

Synoptic CB: Porewater DIC

July 2025 Samples

2025-10-21

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```

##Setup - Change things here & write any notes

#identify section
cat("Setup Information")

## Setup Information

##### Run information - PLEASE CHANGE
Date_Run = "07/25/25" #Date that instrument was run
Run_by = "Stephanie J. Wilson" #Instrument user
Script_run_by = "Stephanie J. Wilson" #Code user
run_notes = " " #any notes from the run
samples <- c("GCW", "GWI", "MSM", "SWH") #whatever identifies your samples within the same names
samples_pattern <- paste(samples, collapse = "|")
#samples_pattern <- "GCW" #use this instead of the line above if you have only one site code
chks_name = "Chk_Std_" #what did you name your check standards?
crm_name = "CRM|crm" #what did you name your CRMS?

##### File Names - PLEASE CHANGE
#file path and name for raw summary data file
raw_file_name = "Raw Data/COMPASS_SynopticCB_PW_DIC_202507.txt"

#file path and name for raw all peaks file
raw_allpeaks_name = "Raw Data/COMPASS_SynopticCB_PW_DIC_202507_allpeaks.txt"

#file path and name of processed data file
processed_file_name = "Processed Data/COMPASS_SynopticCB_PW_Processed_DIC_202507.csv"

##### Log Files - PLEASE CHECK
#downloaded metadata csv - downloaded from Google drive as csv for this year
Raw_Metadata = "Raw Data/COMPASS_SynopticCB_PW_SampleLog_2025.csv"

#qaqc log file path for this year
Log_path = "Raw Data/COMPASS_Synoptic_DIC_QAQClog_2025.csv"

```

```

##Set Up Code
##Read in metadata and create similar sample IDs for matching to samples

```

0.1 Import Data Functions

0.2 Import Sample Data

```

## Import Sample Data

## New names:
## * ' ' -> '...14'

## Warning: One or more parsing issues, call 'problems()' on your data frame for details,
## e.g.:
##   dat <- vroom(...)
##   problems(dat)

```

```

## # A tibble: 6 x 3
##   sample_name          ic_raw run_datetime
##   <chr>                <dbl> <chr>
## 1 202507_GCW_TR_LysA_20cm 23.2 7/25/2025 11:50:36 PM
## 2 202507_GCW_TR_LysB_10cm 15.5 7/26/2025 12:09:07 AM
## 3 202507_GCW_TR_LysB_20cm 35.3 7/26/2025 12:26:24 AM
## 4 202507_GCW_TR_LysC_10cm 12.4 7/26/2025 12:41:19 AM
## 5 202507_GCW_TR_LysC_20cm 21.3 7/26/2025 12:54:12 AM
## 6 202507_GCW_WC_LysA_10cm 94.6 7/26/2025 1:09:12 AM

```

0.3 Assessing Standard Curves

