Extract Adj r-squared GAMM model 5

Willem Vervoort, Michaela Dolk & Floris van Ogtrop

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```
# root dir
#knitr::opts_knit$set(root.dir = "d:/cloudstor/Virtual Experiments/VirtExp")
knitr::opts_knit$set(root.dir = "C:/Users/rver4657/ownCloud/Virtual Experiments/VirtExp")
knitr::opts_chunk$set(echo = TRUE)
# LOAD REQUIRED PACKAGES # #####
library(pander)
library(tidyverse)
library(xts)
library(zoo)
library(mgcv)
library(Kendall)
library(doParallel)
library(foreach)

#storedir <- "d:/cloudstor/virtual experiments"
storedir <- "C:/Users/rver4657/ownCloud/Virtual Experiments"
```

This rmarkdown document and the resulting pdf are stored on github. All directories (apart from the root working directory) refer to the directories in this repository

Introduction

This document is related to the manuscript "Disentangling climate change trends in Australian streamflow" (vervoort et al.).

This section only extracts the performance results (Ajusted r_squared) from the GAMM results of model 4 and 5 from part 3 of the series, 3.GAMmodelTests.pdf

Read in the results

```
# currently not saved
# # Station rainfall model 4
# load(paste(storedir,
#                  "projectdata/StoreFwRE_TrendAnalysis.RData",
#                  sep = "/"))


#Gridded rainfall model 4
load(paste(storedir,
               "projectdata/StoreFwGRE_TrendAnalysis.RData",
               sep="/"))

# Station rainfall model 5
```

```
load(paste(storedir,
                "projectdata/StoreFwRE_Analysis.RData",
                sep="/"))

# Gridded Rainfall Model 5
load(paste(storedir,
                "projectdata/StoreFwGRE2_TrendAnalysis.RData",
                sep="/"))
```

extract the adjusted r-squared

```
# Gridded rainfall model 4
Model4Grid_AdjR2 <- list()

for (i in 1:13) {
  Model4Grid_AdjR2[[i]] <- summary(Store_FwGRE[[i]]$model$gam)$r.sq

}

Model4Grid_AdjR2 <- do.call(rbind,Model4Grid_AdjR2)

# Station rainfall model 5
Model5Station_AdjR2 <- list()

for (i in 1:13) {
  Model5Station_AdjR2[[i]] <- summary(Store_FwRE2[[i]]$model$gam)$r.sq

}

Model5Station_AdjR2 <- do.call(rbind,Model5Station_AdjR2)



# Gridded rainfall model 5
Model5Grid_AdjR2 <- list()

for (i in 1:13) {
  Model5Grid_AdjR2[[i]] <- summary(Store_FwGRE2[[i]]$model$gam)$r.sq

}

Model5Grid_AdjR2 <- do.call(rbind,Model5Grid_AdjR2)

Results <- tibble(Station= do.call(rbind, lapply(1:length(Store_FwRE2),
                          function(i) rbind(Store_FwRE2[[i]][[2]][[1]]))),
                  Model4_Grid = Model4Grid_AdjR2, Model5_Station = Model5Station_AdjR2,
                  Model5_Grid = Model5Grid_AdjR2)
pander(Results, caption="Adjusted r-squared for models 4 and 5 from the GAMM analysis")
```

Table 1: Adjusted r-squared for models 4 and 5 from the GAMM analysis

Station	Model4_Grid	Model5_Station	Model5_Grid
4	0.1303	0.07349	0.09166
10	0.3845	0.2058	0.2363
3	0.4257	0.4034	0.4144
6	0.3007	0.198	0.3006
1	0.3035	0.2517	0.3035
2	0.3256	0.2777	0.3263
11	0.3029	0.3054	0.2992
7	0.1535	0.02793	0.1432
9	-0.03067	-0.06248	-0.03265
8	0.2433	0.1629	0.186
12	0.2471	0.2035	0.2333
13	0.1641	0.1346	0.1372
5	0.2022	0.187	0.2008