Reproducible code for manuscript figure 06 – Temporal uncertainty contributions

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```
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```

Compile Rmarkdown file

```
library("rmarkdown")
rmarkdown::render("Main_reproducible_contributions.R")
```

Setup

```
library(knitr)

Sys.setenv("LANGUAGE"="En")
Sys.setlocale("LC_ALL", "en_GB.UTF-8")
```

```
## [1] "LC_CTYPE=en_GB.UTF-8;LC_NUMERIC=C;LC_TIME=en_GB.UTF-8;LC_COLLATE=en_GB.UTF-8;LC_MONETARY=en_GB.U
```

```
timing.ini <- Sys.time()
```

Loading functions

```
source(paste0("R/", "Plot.stacked1.R"))
```

```
## Loading required package: zoo
```

```
##
## Attaching package: 'zoo'
```

```
## The following objects are masked from 'package:base':
##
##     as.Date, as.Date.numeric
```

Stacked line plot

```
## call function Plot.stacked
My.plot.composed.contrib <- function(x.axis.null = TRUE){
  p.c1 <- Plot.stacked1(data.bar = data.bar,
                        time.plot.ini <- as.POSIXct("2010-03-20 19:00:00"),
                        time.plot.end <- as.POSIXct("2010-03-21 07:00:00"),
```

```
                        breaks.by = 60*60*3,
                        xlab = "",
                        ylab = paste0("Var. ", ylab, "$^2$")
  )
  if(x.axis.null) {p.c1 <- p.c1 + theme(axis.text.x = element_blank())}

  p.c2 <- Plot.stacked1(data.bar = data.bar,
                        time.plot.ini <- as.POSIXct("2010-05-28 07:00:00"),
                        time.plot.end <- as.POSIXct("2010-05-30 06:00:00"),
                        breaks.by = 60*60*3,
                        xlab = "",
                        ylab = paste0("Var. ", ylab, "$^2$")
  )
  if(x.axis.null) {p.c2 <- p.c2 + theme(axis.text.x = element_blank())}

  p.c3 <- Plot.stacked1(data.bar = data.bar,
                        time.plot.ini <- as.POSIXct("2010-08-26 20:00:00"),
                        time.plot.end <- as.POSIXct("2010-08-27 17:00:00"),
                        breaks.by = 60*60*3,
                        xlab = "",
                        ylab = paste0("Var. ", ylab, "$^2$")
  )
  if(x.axis.null) {p.c3 <- p.c3 + theme(axis.text.x = element_blank())}

  p.c4 <- Plot.stacked1(data.bar = data.bar,
                        time.plot.ini <- as.POSIXct("2010-09-07 02:00:00"),
                        time.plot.end <- as.POSIXct("2010-09-09 02:00:00"),
                        breaks.by = 60*60*3,
                        xlab = "",
                        ylab = paste0("Var. ", ylab, "$^2$")
  )
  if(x.axis.null) {p.c4 <- p.c4 + theme(axis.text.x = element_blank())}

  return(list(p.c1, p.c2, p.c3, p.c4))
}
```

Loading data and plotting contributions

```
## bcod contributions
load("data/data_BCOD_plot.RData")
p.bcod <- My.plot.composed.contrib()
# p.bcod[[2]]

## bnh4 contributions
load("data/data_BNH4_plot.RData")
p.bnh4 <- My.plot.composed.contrib()
# p.bnh4[[2]]

## ccod contributions
load("data/data_CCOD_plot.RData")
p.ccod <- My.plot.composed.contrib()
# p.ccod[[2]]
```

```
## cnh4 contributions
load("data/data_CNH4_plot.RData")
p.cnh4 <- My.plot.composed.contrib(x.axis.null = FALSE)
# p.cnh4[[2]]
```