```

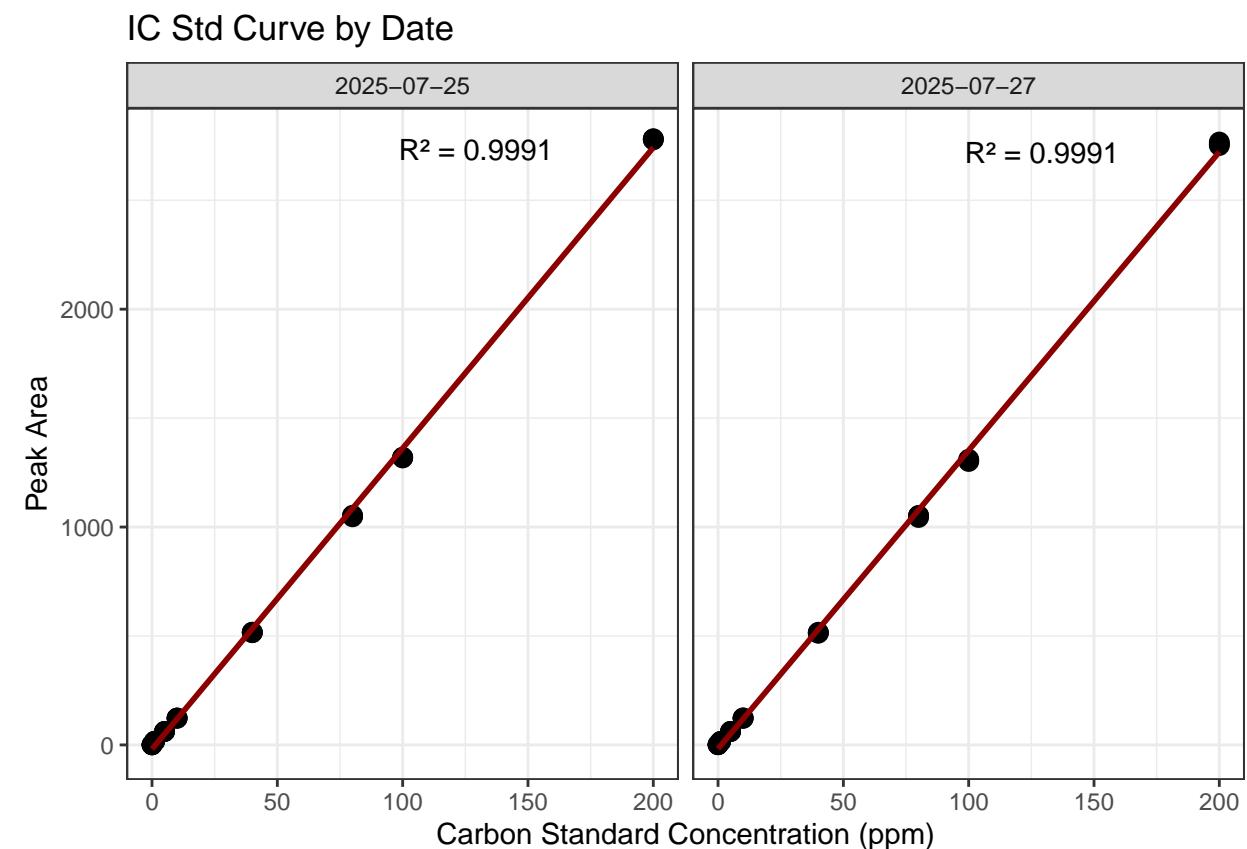
## Assess the Standard Curves

## New names:
## * `` -> '...18'

## Warning: One or more parsing issues, call `problems()` on your data frame for details,
## e.g.:
##   dat <- vroom('...18')
##   problems(dat)

