

Station Information							
ID*	Type*	Location	Latitude*	Longitude*	Coordinate System Units	Coordinate Reference System	Coordinate Collection Method
5	Ocean	Hudson Bay	64.2867	-78.2284	decimal degrees	Unknown	GPS - Unspecified
9	Ocean	Hudson Bay	63.7288	-79.9282	decimal degrees	Unknown	GPS - Unspecified
11	Ocean	Hudson Bay	62.865	-78.8966	decimal degrees	Unknown	GPS - Unspecified
15	Ocean	Hudson Bay	63.1939	-81.9189	decimal degrees	Unknown	GPS - Unspecified
16	Ocean	Hudson Bay	62.2796	-85.906	decimal degrees	Unknown	GPS - Unspecified
17	Ocean	Hudson Bay	63.1845	-90.0344	decimal degrees	Unknown	GPS - Unspecified
18	Ocean	Hudson Bay	63.7138	-88.417	decimal degrees	Unknown	GPS - Unspecified
19	Ocean	Hudson Bay	61.848	-92.1103	decimal degrees	Unknown	GPS - Unspecified
20	Ocean	Hudson Bay	61.3757	-90.942	decimal degrees	Unknown	GPS - Unspecified
21	Ocean	Hudson Bay	60.9113	-89.3586	decimal degrees	Unknown	GPS - Unspecified
22	Ocean	Hudson Bay	60.4233	-94.0022	decimal degrees	Unknown	GPS - Unspecified
23	Ocean	Hudson Bay	60.923	-91.7818	decimal degrees	Unknown	GPS - Unspecified
24	Ocean	Hudson Bay	61.6966	-87.7641	decimal degrees	Unknown	GPS - Unspecified
25	Ocean	Hudson Bay	62.0219	-87.0088	decimal degrees	Unknown	GPS - Unspecified
28	Ocean	Hudson Bay	62.4145	-89.8323	decimal degrees	Unknown	GPS - Unspecified
29	Ocean	Hudson Bay	61.7697	-84.308	decimal degrees	Unknown	GPS - Unspecified
32	Ocean	Hudson Bay	56.9842	-88.11718	decimal degrees	Unknown	GPS - Unspecified
34	Ocean	Hudson Bay	56.5062	-86.8942	decimal degrees	Unknown	GPS - Unspecified
36	Ocean	Hudson Bay	57.774	-86.0311	decimal degrees	Unknown	GPS - Unspecified

38	Ocean	Hudson Bay	58.7224	-86.3045	decimal degrees	Unknown	GPS - Unspecified
40	Ocean	Hudson Bay	58.23267	-88.56332	decimal degrees	Unknown	GPS - Unspecified
44	Ocean	Hudson Bay	59.9751	-91.9502	decimal degrees	Unknown	GPS - Unspecified
46	Ocean	Hudson Bay	57.5021	-91.8162	decimal degrees	Unknown	GPS - Unspecified

SAMPLE VARIABLE DETAILS

Variable Name*	Variable Description	Variable Speciation	Variable Sample Fraction*	Variable Media Type	Activity Collection Type	Result Value Type
Year		None	None	Other	n/a	Actual
Month		None	None	Other	n/a	Actual
Day		None	None	Other	n/a	Actual
Julian_Day	Day of the year	None	None	Other	n/a	Actual
Station	ID	None	None	Other	n/a	Actual
Region	Narrows, Western Hudson Bay, Central Hudson Bay	None	None	Other	n/a	Actual
Bottom_depth_m	Bottom depth of the station	None	None	Other	Field Observation	Actual
Kd_(PAR)_m-1	Vertical diffuse vertical attenuation coefficient	None	None	Other	Field Observation	Calculated

Euphotic_depth_0.2%	Depth of euphotic zone set t 0.2% of surface irradiance	None	None	Other	Field Observation	Calculated
Depth_SCM	Depth of the subsurface chlorophyll maximum (SCM),	None	None	Other	Field Observation	Calculated

