Synoptic CB: Porewater Nutrients

JULY 2024 Samples

2025-08-11

Contents

Run Information

```r
cat("Run Information: NAME ") #lets you know what section you're in
```

```
## Run Information: NAME
```

```r
#set the run date & user name
  run_date <- "05/20/2025"
  sample_year <- "2024"
  sample_month <- "JULY"
  user <- "Isabelle Van Benschoten"

#identify the files you want to read in
  #read in as a list to accommadate ultiple runs in a month
  NOx_files <- c("Raw Data/COMPASS_Synoptic_CB_202407_VNOx_1.csv",
                 "Raw Data/COMPASS_Synoptic_CB_202407_VNOx_2.csv",
                 "Raw Data/COMPASS_Synoptic_CB_202407_VNOx_3.csv")
  NH3_PO4_files <- c("Raw Data/COMPASS_Synoptic_CB_202407_NH3_PO4_1.csv",
                     "Raw Data/COMPASS_Synoptic_CB_202407_NH3_PO4_2.csv",
                     "Raw Data/COMPASS_Synoptic_CB_202407_NH3_PO4_3.csv")

# Define the file path for QAQC log file - NO Need to change just check year
  file_path <- "Raw Data/SEAL_COMPASS_Synoptic_QAQC_Log_2024.csv"
  final_path <- "Processed Data/COMPASS_Synoptic_Nutrients_202407.csv"

#record any notes about the run or anything other info here:
  run_notes <- "Reduction Effieciency was not ran for all of the runs included within this month.
                One NH3 check standard was ut of range but CV was within.
                One PO4 blank was out of range but CV was within.
                PO4 duplicates out of range.
                Metadata is missing:
                MSM_202407_TR_LysC_45cm, SWH_202407_UP_LysC_10cm, and SWH_202407_WC_LysA_45cm"

#Set up file path for metadata
  #downloaded metadata csv - downloaded from Google drive as csv for this year
  Raw_Metadata = "Raw Data/COMPASS_SynopticCB_PW_SampleLog_2024.csv"

  cat(run_notes)
```

```
## Reduction Effieciency was not ran for all of the runs included within this month.
##               One NH3 check standard was ut of range but CV was within.
##               One PO4 blank was out of range but CV was within.
##               PO4 duplicates out of range.
##               Metadata is missing:
##               MSM_202407_TR_LysC_45cm, SWH_202407_UP_LysC_10cm, and SWH_202407_WC_LysA_45cm
```