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

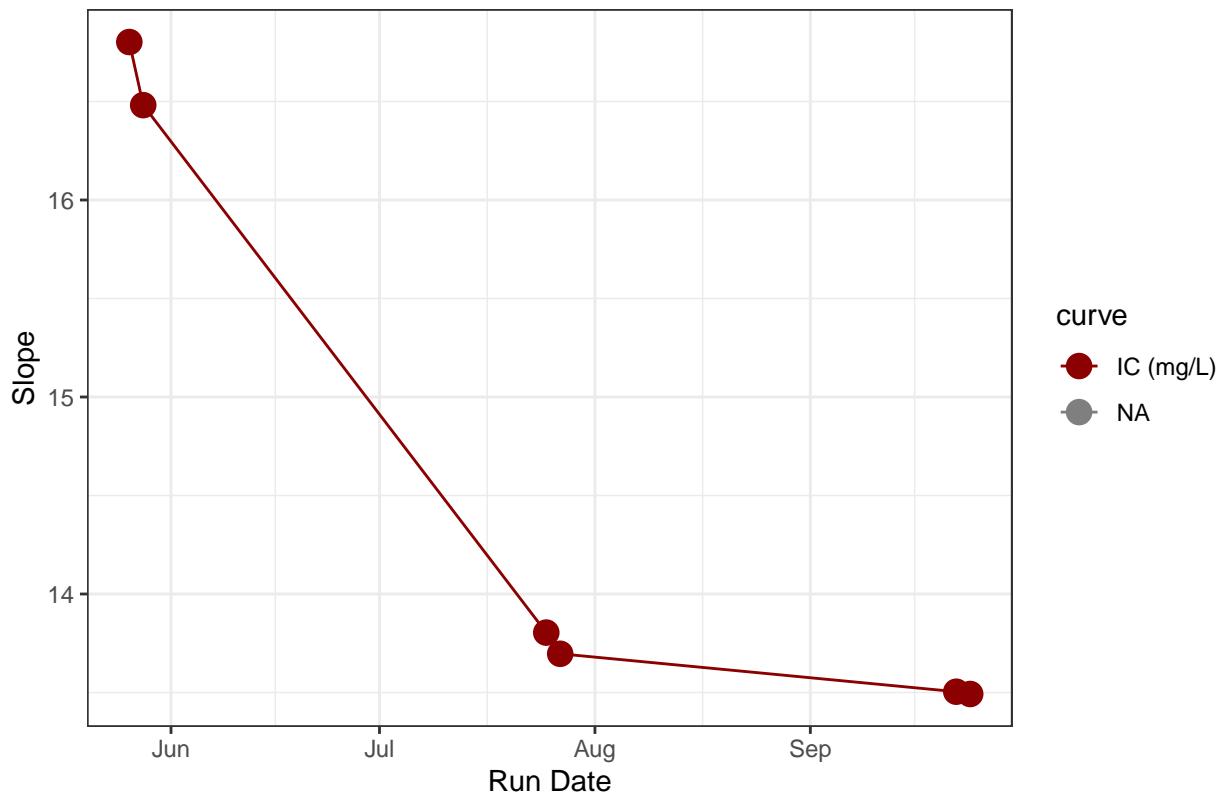
```



```
## Warning: Removed 4 rows containing missing values or values outside the scale range
## ('geom_point()').
```

```
## Warning: Removed 4 rows containing missing values or values outside the scale range
## ('geom_line()').
```

Slope Drift Assessment



```
## [1] "IC Curve r2 GOOD"
```

0.4 CRM Check - Don't run chunk if no CRMs run

```
## Assess the CRMs
```

```
## New names:
## * ` ` -> `...14`
```

```
## Warning: One or more parsing issues, call 'problems()' on your data frame for details,
## e.g.:
##   dat <- vroom(...)
##   problems(dat)
```

```
## [1] "IC ckm has a % Difference <25% of expected - PROCEED"
```

```
## Run mean = 22.7325
```

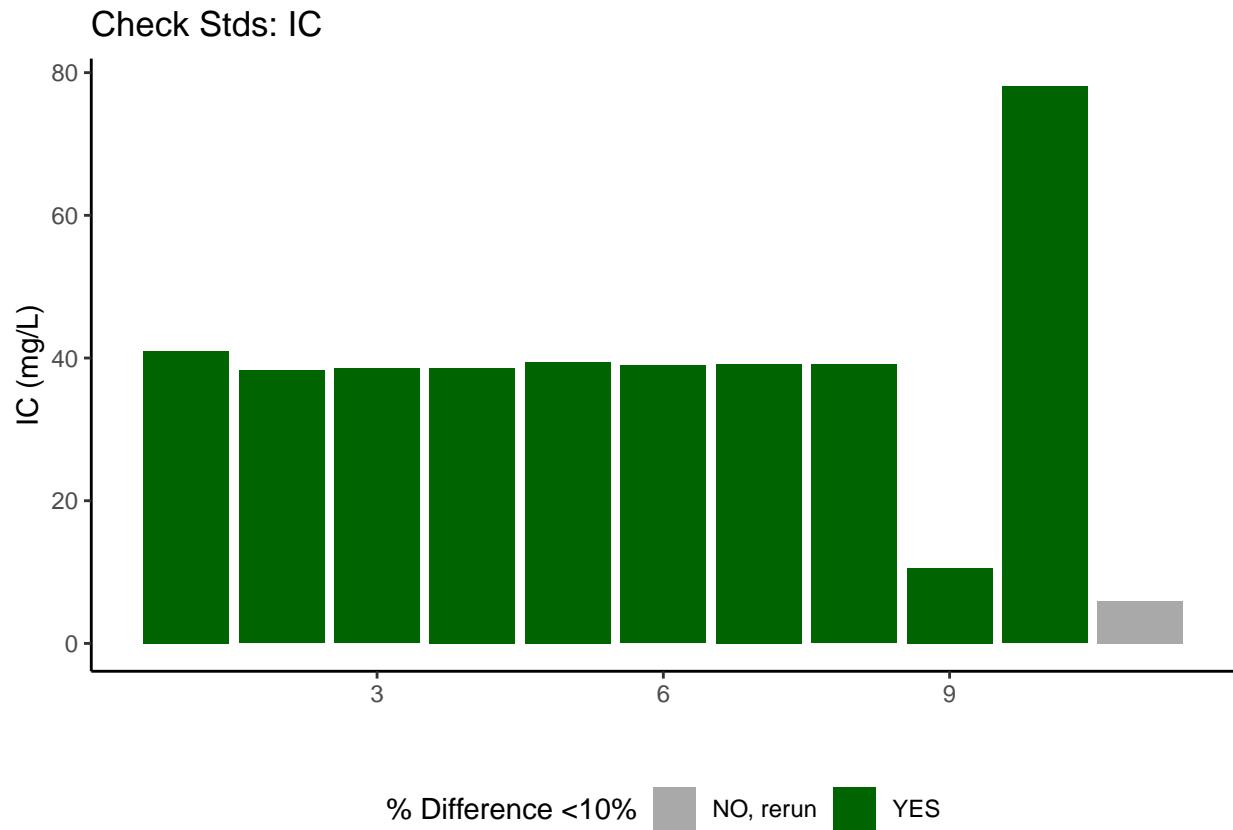
```
## Expected = 22.19
```

0.5 Assess Check Standards

