# Setting working directory, sourcing R code and loading R packages

setwd(dir="C:/Program Files (x86)/R-Instat/static/InstatObject/R")

source(file="Rsetup.R")

data\_book <- DataBook$new()

options(dplyr.summarise.inform=FALSE)

# Option: Number of digits to display

options(digits=4)

# Option: Show stars on summary tables of coefficients

options(show.signif.stars=FALSE)

# Code generated by the dialog, Import Dataset

WattTown2018to2024 <- rio::import(file="C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St. Ann

/WattTown2018to2024.txt", na.strings=c("---",""), stringsAsFactors=TRUE, skip=1)

data\_book$import\_data(data\_tables=list(WattTown2018to2024=WattTown2018to2024))

rm(WattTown2018to2024)

# Code run from Script Window

setwd(dir="C:/Program Files (x86)/R-Instat/static/InstatObject/R")

source(file="Rsetup.R")

data\_book <- DataBook$new()

options(dplyr.summarise.inform=FALSE)

options(digits=4)

options(show.signif.stars=FALSE)

WattTown2018to2024 <- rio::import(file="C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St. Ann

/WattTown2018to2024.txt", na.strings=c("---",""), stringsAsFactors=TRUE, skip=1)

data\_book$import\_data(data\_tables=list(WattTown2018to2024=WattTown2018to2024))

rm(WattTown2018to2024)

setwd(dir="C:/Program Files (x86)/R-Instat/static/InstatObject/R")

source(file="Rsetup.R")

data\_book <- DataBook$new()

options(dplyr.summarise.inform=FALSE)

options(digits=4)

options(show.signif.stars=FALSE)

WattTown2018to2024 <- rio::import(file="C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St.Ann/WattTown2018to2024.txt", na.strings=c("---",""), stringsAsFactors=TRUE, skip=1)

data\_book$import\_data(data\_tables=list(WattTown2018to2024=WattTown2018to2024))

rm(WattTown2018to2024)

setwd(dir="C:/Program Files (x86)/R-Instat/static/InstatObject/R")

source(file="Rsetup.R")

data\_book <- DataBook$new()

options(dplyr.summarise.inform=FALSE)

options(digits=4)

options(show.signif.stars=FALSE)

WattTown2018to2024 <- rio::import(file="C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St.Ann/WattTown2018to2024.txt", na.strings=c("---",""), stringsAsFactors=TRUE, skip=1)

data\_book$import\_data(data\_tables=list(WattTown2018to2024=WattTown2018to2024))

rm(WattTown2018to2024)

setwd(dir="C:/Program Files (x86)/R-Instat/static/InstatObject/R")

source(file="Rsetup.R")

data\_book <- DataBook$new()

options(dplyr.summarise.inform=FALSE)

options(digits=4)

options(show.signif.stars=FALSE)

WattTown2018to2024 <- rio::import(file="C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St.Ann/WattTown2018to2024.txt", na.strings=c("---",""), stringsAsFactors=TRUE, skip=1)

data\_book$import\_data(data\_tables=list(WattTown2018to2024=WattTown2018to2024))

rm(WattTown2018to2024)

Time <- data\_book$get\_columns\_from\_data(data\_name="WattTown2018to2024", col\_names="Time", use\_current\_filter=FALSE)

am\_pm <- stringr::str\_sub(string=Time, start=-1, end=-1)

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024", col\_name="am\_pm", col\_data=am\_pm, before=FALSE, adjacent\_column="Time")

rm(list=c("am\_pm", "Time"))

Time <- data\_book$get\_columns\_from\_data(data\_name="WattTown2018to2024", col\_names="Time", use\_current\_filter=FALSE)

min <- stringr::str\_sub(string=Time, start=4, end=-3)

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024", col\_name="min", col\_data=min, before=FALSE, adjacent\_column="Time")

rm(list=c("min", "Time"))

Time <- data\_book$get\_columns\_from\_data(data\_name="WattTown2018to2024", col\_names="Time", use\_current\_filter=FALSE)

hours <- stringr::str\_sub(string=Time, start=1, end=-6)

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024", col\_name="hours", col\_data=hours, before=FALSE, adjacent\_column="Time")

rm(list=c("hours", "Time"))

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024", before=TRUE, col\_data="AWS", col\_name="Station", use\_col\_name\_as\_prefix=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="hours", to\_type="numeric", ignore\_labels=TRUE)

