Dia 1

Estación 1 anclaje: ctd y botella **Anto**

Estación 4: ctd **Cris**

Estación 18: CTD **Vale**

Estación 19: CTD y Botella **Javi**

Estación 20: CTD **Benja**

Bongo y Rastra:

Dia 2

Anclaje a mirar

Estación 16: Botella oxigeno y sal y CTD

Estación 24: Botella y CTD

Estación 23: CTD

Estación: 22: CTD

Estación 21: CTD

Dia 3

Se saca el anclaje

Estacion 17: Botellas

Estacion 24 otra vez

Bongo y Rastra

****Hoff muller(?) en una transecta

Se podría comparar las dos veces que se midio en la estación 24

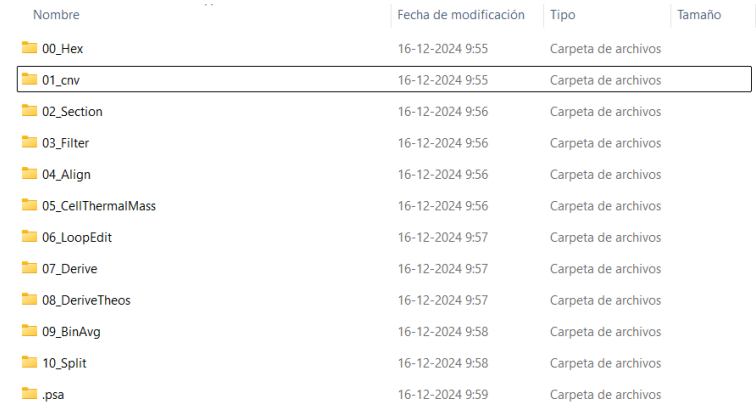
*** Descargar Open CPN

E212223 Tiene Estaciones agragadas a la costa

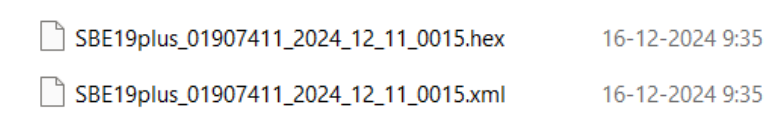
Tracks Son los movimientos que se hicieron cada día

ESTACIÓN 18

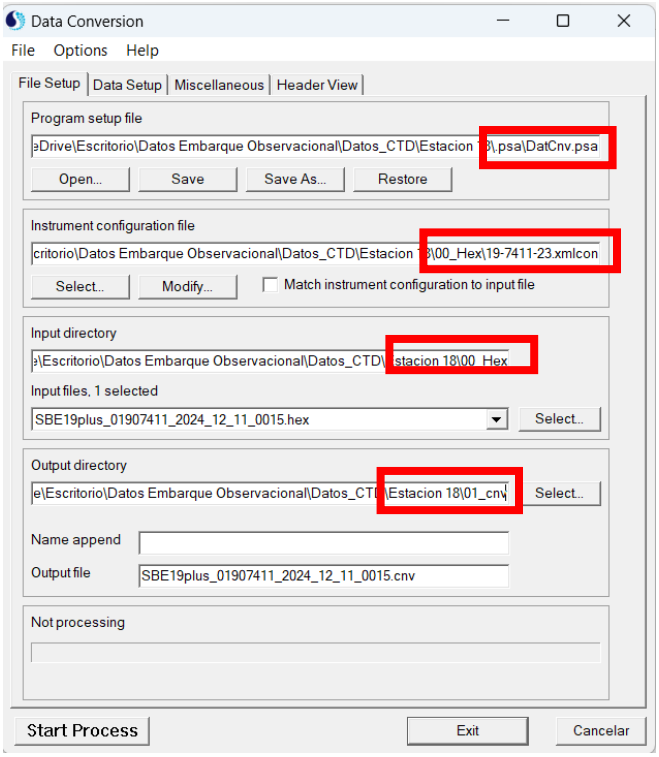
1) Generamos las carpetas donde se irán guardando los archivos