```
## Assess the Check Standards

## New names:
## * `` -> '...14'

## Warning: One or more parsing issues, call 'problems()' on your data frame for details,
## e.g.:
##   dat <- vroom('...')
##   problems(dat)
```



```
## [1] ">60% of IC Check Standards are within range of expected concentration"
```

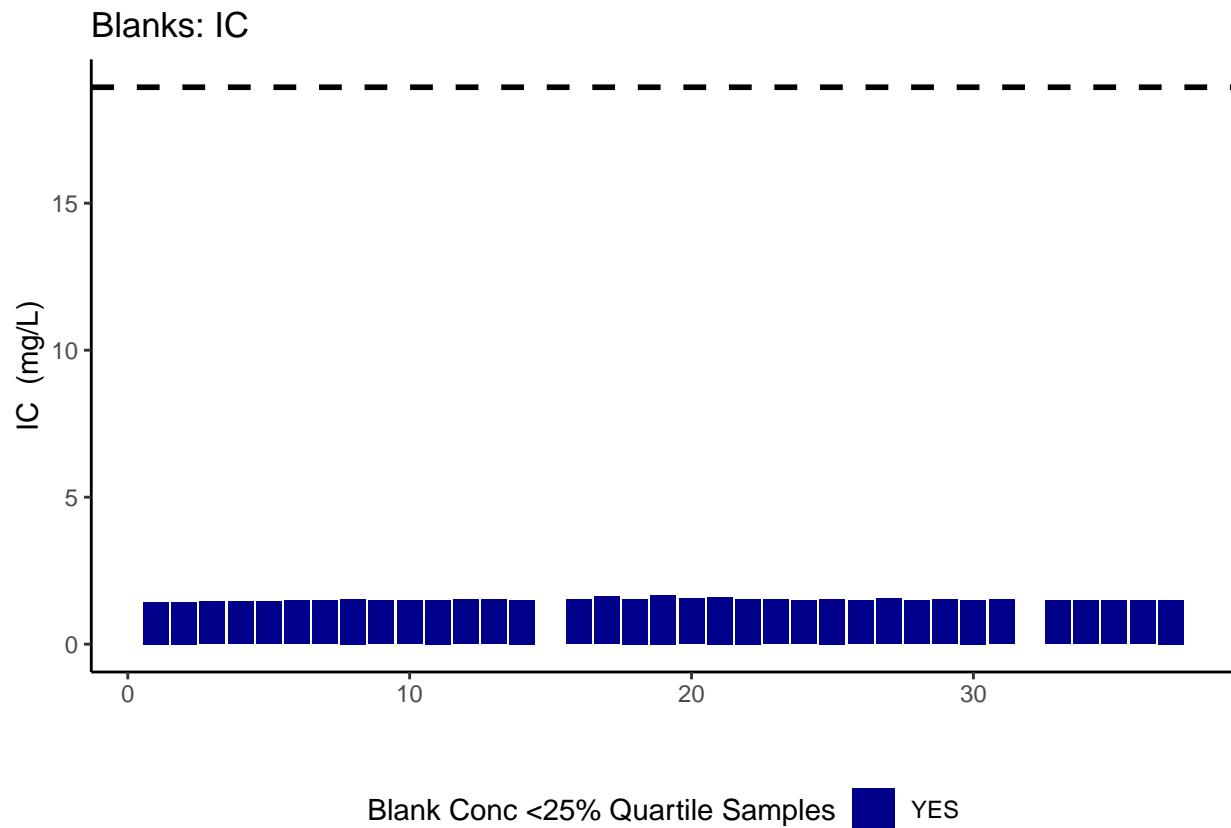
0.6 Assess Blanks