Chl_a_SCM_microgram_L-1_fluorometry	chlorophyll a concentration (chl a) at the SCM	None	Filtrate	Biological	Lab Measurement	Calculated
Total_Chla_SCM_microgram_L-1_HPLC	Total chlorophyll a concentration (chl a) at the SCM	None	Filtrate	Biological	Lab Measurement	Calculated
Integrated_Chla_Zeu_mg_m-2	Integrated chl a over the euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
Integrated_Primary_Production_Zeu_mg_C_m-2_d-1	Integrated primary production over the euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
Total_Chla_icealgaemg_m2_HPLC	Total chl a of bottomice algal communities	None	Filtrate	Biological	Lab Measurement	Calculated
Integrated_Primary_Production_ice	Primary production of bottom-ice algal communities	None	Filtrate	Biological	Lab Measurement	Calculated

ealgae_mg_C_m-2_d-1						
Total_Chla_meltpond_mg_m-2_HPLC	Total chl a of melt pond communities	None	Filtrate	Biological	Lab Measurement	Calculated
Integrated_Primary_Production_meltpond_mg_C_m-2_d-1	Primary production of melt pond communities	None	Filtrate	Biological	Lab Measurement	Calculated
Depth_MLD_m	Depth of the surface mixed layer (MLD)	None	None	Other	Field Observation	Calculated

Ice_cover_tenth	Ice concentration in tenth from CIS ice charts	None	None	Other	Field Observation	Calculated
Mean_Temp_ML D	Mean temperature of the mixed layer	None	None	Other	Field Observation	Calculated
Mean_Salinity_M LD	Mean salinity of the mixed layer	None	None	Other	Field Observation	Calculated
DOW_between_ice_breakup_and_sampling	Number of days of open water between the ice breakup (>15% ice concentration) and the day of sampling	None	None	Other	Field Observation	Calculated
DOW_2018	Length of the open water period at that station in 2018	None	None	Other	Field Observation	Calculated

N:P_at_2m	Nitrate + Nitrite to Phosphate ratio at 2 m depth	None	Filtrate	Biological	Lab Measurement	Calculated
N:Si_at_2m	Nitrate + Nitrite to Silicic acid ratio at 2 m depth	None	Filtrate	Biological	Lab Measurement	Calculated
N:P_at_SCM	Nitrate + Nitrite to Phosphate ratio at SCM	None	Filtrate	Biological	Lab Measurement	Calculated
N:Si_at_SCM	Nitrate + Nitrite to Silicic acid ratio at SCM	None	Filtrate	Biological	Lab Measurement	Calculated

N:P_at_Zeu	Nitrate + Nitrite to Phosphate ratio at bottom of euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
N:Si_at_Zeu	Nitrate + Nitrite to silicic acid ratio bottom of euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
N:P_at_bottom	Nitrate + Nitrite to Phosphate ratio at 10 m above the seafloor	None	Filtrate	Biological	Lab Measurement	Calculated
N:Si_at_bottom	Nitrate + Nitrite to silicic acid ratio at 10 m above the seafloor	None	Filtrate	Biological	Lab Measurement	Calculated
N02 and N03_at_2m_microgram_L-1	Nitrate + Nitrite concentration at 2 m depth	None	Filtrate	Biological	Lab Measurement	Calculated

Si(OH)4_at_2m_microgram_L-1	Silicic acid concentration at 2 m depth	None	Filtrate	Biological	Lab Measurement	Calculated
PO4_at_2m_microgram_L-1	Phosphate concentration at 2 m depth	None	Filtrate	Biological	Lab Measurement	Calculated
N02 and N03_at_Zeu_microgram_L-1	Nitrate + Nitrite concentration at bottom of euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
Si(OH)4_at_Zeu_microgram_L-1	Silicic acid concentration at bottom of euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
PO4_at_Zeu_microgram_L-1	Phosphate concentration at bottom of euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated

N02 and N03_at_bottom_microgram_L-1	Nitrate + Nitrite concentration at 10 m above the seafloor	None	Filtrate	Biological	Lab Measurement	Calculated
Si(OH)4_at_bottom_microgram_L-1	Silicic acid concentration at 10 m above the seafloor	None	Filtrate	Biological	Lab Measurement	Calculated
PO4_at_bottom_microgram_L-1	Phosphate concentration at 10 m above the seafloor	None	Filtrate	Biological	Lab Measurement	Calculated
Integrated_N02 and N03_Zeu_mmol_m-2	Integrated Nitrate + Nitrite concentration over the euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
Integrated_PO4_Zeu_mmol_m-2	Integrated phosphate concentration over the euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
Integrated_Si(OH)4_Zeu_mmol_m-2	Integrated silicic acid concentration over the euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
Mean_Integrated_N02 and N03_Zeu_mmol_m-3	Mean Integrated Nitrate + Nitrite concentration over the euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
Mean_Integrated_PO4_Zeu_mmol_m-3	Mean Integrated phosphate concentration over the euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated

