

Synoptic CB: Porewater DIC

July 2023 Samples

2025-10-25

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```
##Setup - Change things here & write any notes
```

```
#identify section  
cat("Setup Information")
```

```
## Setup Information
```

```
##### Run information - PLEASE CHANGE  
Date_Run = "07/29/23" #Date that instrument was run  
Run_by = "Instrument User" #Instrument user  
Script_run_by = "Code User" #Code user  
run_notes = " The standard curve for this run was checked manually on the instrument. " #any notes f  
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/TOCTN_COMPASS_Synoptic_DIC_202307.txt"  
  
#file path and name for raw all peaks file  
raw_allpeaks_name = "Raw Data/TOCTN_COMPASS_Synoptic_DIC_202305_allpeaks.txt"  
  
#file path and name of processed data file  
processed_file_name = "Processed Data/COMPASS_SynopticCB_PW_Processed_DIC_202307.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_2023.csv"  
  
#qaqc log file path for this year  
Log_path = "Raw Data/COMPASS_Synoptic_DIC_QAQClog_2023.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'
```

```
## # A tibble: 6 x 3
```

```
##   sample_name          ic_raw run_datetime  
##   <chr>              <dbl> <chr>
```

```
## 1 GCW_202307_TR_LysA_20cm      32.1 7/29/2023 6:48:57 AM
## 2 GCW_202307_TR_LysA_45cm      19.3 7/29/2023 7:10:50 AM
## 3 GCW_202307_TR_LysB_10cm      32.1 7/29/2023 7:26:18 AM
## 4 GCW_202307_TR_LysB_10cmdup   30.7 7/29/2023 7:48:33 AM
## 5 GCW_202307_TR_LysC_10cm      11.5 7/29/2023 8:04:12 AM
## 6 GCW_202307_TR_LysC_20cm      48.4 7/29/2023 8:30:46 AM
```

0.3 Assessing Standard Curves - this was done manually on the TOC, not included here

0.4 CRM Check

```
## Assess the CRMs
```

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

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

```
## Run mean = 22.01
```

```
## Expected = 22.19
```

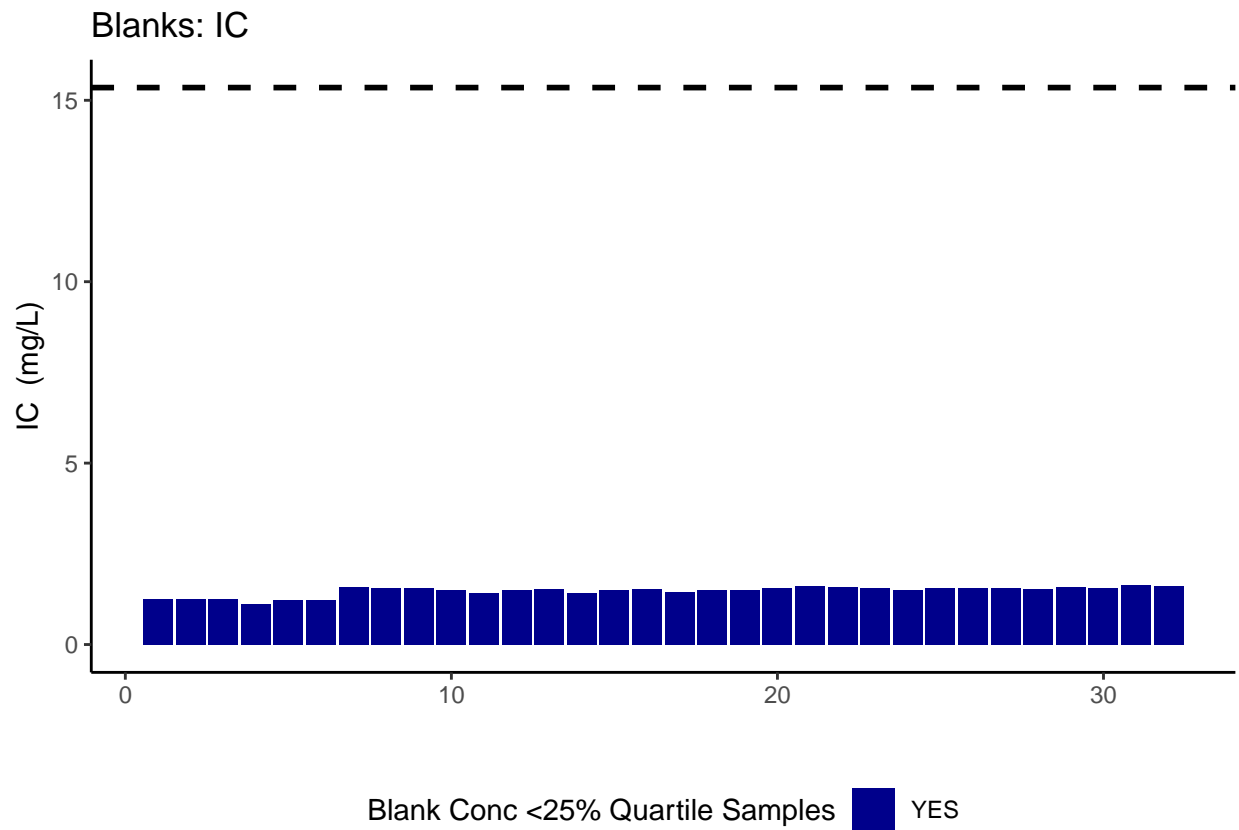
0.5 Assess Check Standards - Check standards were not run - DIs instead

0.6 Assess Blanks