```
## Assess Blanks

## New names:
## * `` -> '...14'

## Warning: One or more parsing issues, call 'problems()' on your data frame for details,
## e.g.:
##   dat <- vroom('...')
##   problems(dat)
```

```
## [1] ">60% of Carbon Blank concentrations are lower 25% quartile of samples"
```

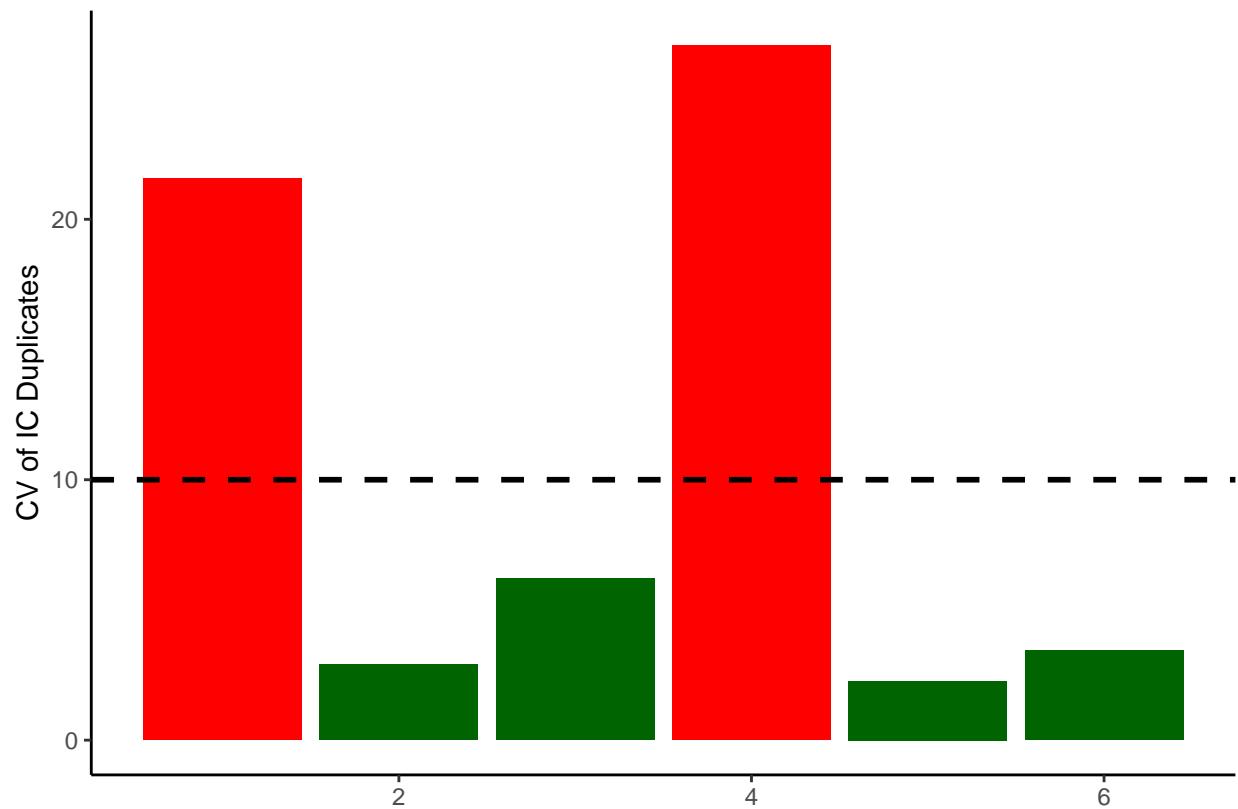