Mean_Integrated_Si(OH)4_Zeu_m mol_m-3	Mean Integrated silicic acid concentration over the euphotic zone	None	Filtrate	Biological	Lab Measurement	Calculated
QF	Data qualifier	None	None	Other	n/a	Actual

DATA FILE DETAILS

Column Name*	Unit	Description	Statistic Applied
Bottom_depth_m	m	Bottom depth of the station	
Kd_(PAR)_m-1	m-1	Vertical diffuse vertical attenuation coefficient	
Euphotic_depth_0.2%	m	Depth of euphotic zone set t 0.2% of surface irradiance	
Depth_SCM	m	Depth of the subsurface chlorophyll maximum (SCM),	
Chl_a_SCM_microgram_L-1_fluorometry	□ g L-1	chlorophyll a concentration (chl a) at the SCM	
Total_Ch_l_a_SCM_microgram_L-1_HPLC	□ g L-1	Total chlorophyll a concentration (chl a) at the SCM	

Integrated_Ch1_a_Zeu_mg_m-2	mg m-2	Integrated chl a over the euphotic zone	
-----------------------------	--------	---	--

Integrated_Primary_Production_Zeu_mg_C_m-2_d-1	mg C m-2 d-1		Integrated primary production over the euphotic zone	
Total_Ch1_a_icealgae_mg_m-2_HPLC	mg m-2		Total chl a of bottom-ice algal communities	
Integrated_Primary_Production_icealgae_mg_C_m-2_d-1	mg C m-2 d-1		Primary production of bottom-ice algal communities	
Total_Ch1_a_meltpond_mg_m-2_HPLC	mg m-2		Total chl a of melt pond communities	
Integrated_Primary_Production_meltpond_mg_C_m-2_d-1	mg C m-2 d-1		Primary production of melt pond communities	
Depth_MLD_m	m		Depth of the surface mixed layer (MLD)	
Ice_cover_tenth	none		Ice concentration in tenth from CIS ice charts	
Mean_Temp_MLD	Degree Celsius		Mean temperature of the mixed layer	Mean

Mean_Salinity_MLD	none		Mean salinity of the mixed layer	Mean
DOW_between_ice_breakup_and_sampling	none		Number of days of open water between the ice breakup (>15% ice	

			concentration) and the day of sampling	
DOW_2018	none		Length of the open water period at that station in 2018	
N:P_at_2m	none		Nitrate + Nitrite to Phosphate ratio at 2 m depth	
N:Si_at_2m	none		Nitrate + Nitrite to Silic acid ratio at 2 m depth	
N:P_at_SCM	none		Nitrate + Nitrite to Phosphate ratio at SCM	
N:Si_at_SCM	none		Nitrate + Nitrite to Silicic acid ratio at SCM	
N:P_at_Zeu	none		Nitrate + Nitrite to Phosphate ratio at bottom of euphotic zone	
N:Si_at_Zeu	none		Nitrate + Nitrite to silic acid ratio bottom of euphotic zone	
N:P_at_bottom	none		Nitrate + Nitrite to Phosphate ratio at 10 m above the seafloor	

N:Si_at_bottom	none		Nitrate + Nitrite to silicic acid ratio at 10 m above the seafloor	
N02 and N03_at_2m_microgram_L-1	□ g L-1		Nitrate + Nitrite concentration at 2 m depth	
Si(OH)4_at_2m_microgram_L-1	□ g L-1		Silicic acid concentration at 2 m depth	
PO4_at_2m_microgram_L-1	□ g L-1		Phosphate concentration at 2 m depth	
N02 and N03_at_Zeu_microgram_L-1	□ g L-1		Nitrate + Nitrite concentration at bottom of euphotic zone	
Si(OH)4_at_Zeu_microgram_L-1	□ g L-1		Silicic acid concentration at bottom of euphotic zone	
PO4_at_Zeu_microgram_L-1	□ g L-1		Phosphate concentration at bottom of euphotic zone	
N02 and N03_at_bottom_microgram_L-1	□ g L-1		Nitrate + Nitrite concentration at 10 m above the seafloor	