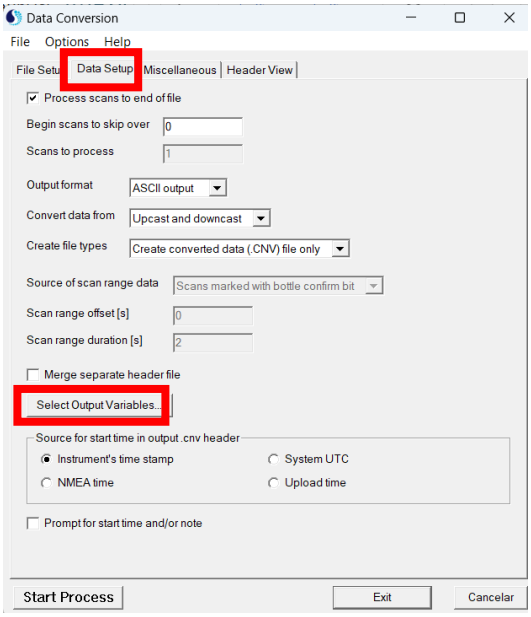
Los archivos para trabajar se encuentran en la carpeta **00_Hex**



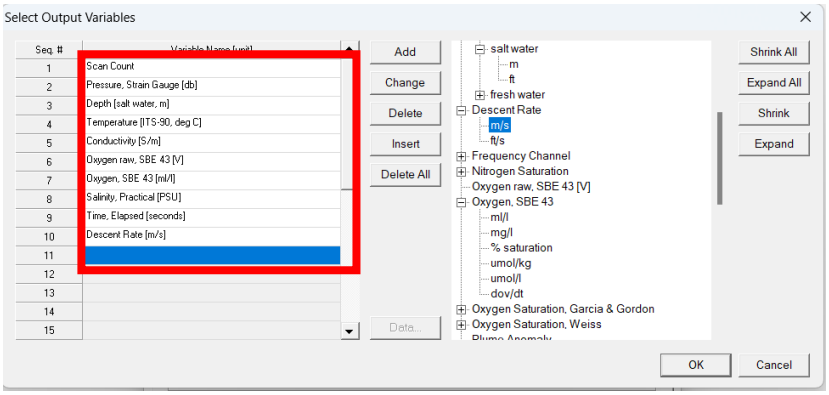
2) Hacemos la conversión de datos a .cnv y guardamos los resultado en **01_cnv**



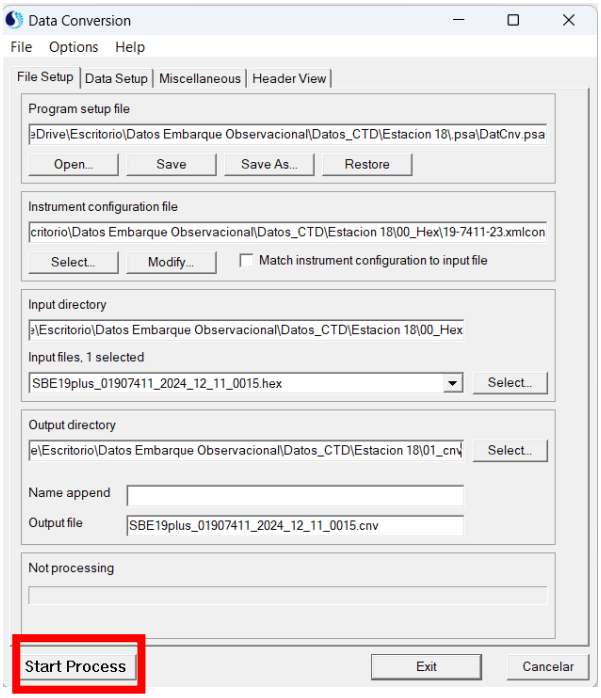
Además, elegimos las variables que se van a guardar en el archivo