WattTown2018to2024 <- data\_book$get\_data\_frame(data\_name="WattTown2018to2024", use\_current\_filter=FALSE)

attach(what=WattTown2018to2024)

hour <- hours + 12 \* ( am\_pm == "p")

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024", col\_name="hour", col\_data=hour, before=FALSE, adjacent\_column="Time")

WattTown2018to2024 <- data\_book$get\_data\_frame(data\_name="WattTown2018to2024", use\_current\_filter=FALSE)

detach(name=WattTown2018to2024, unload=TRUE)

data\_book$append\_to\_variables\_metadata(data\_name="WattTown2018to2024", col\_names="hour", property="labels", new\_val="")

rm(list=c("hour", "WattTown2018to2024"))

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="hour", to\_type="factor")

hour <- data\_book$get\_columns\_from\_data(data\_name="WattTown2018to2024", col\_names="hour", use\_current\_filter=FALSE)

hour1 <- plyr::revalue(x=hour, replace=c(`1`="1", `2`="2", `3`="3", `4`="4", `5`="5", `6`="6", `7`="7", `8`="8", `9`="9", `10`="10", `11`="11", `12`="24", `13`="13", `14`="14", `15`="15", `16`="16", `17`="17", `18`="18", `19`="19", `20`="20", `21`="21", `22`="22", `23`="23", `24`="24"))

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024", col\_name="hour1", col\_data=hour1, before=FALSE, adjacent\_column="hour")

data\_book$append\_to\_variables\_metadata(data\_name="WattTown2018to2024", col\_names="hour1", property="labels", new\_val="")

rm(list=c("hour1", "hour"))

hour <- data\_book$get\_columns\_from\_data(data\_name="WattTown2018to2024", col\_names="hour", use\_current\_filter=FALSE)

hour1 <- plyr::revalue(x=hour, replace=c(`1`="1", `2`="2", `3`="3", `4`="4", `5`="5", `6`="6", `7`="7", `8`="8", `9`="9", `10`="10", `11`="11", `12`="12", `13`="13", `14`="14", `15`="15", `16`="16", `17`="17", `18`="18", `19`="19", `20`="20", `21`="21", `22`="22", `23`="23", `24`="24"))

data\_book$append\_to\_variables\_metadata(data\_name="WattTown2018to2024", col\_names="hour1", property="labels", new\_val="")

rm(list=c("hour1", "hour"))

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="hour1", to\_type="numeric", ignore\_labels=TRUE)

WattTown2018to2024 <- data\_book$get\_data\_frame(data\_name="WattTown2018to2024", use\_current\_filter=FALSE)

attach(what=WattTown2018to2024)

hour1 <- hour1 - 12 \* ( hour1 == 12)

WattTown2018to2024 <- data\_book$get\_data\_frame(data\_name="WattTown2018to2024", use\_current\_filter=FALSE)

detach(name=WattTown2018to2024, unload=TRUE)

data\_book$append\_to\_variables\_metadata(data\_name="WattTown2018to2024", col\_names="hour1", property="labels", new\_val="")

rm(list=c("hour1", "WattTown2018to2024"))

WattTown2018to2024 <- data\_book$get\_data\_frame(data\_name="WattTown2018to2024", use\_current\_filter=FALSE)

attach(what=WattTown2018to2024)

hour1 <- hour1 - 12 \* ( hour1 == 24)

WattTown2018to2024 <- data\_book$get\_data\_frame(data\_name="WattTown2018to2024", use\_current\_filter=FALSE)

detach(name=WattTown2018to2024, unload=TRUE)

data\_book$append\_to\_variables\_metadata(data\_name="WattTown2018to2024", col\_names="hour1", property="labels", new\_val="")

rm(list=c("hour1", "WattTown2018to2024"))

saveRDS(file="C:/Users/User/Desktop/TBC Selected Stations Temp Data Series 2024/AWS\_TempJune2024.RDS", object=data\_book)