```
## carbon blanks:
```

```
## [1] 1.510657
```

0.7 Assess Duplicates - None on this run

```
## Assess Duplicates
```

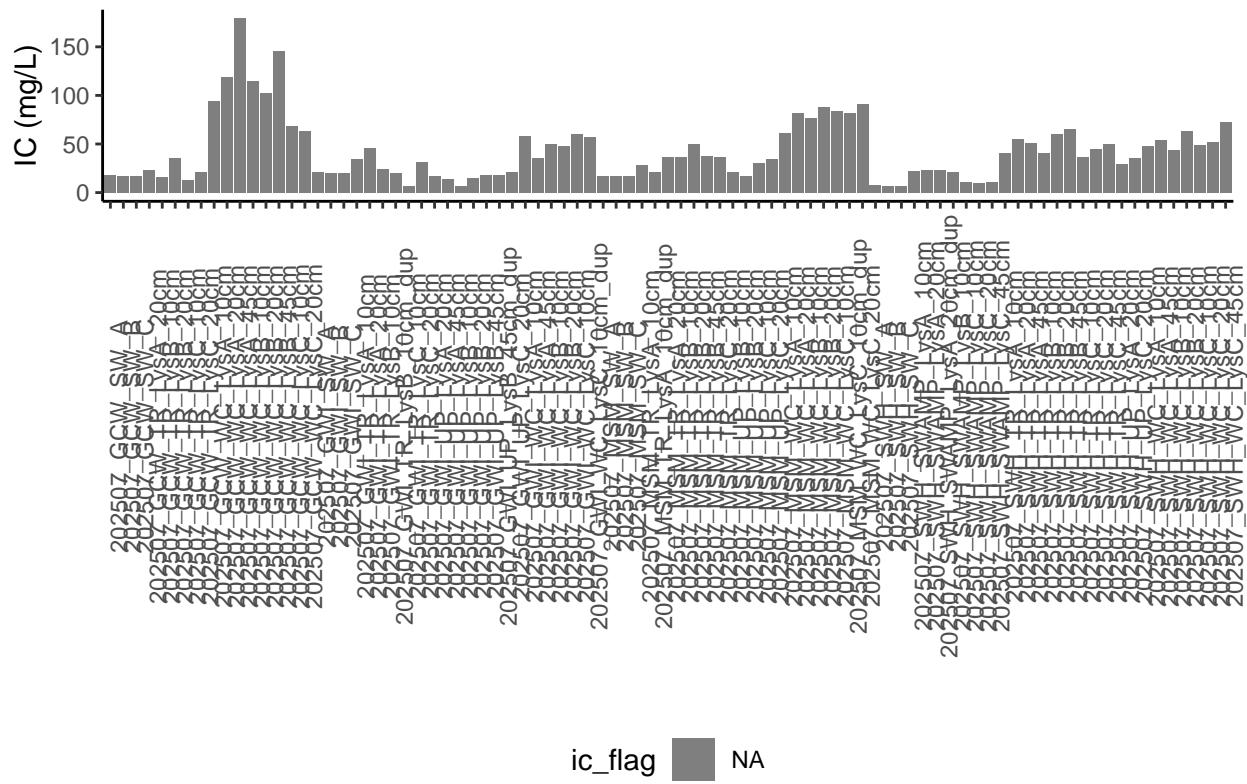


```
## [1] ">60% of Carbon Duplicates have a CV <10%"
```

0.8 Sample Flagging - Are samples Within the range of the curve?