```
## Assess Blanks
```

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

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

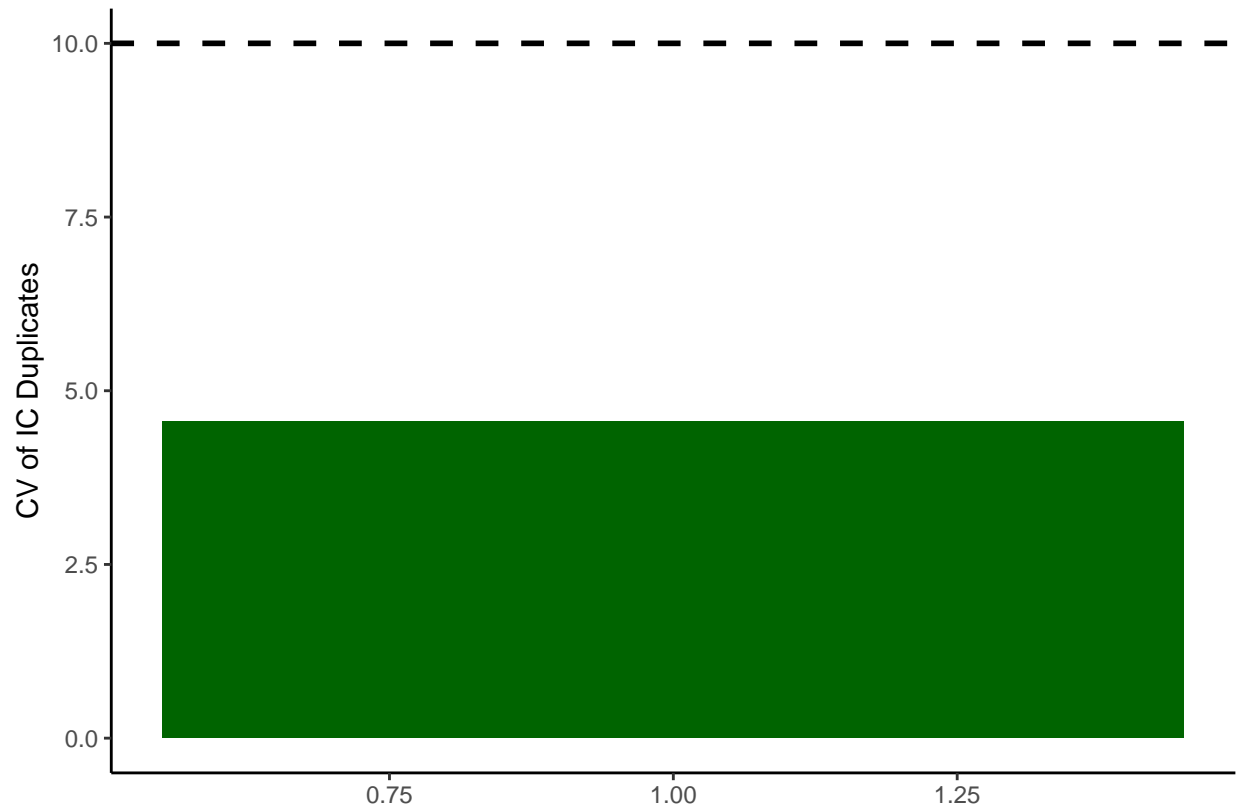