Setup

Read in metadata and create similar sample IDs for matching to samples
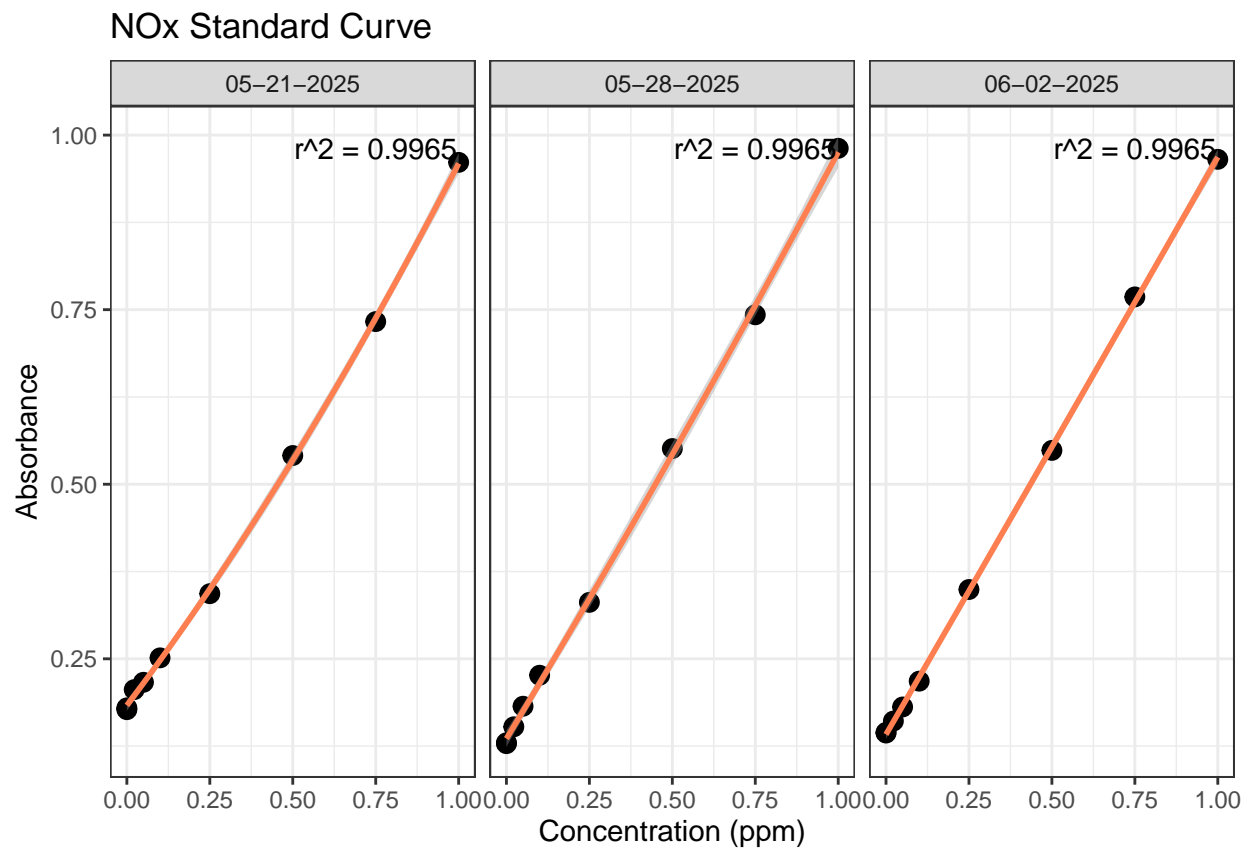
0.1 Import Data & Clean