Plot graphs and set relative heights

Render latex file to pdf

Include pdf

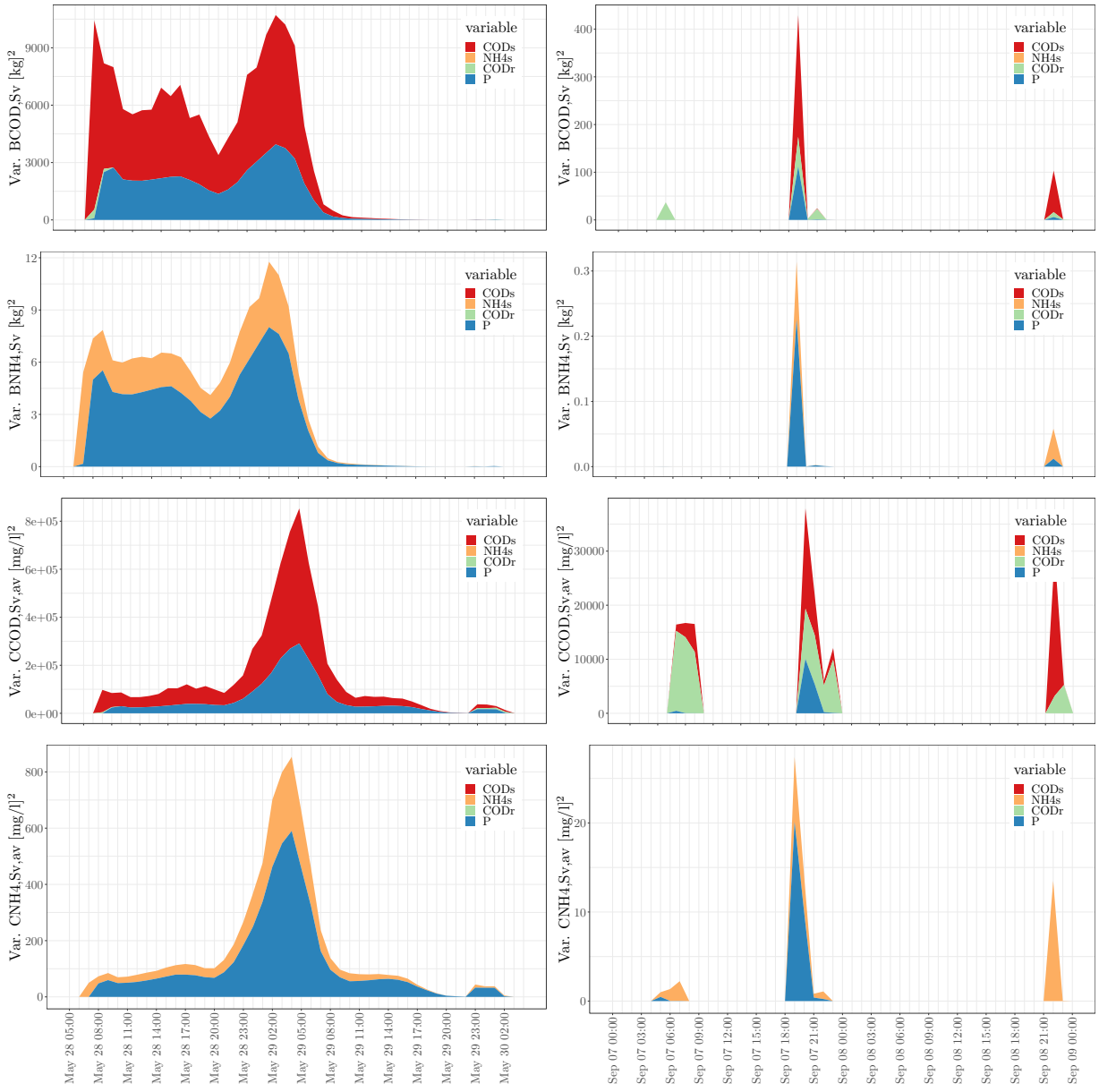

Figure 1: Figure 06.

Timing

```
timing.end <- Sys.time()
(timing.elapsed <- timing.end - timing.ini)
```

```
## Time difference of 22.73385 secs
```