```
## carbon blanks:
```

```
## [1] 1.476625
```

0.7 Assess Duplicates

```
## Assess Duplicates
```

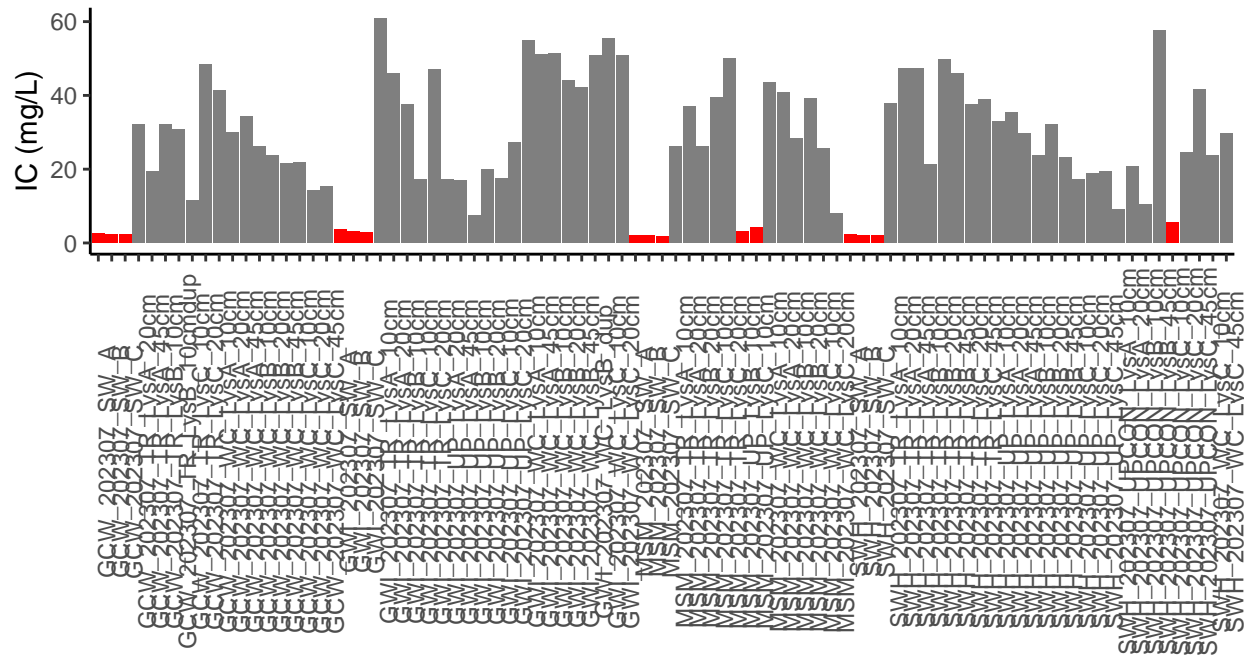


```
## [1] ">60% of Carbon Duplicates have a CV <10%"
```

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

