium_tds, [15](#)