write.csv(FluxSpeed, "../Project generated/Fluxes erosion per speed.csv")

FluxperSpeed <- read.csv("../Project generated/Fluxes erosion per speed.csv")[,-1]

FluxperSpeed <- aggregate(FluxperSpeed[,6], by = list(Location = FluxperSpeed$Location, Nut = FluxperSpeed$Nut,

Speed = FluxperSpeed$Speed), FUN = mean)

FluxperSpeed[,4] <- round(FluxperSpeed[,4], digits = 2)

colnames(FluxperSpeed)[4] <- "ExpFlux"

```

#Plot of nutrients release over time all triplicates PP

```{r fig.height=5, fig.width=15}

plotreltur <- function(Data, Station, nut = c("NH4", "NO2", "PO4"), col, SPD = FluxperSpeed){

Sites <- Data[Data$Site == Station, ]

Loc <- unique(Data$Location)

Rep <- unique(Data$Replicate)

SPDSit <- SPD[SPD$Site == Station, ]

#png(paste0("../graphs/",Station, "SpeedFlux.png"),width = 900, height = 280)

par(mfrow = c(1,4), mar = c(2, 2, 3, 2), oma = c(4,4,4,2))

for (n in 1:length(nut)){

Nutname <- nut[n]

SPDNut <- SPD[SPD$Nut == Nutname,]

plot(y = Sites[, Nutname], x = Sites$Sample.num, xaxt= "n", type = "n",

cex.main = 2, cex.axis = 1.5, xlab = "", main = "", ylab = " ")

for (m in Loc) {

Loca <- subset(Sites, Location == m)

SPDLoc <- subset(SPDNut, Location == m)

for (r in Rep){

Repl <- subset(Loca, Replicate == r)

with (Repl, lines(y = Repl[,Nutname], x = Sample.num, type = "b", col = col[Loc == m]), cex.axis = 1.5)

}

axis(side =1, line = 0, at = c(0,5,8,11), labels = c(0,0.149,0.175,0.203), cex.axis = 1.5)

if (Nutname == "NH4"){

title(main = expression('NH'[4]^"+"), line = 1.5, outer = F, cex.main = 2.1)

} else if (Nutname == "NO2"){

title(main = expression('NO'[2]^"-"), outer = F, cex.main = 2.1)

} else if (Nutname == "PO4"){

title(main = expression('PO'[4]^"3-"), outer = F, cex.main = 2.1)}

abline(v = c( 0.5, 3.5, 6.5, 9.5) , col = "black", lty = 2)

if(m == 25){

axis(side =3, line = -2.3, at = c(5,8,11), labels = SPDLoc$ExpFlux[SPDLoc$Location == 25], col.axis = col[Loc == m], cex.axis = 1.2, tick = F)} else if(m == 200) {

axis(side =3, line = -3.3, at = c(5,8,11), labels = SPDLoc$ExpFlux[SPDLoc$Location == 200], col.axis = col[Loc == m], cex.axis = 1.2, tick = F)}

}}

#plotting turbidity

plot(y = Sites[, "Turbidity.gl"], x = Sites$Sample.num, xaxt= "n", type = "n",

xlab = " ", main = expression('SPM g L'^"-1"), ylab = "g/L", cex.main = 2.1, cex.axis = 1.3, cex.lab = 2)

SPDNut <- SPD[SPD$Nut == "Turbidity.gl",]

for (m in Loc) {

Loca <- subset(Sites, Location == m)

SPDLoc <- subset(SPDNut, Location == m)

for (r in Rep){

Repl <- subset(Loca, Replicate == r)

with (Repl, lines(y = Repl[,"Turbidity.gl"], x = Sample.num, type = "b", col = col[Loc == m]))

}