0.2 Assessing standard Curves

#Pull out standards data

Assess Standard Curves

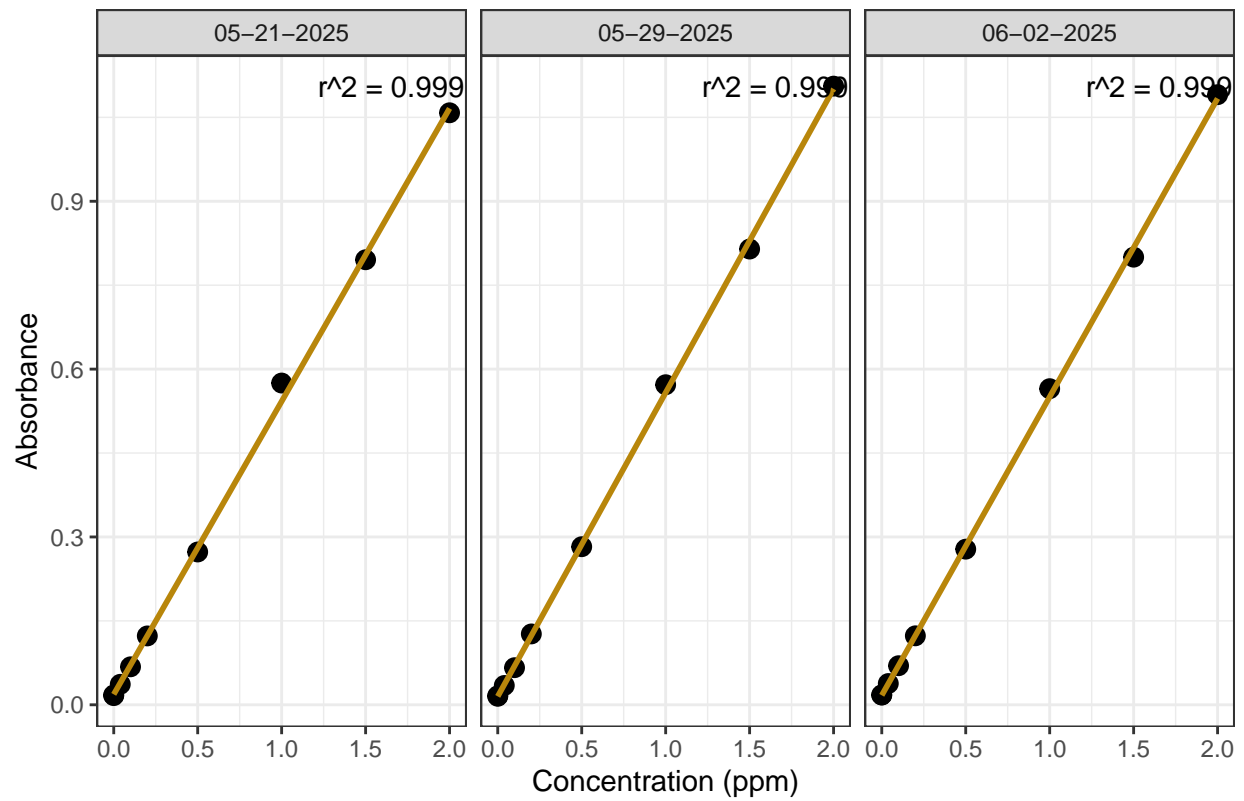#Plot standards data
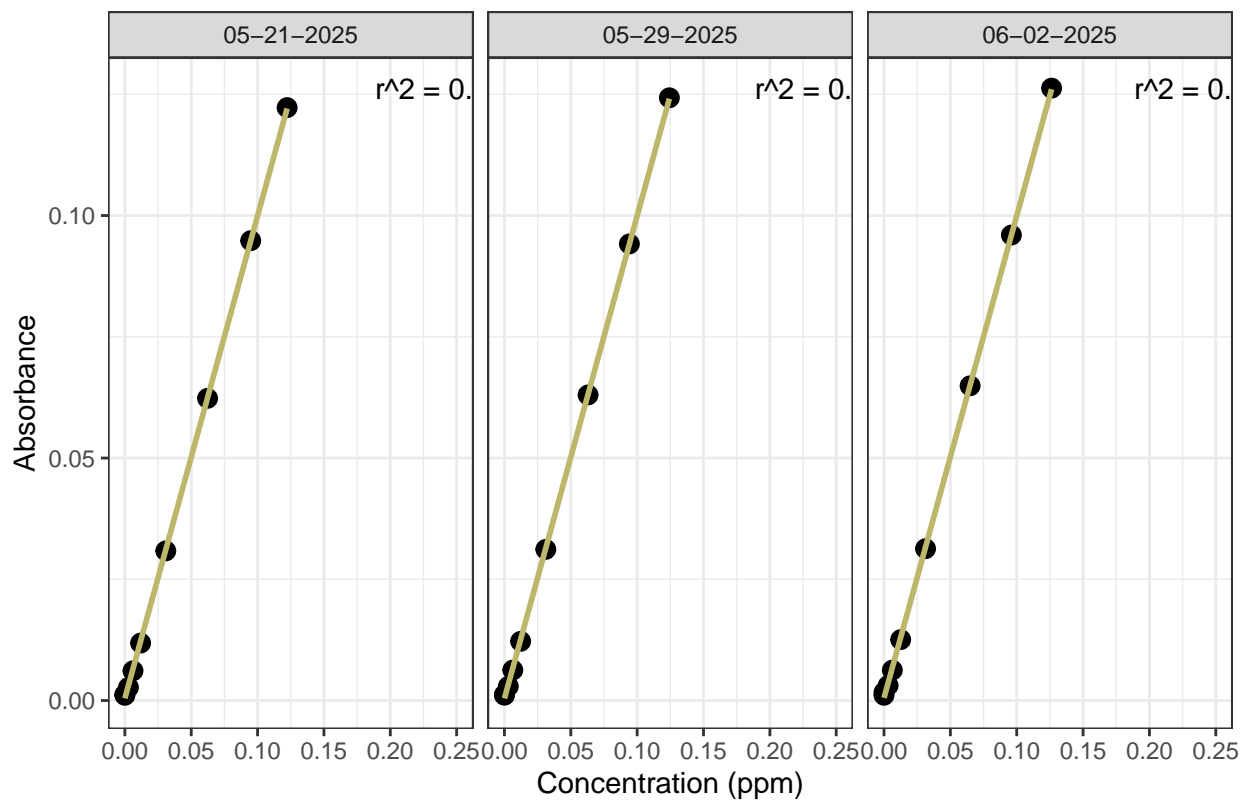
Assess Standard Curves