De modo que estas fueron las variables elegidas



Y luego se procede finalizar el proceso

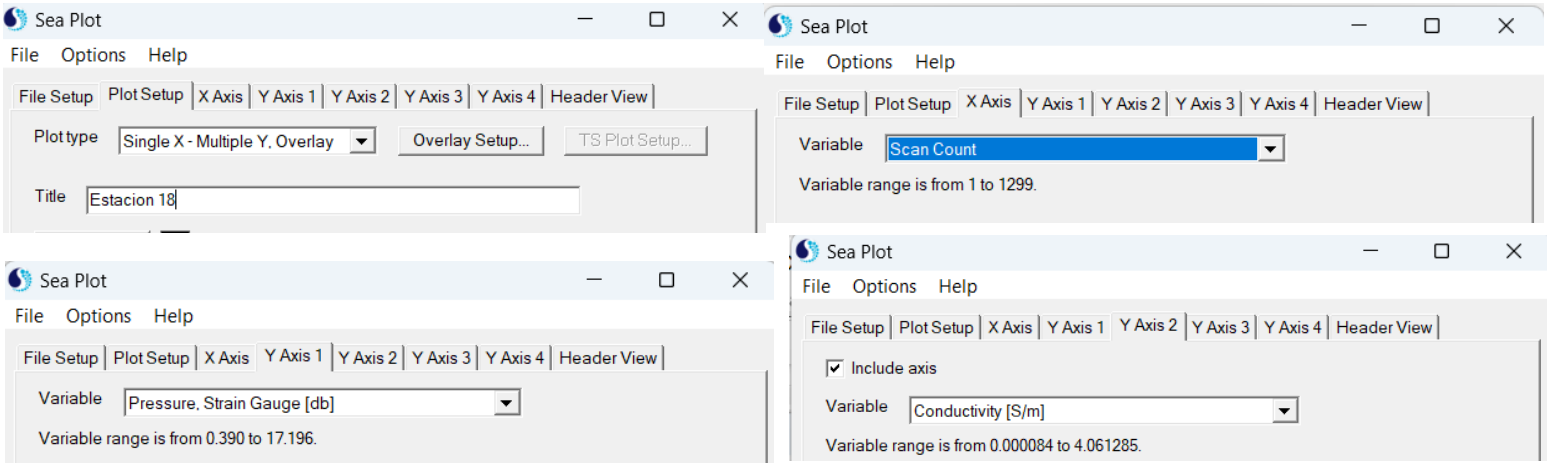


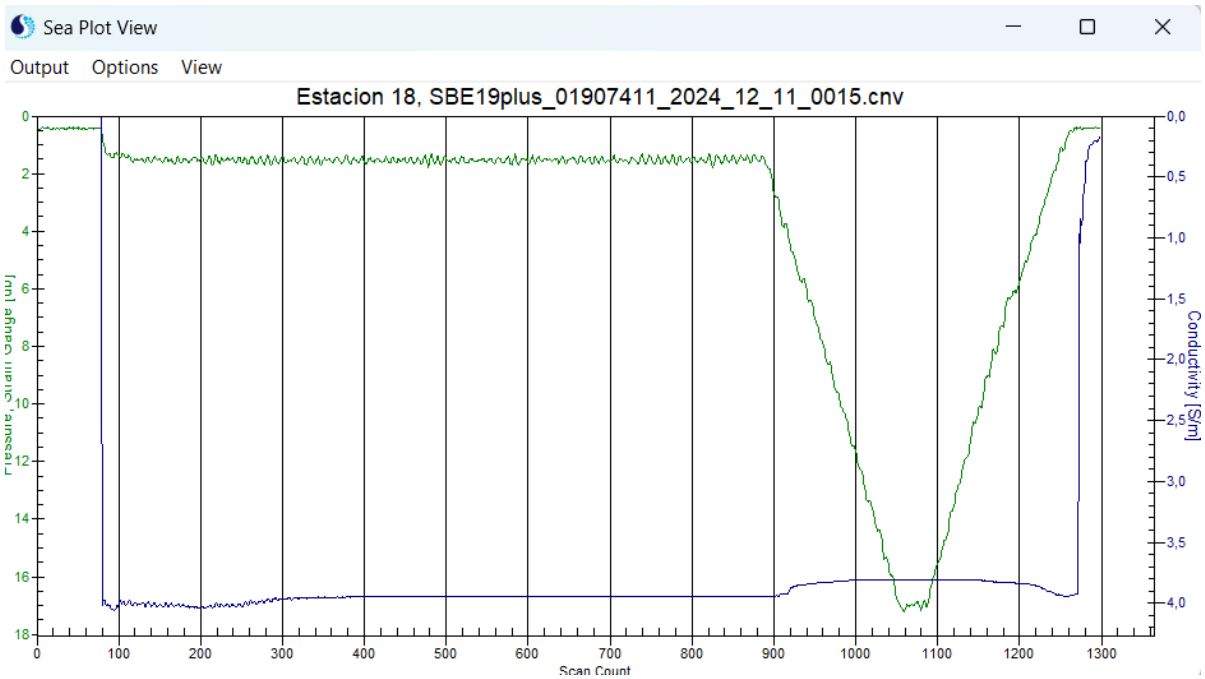
Luego el resultado para el archivo .cnv contiene toda la información como se ve a continuación:

```
* cast  15 11 Dec 2024 12:48:33 samples 179044 to 180342, avg = 1, stop = mag switch
*
# nquan = 11
# nvalues = 1299
# units = specified
# name 0 = scan: Scan Count
# name 1 = prdM: Pressure, Strain Gauge [db]
# name 2 = depSM: Depth [salt water, m], lat = 36.50
# name 3 = tv290C: Temperature [ITS-90, deg C]
# name 4 = c0S/m: Conductivity [S/m]
# name 5 = sbeox0V: Oxygen raw, SBE 43 [V]
# name 6 = sbeox0ML/L: Oxygen, SBE 43 [ml/l]
# name 7 = sal00: Salinity, Practical [PSU]
# name 8 = timeS: Time, Elapsed [seconds]
# name 9 = dz/dtM: Descent Rate [m/s]
# name 10 = flag:  0.000e+00
```