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Out", new\_val="avgTemp", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Temp", new\_val="MaxTemp", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Temp.1", new\_val="MinTemp", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Hum", new\_val="RelHum", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Pt.", new\_val="DewPt.", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Speed", new\_val="avgWindSpeed", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Dir", new\_val="avgWindDir", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Run", new\_val="WindRun", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Speed.1", new\_val="MaxwindSpeed.1", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Dir.1", new\_val="MaxWindDir.1", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Chill", new\_val="WindChill", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Index", new\_val="HeatIndex", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Index.1", new\_val="HeatIndex.1", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Index.2", new\_val="HeatIndex.2", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Bar", new\_val="atmPressureMBar", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Rate", new\_val="RainRate", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Rad.", new\_val="SolarRad.", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Energy", new\_val="SolarEnergy", label="")

data\_book$rename\_column\_in\_data(data\_name="WattTown2018to2024", column\_name="Rad..1", new\_val="SolarRad..1", label="")

Date <- data\_book$get\_columns\_from\_data(data\_name="WattTown2018to2024", col\_names="Date", use\_current\_filter=FALSE)

date1 <- as.Date(as.character(Date), format="%d/%m/%y")

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024", col\_name="date1", col\_data=date1, before=FALSE, adjacent\_column="Date")

rm(list=c("date1", "Date"))

WattTown2018to2024 <- data\_book$get\_data\_frame(data\_name="WattTown2018to2024", use\_current\_filter=FALSE)

attach(what=WattTown2018to2024)

date2 <- date1 - (hour1 < 8)

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024", col\_name="date2", col\_data=date2, before=FALSE, adjacent\_column="Time")

WattTown2018to2024 <- data\_book$get\_data\_frame(data\_name="WattTown2018to2024", use\_current\_filter=FALSE)

detach(name=WattTown2018to2024, unload=TRUE)

data\_book$append\_to\_variables\_metadata(data\_name="WattTown2018to2024", col\_names="date2", property="labels", new\_val="")

rm(list=c("date2", "WattTown2018to2024"))

data\_book$reorder\_columns\_in\_data(data\_name="WattTown2018to2024", col\_order=c("Station","Date","date1","date2","Time","hour","hour1","hours","min","am\_pm","avgTemp","MaxTemp","MinTemp","RelHum","DewPt.","avgWindSpeed","avgWindDir","WindRun","MaxwindSpeed.1","MaxWindDir.1","WindChill","HeatIndex","HeatIndex.1","HeatIndex.2","atmPressureMBar","Rain","RainRate","SolarRad.","SolarEnergy","SolarRad..1","Index.3","Dose","UV","D.D","D.D.1","Temp.6","Hum.1","Dew","Heat","EMC","Density","ET","Moist.","Moist..1","Moist..2","Moist..3","Temp.1","Temp.2","Temp.3","Temp.4","Samp","Tx","Recept","Int."))

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="avgTemp", to\_type="numeric", ignore\_labels=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="MaxTemp", to\_type="numeric", ignore\_labels=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="MinTemp", to\_type="numeric", ignore\_labels=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="RelHum", to\_type="numeric", ignore\_labels=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="Rain", to\_type="numeric", ignore\_labels=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="ET", to\_type="numeric", ignore\_labels=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="MaxwindSpeed.1", to\_type="numeric", ignore\_labels=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="avgWindSpeed", to\_type="numeric", ignore\_labels=TRUE)

data\_book$convert\_column\_to\_type(data\_name="WattTown2018to2024", col\_names="avgTemp", to\_type="numeric", ignore\_labels=TRUE)

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024\_by\_date1\_date2", before=TRUE, col\_data="AWS", col\_name="Station", use\_col\_name\_as\_prefix=TRUE)

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024\_by\_date2", before=TRUE, col\_data="AWS", col\_name="Station", use\_col\_name\_as\_prefix=TRUE)

data\_book$calculate\_summary(data\_name="WattTown2018to2024", columns\_to\_summarise="MinTemp", factors="date2", j=1, summaries=c("summary\_count\_non\_missing", "summary\_min"), silent=TRUE)

data\_book$split\_date(data\_name="WattTown2018to2024\_by\_date2", col\_name="date2", year\_val=TRUE, month\_abbr=TRUE, day\_in\_month=TRUE, day\_in\_year=TRUE, day\_in\_year\_366 =TRUE, s\_start\_month=1)

saveRDS(file=" C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St.Ann/WattTown2018to2024.txt.RDS", object=data\_book)

rm(last\_summary)

data\_book$calculate\_summary(data\_name="WattTown2018to2024", columns\_to\_summarise="Rain", factors="date2", j=1, summaries=c("summary\_count\_non\_missing", "summary\_Rain"), silent=TRUE)

data\_book$split\_date(data\_name="WattTown2018to2024\_by\_date2", col\_name="date2", year\_val=TRUE, month\_abbr=TRUE, day\_in\_month=TRUE, day\_in\_year=TRUE, day\_in\_year\_366 =TRUE, s\_start\_month=1)

saveRDS(file=" C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St.Ann/WattTown2018to2024.txt