```
## Sample Flagging
```

C: Grey = Within Range of Curve

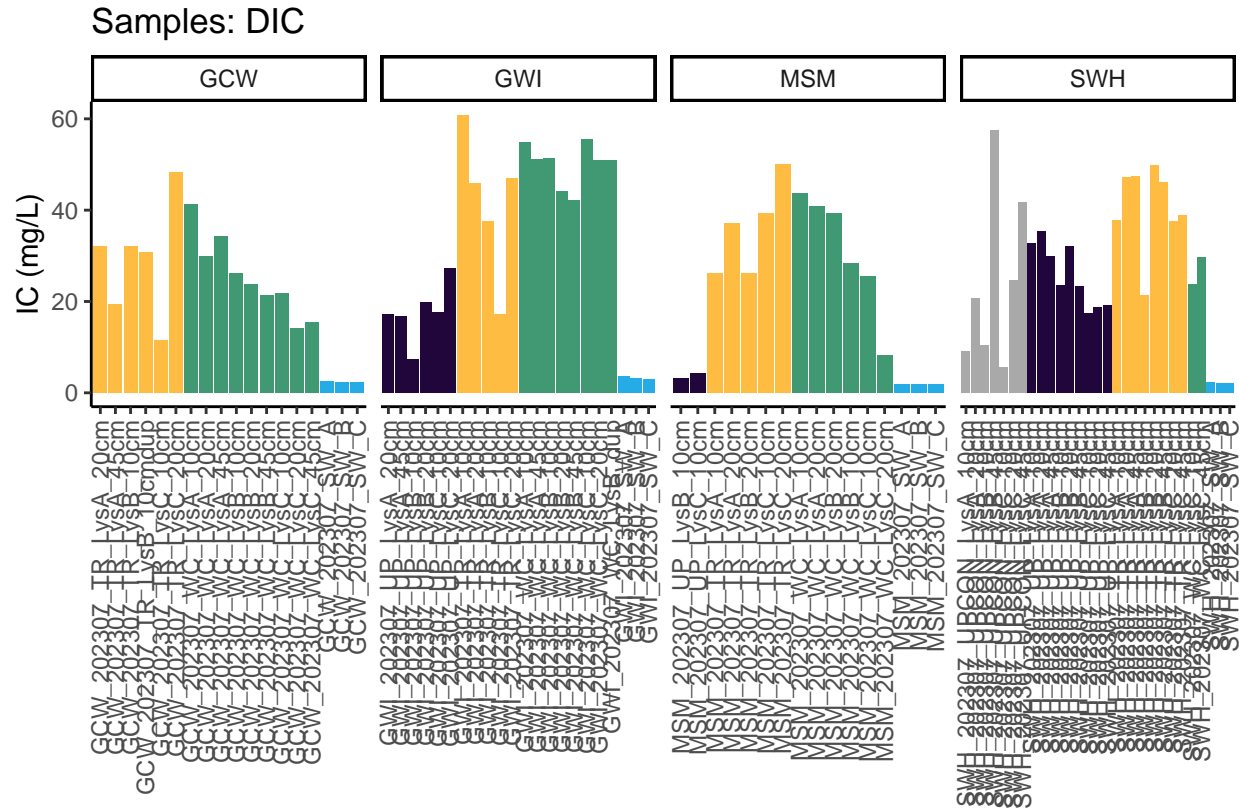


ic_flag ■ blank is = 25% of sample value ■ NA

0.9 Visualize Data by Plot - in 2023 SWH Upland = UPCON and Swamp = UP

```
## Visualize Data
```

```
## Warning in rbind(c("GCW", "202307", "TR", "LysA", "20cm"), c("GCW", "202307", :
## number of columns of result is not a multiple of vector length (arg 16)
```



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    SWH  UPCON A          10 SWH_2023~  2023     7   19
## 2 COMPASS: Sy~ CB    SWH  UPCON A          20 SWH_2023~  2023     7   19
## 3 COMPASS: Sy~ CB    SWH  UPCON B          10 SWH_2023~  2023     7   19
## 4 COMPASS: Sy~ CB    SWH  UPCON B          45 SWH_2023~  2023     7   19
## 5 COMPASS: Sy~ CB    SWH  UPCON C          10 SWH_2023~  2023     7   19
## 6 COMPASS: Sy~ CB    SWH  UPCON C          20 SWH_2023~  2023     7   19
## # i 8 more variables: Time <lgl>, Time_Zone <lgl>, ic_mgL <dbl>, ic_uM <dbl>,
## #   ic_flag <chr>, Analysis_runtime <chr>, Run_notes <chr>, Field_notes <chr>

#end
```