```
## Sample Flagging
```

C: Grey = Within Range of Curve

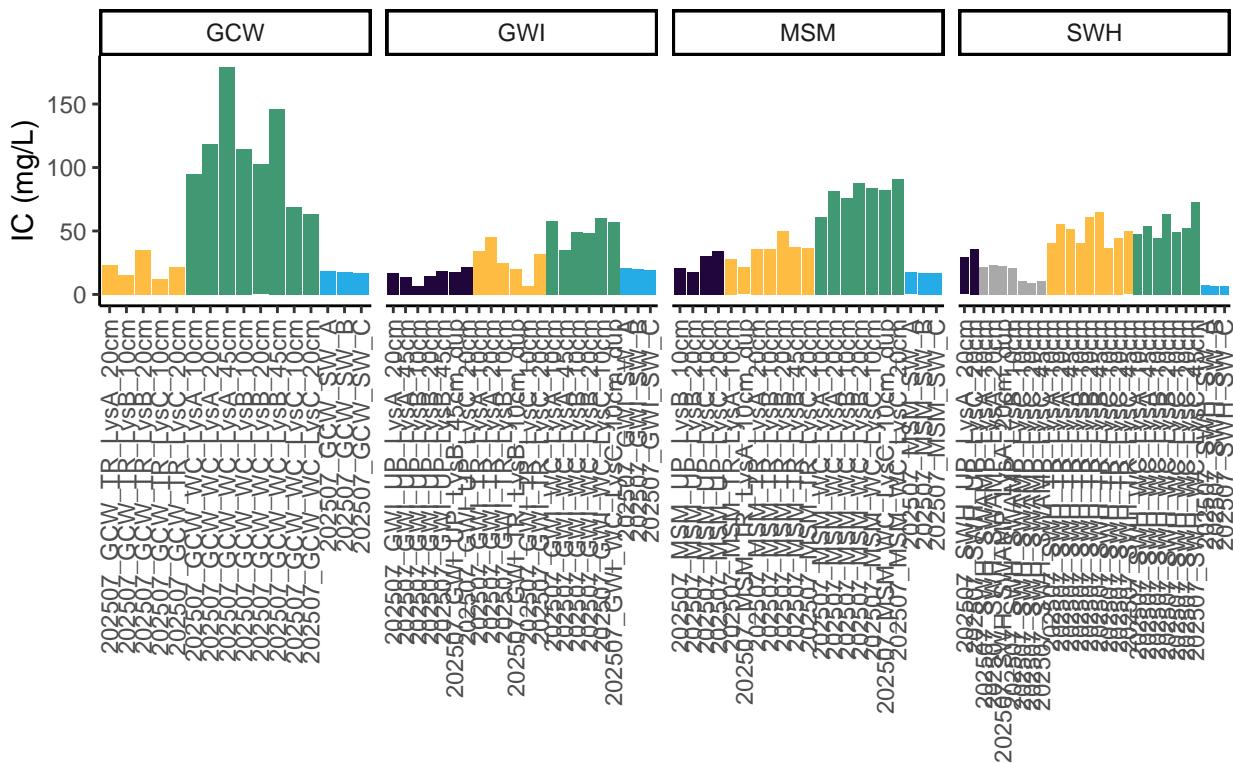


0.9 Visualize Data by Plot

Visualize Data

```
## Warning in rbind(c("202507", "GCW", "TR", "LysA", "20cm"), c("202507", "GCW", :  
## number of columns of result is not a multiple of vector length (arg 1)
```

Samples: DIC



0.10 Convert data from mg/L to uMoles/L

0.11 Check to see if samples run match metadata & merge info

```
## Check Sample IDs with Metadata
## All sample IDs are present in metadata.
```

0.12 Export Processed Data

```
## Export Processed Data

## # A tibble: 6 x 18
##   Project      Region Site  Zone  Replicate Depth_cm Sample_ID Year Month Day
##   <chr>        <chr>  <chr> <fct> <chr>       <int> <chr>    <int> <int> <int>
## 1 COMPASS: Sy~ CB     MSM   UP    B           10 202507_M~ 2025    7   15
## 2 COMPASS: Sy~ CB     MSM   UP    B           20 202507_M~ 2025    7   15
## 3 COMPASS: Sy~ CB     MSM   UP    C           10 202507_M~ 2025    7   15
## 4 COMPASS: Sy~ CB     MSM   UP    C           20 202507_M~ 2025    7   15
## 5 COMPASS: Sy~ CB     SWH   UP    A           20 202507_S~ 2025    7   21
## 6 COMPASS: Sy~ CB     SWH   UP    C           20 202507_S~ 2025    7   21
## # i 8 more variables: Time <chr>, Time_Zone <chr>, ic_mgL <dbl>, ic_uM <dbl>,
## #   ic_flag <chr>, Analysis_runtime <chr>, Run_notes <chr>, Field_notes <chr>
#end
```