NOx Standard Curve

`geom_smooth()` using formula = 'y ~ x'

NH3 Standard Curve

```
## `geom_smooth()` using formula = 'y ~ x'
```

PO4 Standard Curve


```
## [1] "NOx Curve r2 GOOD - PROCEED"

## [1] "NH3 Curve r2 GOOD - PROCEED"

## [1] "PO4 Curve r2 GOOD - PROCEED"

## [1] "QAQC log file exists and has been read into the code."
```

Slope Drift Assessment
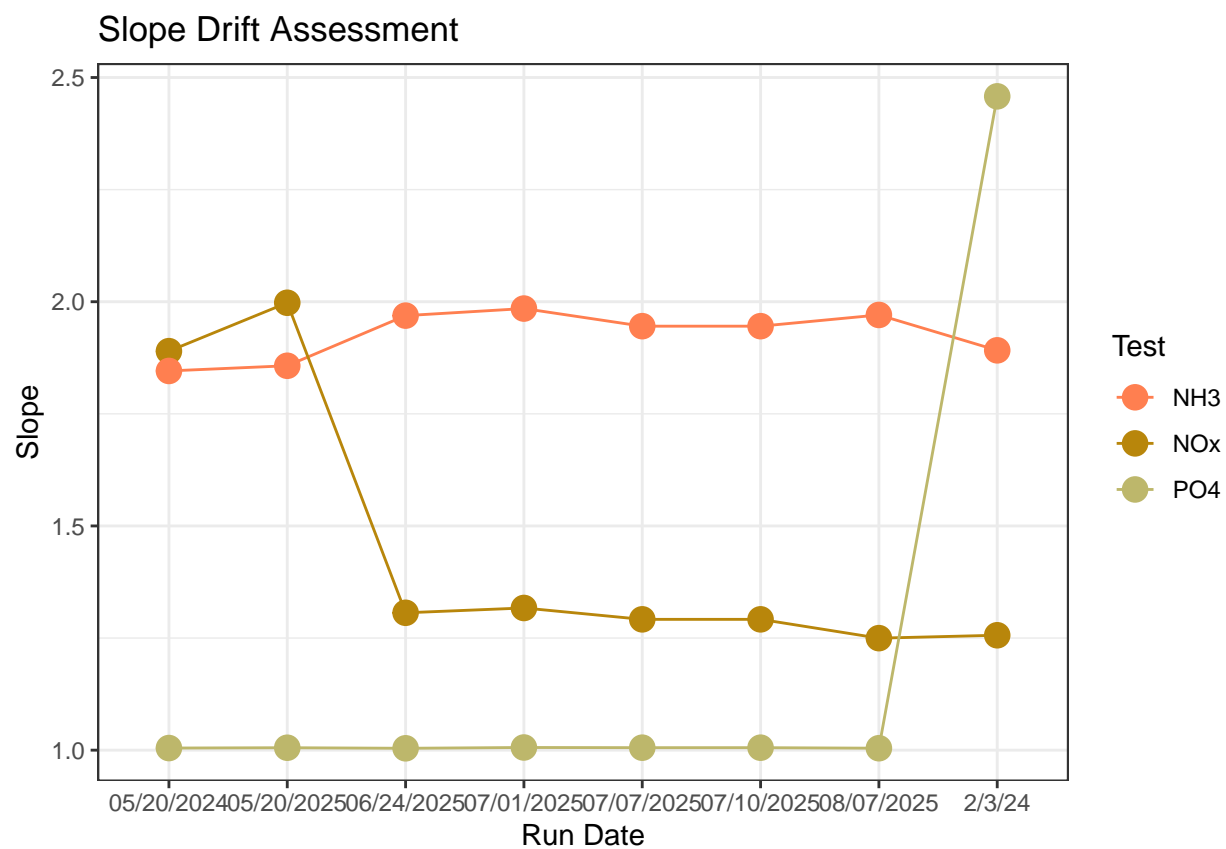
Table 1: Average Slope by Analyte

Test	avg_slope
NH3	1.926
NOx	1.450
PO4	1.187