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# Warm-up and simulation periods
per_wup1m <- c("2002-12-01", "2002-12-31")
per_wup1y <- c("2002-01-01", "2002-12-31")
per_sim <- c("2003-01-01", "2006-12-31")

# Parameter set
param_gr4j <- c(X1 = 350, X32 = 0, X3 = 90, X4 = 1.4)

# Simulation without warm-up period
sim_wup0d <- SimGR(PrepGR = prep_no_q,
                  Param = param_gr4j,
                  WupPer = OL,
                  SimPer = per_sim)

# Simulation with a 1-month warm-up period
sim_wup1m <- SimGR(PrepGR = prep_no_q,
                  Param = param_gr4j,
                  WupPer = per_wup1m,
                  SimPer = per_sim)

# Simulation with a 1-year warm-up period
sim_wup1y <- SimGR(PrepGR = prep_no_q,
                  Param = param_gr4j,
                  WupPer = per_wup1y,
                  SimPer = per_sim)

# Graphical comparison
col_wup <- c("orchid", "orange2", "green3")
matplot(x = as.POSIXct(sim_wup0d$OutputsModel$DatesR),
        y = cbind(sim_wup0d$OutputsModel$Qsim,
                  sim_wup1m$OutputsModel$Qsim,
                  sim_wup1y$OutputsModel$Qsim),
        xlab = "time [d]", ylab = "flow [mm/d]",
        type = "l", lty = 1, lwd = 2, col = col_wup,
        xlim = as.POSIXct(x = c("2003-01-01", "2003-09-01"), tz = "UTC"))
legend("topright",
      legend = c("no warm-up", "1-month warm-up", "1-year warm-up"),
      col = col_wup, lwd = 2)

```