Si(OH) ₄ _at_bottom_microgram_L-1	□ g L-1		Silicic acid concentration at 10 m above the seafloor	
PO ₄ _at_bottom_microgram_L-1	□ g L-1		Phosphate concentration at 10 m above the seafloor	
Integrated_N02 and N03_Zeu_mmol_m-2	mmol m-2		Integrated Nitrate + Nitrite concentration over the euphotic zone	
Integrated_PO4_Zeu_mmol_m-2	mmol m-2		Integrated phosphate concentration over the euphotic zone	
Integrated_Si(OH) ₄ _Zeu_mmol_m-2	mmol m-2		Integrated silicic acid concentration over the euphotic zone	
Mean_Integrated_N02 and N03_Zeu_mmol_m-3	mmol m-2		Mean Integrated Nitrate + Nitrite concentration over the euphotic zone	Mean
Mean_Integrated_PO4_Zeu_mmol_m-3	mmol m-3		Mean Integrated phosphate concentration over the euphotic zone	Mean

Mean_Integrated_Si(OH)4_Zeu_mmol_m-3	mmol m-3		Mean Integrated silicic acid concentration over the euphotic zone	Mean
--------------------------------------	----------	--	---	------

Table 1. Code list

CanWIN Short Code	Definition	User Code
ADL	Above Detection Limit	
BDL	Below Detection Limit	
\$	Incorrect sample container	
EFAI	Equipment failure, sample lost	
FEF	Field equipment failed	
FEQ	Field Equipment Questionable	
FFB	Failed. Field blank not acceptable.	
FFD	Failed. Field Duplicate.	
FFS	Failed. Field spike not acceptable.	
H	Holding time exceeded	
ISP	Improper sample preservation	
ITNA	Incubation time not attained	
ITNM	Incubation temperature not maintained	
JCW	Sample container damaged, sample lost	
NaN	Value is missing and reason is not known	
NC	Not collected	
ND	Not detected	
NR	Sample taken/measured on site but information in this field not recorded	
NS	Sample collected but not submitted	
OC	Master Coordinate List Used	
P	Analysis requested and result pending	
prob_good	probably good value. Data value that is probably consistent with real phenomena but this is unconfirmed or data value forming part of a malfunction that is considered too small to affect the overall quality of the data object of which it is a part.	
prob_bad	probably bad value. Data value recognised as unusual during quality control that forms part of a feature that is probably inconsistent with real phenomena.	
Interpolated	This value has been derived by interpolation from other values in the data object.	
Q	Below limit of quantification (LOQ). The value was below the LOQ of the analytical method. The value in the result field is the limit of quantification (limit of detection) for the method.	
LAF	Lab Analysis Failure (value cannot be trusted due to detected lab instrument	New code added by LCM

	failure (e.g. contamination) during sample processing	
--	---	--

Table 2. Options for Statistics Applied

Statistics Applied	Description
30DADMean	Thirty-day average daily mean
7DADM	Seven-day average daily maximum
7DADMean	Seven-day average daily mean
7DADMin	Seven-day average daily minimum
Coefficient of variation	The ratio of the standard deviation σ to the mean, μ .
Daily Geometric Mean	Provides a number that is more representative of the median and helps reduce the effect of a few extreme values.
Daily Maximum	The largest value of a set, each period of a day cycle
Daily Minimum	The smallest value of a set, each period of a day cycle
Hourly Maximum	The largest value of a set, each period of an hour cycle
Hourly Minimum	The smallest value of a set, each period of an hour cycle
MatLab script	Provide the MatLab script or the link to it
Mean	The sum of all the numbers in the set divided by the amount of numbers in the set
Median	The middle point of a number set, in which half the numbers are above the median and half are below.
None	None
R script	Provide the R script or the link to it
Standard Deviation	This describes the spread of values in the sample
Standard Error	The standard deviation of the sample mean, \bar{x} , which describes its accuracy as an estimate of the population mean, μ .