.RDS", object=data\_book)

rm(last\_summary)

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024\_by\_date1\_date2", before=TRUE, col\_data="AWS", col\_name="Station", use\_col\_name\_as\_prefix=TRUE)

data\_book$add\_columns\_to\_data(data\_name="WattTown2018to2024\_by\_date2", before=TRUE, col\_data="AWS", col\_name="Station", use\_col\_name\_as\_prefix=TRUE)

rm(last\_summary)

data\_book$calculate\_summary(data\_name="WattTown2018to2024", columns\_to\_summarise="MaxTemp", factors="date2", j=1, summaries=c("summary\_count\_non\_missing", "summary\_count", "summary\_max"), silent=TRUE)

data\_book$reorder\_columns\_in\_data(data\_name="WattTown2018to2024\_by\_date2", col\_order=c("Station","date2","year","month\_abbr","day\_in\_month","doy","doy\_365","count\_MaxTemp","max\_MaxTemp","max\_MinTemp","max\_Rain","count\_non\_missing\_Rain","sum\_Rain","count\_non\_missing\_MinTemp","min\_MinTemp","count\_non\_missing\_MaxTemp"))

grouping <- instat\_calculation$new(type="by", calculated\_from=list("WattTown2018to2024\_by\_date2"="Station"))

acceptable\_range\_test\_\_e1 <- instat\_calculation$new(type="calculation", function\_exp="max\_MaxTemp <= 10 | max\_MaxTemp >= 50", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="range\_e1")

acceptable\_range\_test\_\_e2 <- instat\_calculation$new(type="calculation", function\_exp="min\_MinTemp <= 1 | min\_MinTemp >= 30", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="range\_e2")

largest\_same\_e1 <- instat\_calculation$new(type="calculation", function\_exp="rep(rle(as.numeric(max\_MaxTemp))$lengths, rle(as.numeric(max\_MaxTemp))$lengths)", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Same\_e1", save=2)

largest\_test\_same\_e1 <- instat\_calculation$new(type="calculation", function\_exp="Same\_e1 >= 4", sub\_calculations=list(largest\_same\_e1), result\_name="same\_e1")

largest\_same\_e1 <- instat\_calculation$new(type="calculation", function\_exp="rep(rle(as.numeric(max\_MaxTemp))$lengths, rle(as.numeric(max\_MaxTemp))$lengths)", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Same\_e1", save=2)

largest\_same\_e2 <- instat\_calculation$new(type="calculation", function\_exp="rep(rle(as.numeric(min\_MinTemp))$lengths, rle(as.numeric(min\_MinTemp))$lengths)", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Same\_e2", save=2)

largest\_test\_same\_e2 <- instat\_calculation$new(type="calculation", function\_exp="Same\_e2 >= 4", sub\_calculations=list(largest\_same\_e2), result\_name="same\_e2")

largest\_same\_e2 <- instat\_calculation$new(type="calculation", function\_exp="rep(rle(as.numeric(min\_MinTemp))$lengths, rle(as.numeric(min\_MinTemp))$lengths)", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Same\_e2", save=2)

largest\_jump\_e1 <- instat\_calculation$new(type="calculation", function\_exp="pmax(abs(max\_MaxTemp - dplyr::lag(max\_MaxTemp)), abs(max\_MaxTemp - dplyr::lead(max\_MaxTemp)), na.rm=TRUE)", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Jump\_e1", save=2)

largest\_test\_jump\_e1 <- instat\_calculation$new(type="calculation", function\_exp="Jump\_e1 > 2.0", sub\_calculations=list(largest\_jump\_e1), result\_name="jump\_e1")

largest\_jump\_e1 <- instat\_calculation$new(type="calculation", function\_exp="pmax(abs(max\_MaxTemp - dplyr::lag(max\_MaxTemp)), abs(max\_MaxTemp - dplyr::lead(max\_MaxTemp)), na.rm=TRUE)", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Jump\_e1", save=2)

largest\_jump\_e2 <- instat\_calculation$new(type="calculation", function\_exp="pmax(abs(min\_MinTemp - dplyr::lag(min\_MinTemp)), abs(min\_MinTemp - dplyr::lead(min\_MinTemp)), na.rm=TRUE)", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Jump\_e2", save=2)

largest\_test\_jump\_e2 <- instat\_calculation$new(type="calculation", function\_exp="Jump\_e2 > 2.0", sub\_calculations=list(largest\_jump\_e2), result\_name="jump\_e2")

largest\_jump\_e2 <- instat\_calculation$new(type="calculation", function\_exp="pmax(abs(min\_MinTemp - dplyr::lag(min\_MinTemp)), abs(min\_MinTemp - dplyr::lead(min\_MinTemp)), na.rm=TRUE)", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Jump\_e2", save=2)

diff\_calculation <- instat\_calculation$new(type="calculation", function\_exp="max\_MaxTemp - min\_MinTemp", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Diff", save=2)

diff\_test\_calculation <- instat\_calculation$new(type="calculation", function\_exp="Diff <= 10.0", sub\_calculations=list(diff\_calculation), result\_name="diff")

diff\_calculation <- instat\_calculation$new(type="calculation", function\_exp="max\_MaxTemp - min\_MinTemp", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), result\_name="Diff", save=2)

filter\_calculation <- instat\_calculation$new(type="filter", function\_exp="diff | jump\_e1 | jump\_e2 | same\_e1 | same\_e2 | range\_e2 | range\_e1", calculated\_from=list("WattTown2018to2024\_by\_date2"="max\_MaxTemp","WattTown2018to2024\_by\_date2"="min\_MinTemp"), manipulations=list(grouping), save=2, sub\_calculations=list(acceptable\_range\_test\_\_e1, acceptable\_range\_test\_\_e2, largest\_test\_same\_e1 , largest\_same\_e1 , largest\_test\_same\_e2 , largest\_same\_e2, largest\_test\_jump\_e1 , largest\_jump\_e1 , largest\_test\_jump\_e2 , largest\_jump\_e2, diff\_test\_calculation, diff\_calculation), result\_data\_frame="qcTemp")

data\_book$run\_instat\_calculation(calc=filter\_calculation, display=FALSE)

rm(list=c("filter\_calculation", "grouping", "acceptable\_range\_test\_\_e1", "acceptable\_range\_test\_\_e2", "largest\_test\_same\_e1", "largest\_same\_e1", "largest\_test\_same\_e2", "largest\_same\_e2", "largest\_test\_jump\_e1", "largest\_jump\_e1", "largest\_test\_jump\_e2", "largest\_jump\_e2", "diff\_test\_calculation", "diff\_calculation"))

data\_book$rename\_dataframe(data\_name="qcTemp", new\_value="WattTownQcTemps", label="")

last\_graph <- data\_book$display\_daily\_graph("Station", climatic\_element="sum\_Rain", data\_name="WattTownQcTemps", date\_col="date2", year\_col="year", doy\_col="doy", upper\_limit=100, rug\_colour="red", bar\_colour="blue")

data\_book$add\_object(data\_name="WattTownQcTemps", object\_name="last\_graph", object\_type\_label="graph", object\_format="image", object=check\_graph(graph\_object=last\_graph))

rm(last\_graph)

last\_graph <- data\_book$display\_daily\_graph("Station", climatic\_element="max\_MaxTemp", data\_name="WattTownQcTemps", date\_col="date2", year\_col="year", doy\_col="doy", upper\_limit=100, rug\_colour="red", bar\_colour="blue")

data\_book$add\_object(data\_name="WattTownQcTemps", object\_name="last\_graph", object\_type\_label="graph", object\_format="image", object=check\_graph(graph\_object=last\_graph))

rm(last\_graph)

saveRDS(file=" C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St.Ann/WattTown2018to2024.RDS", object=data\_book)

# Code generated by the dialog, Save Data As

saveRDS(file=" C:/Users/Peter Fearon/Desktop/AllWeatherLinksIPAWSDataset2009to2024/St.Ann/WattTown2018to2024.RDS", object=data\_book)