1	0.432	0.429	16.3131	0.000321	2.3400	5.7998	0.0090	0.000	-2.105e-16	0.000e+00
2	0.453	0.450	16.3142	0.000207	2.3398	5.7990	0.0086	0.250	0.006	0.000e+00
3	0.453	0.450	16.3164	0.000201	2.3408	5.8031	0.0086	0.500	0.010	0.000e+00
4	0.474	0.470	16.3188	0.000182	2.3410	5.8045	0.0086	0.750	0.018	0.000e+00
5	0.411	0.408	16.3211	0.000168	2.3410	5.8053	0.0085	1.000	0.007	0.000e+00
6	0.432	0.429	16.3232	0.000165	2.3402	5.8019	0.0085	1.250	0.003	0.000e+00
7	0.390	0.388	16.3246	0.000159	2.3410	5.8044	0.0085	1.500	-0.012	0.000e+00
8	0.432	0.429	16.3262	0.000151	2.3404	5.8018	0.0085	1.750	-0.014	0.000e+00
9	0.432	0.429	16.3275	0.000140	2.3401	5.7994	0.0085	2.000	-0.015	0.000e+00

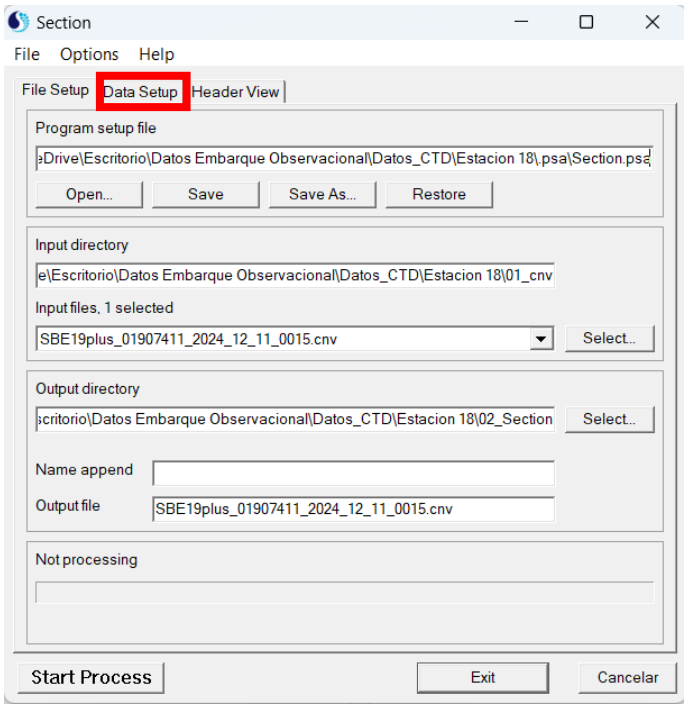
3) Generamos un plot para confirmar como es que se está haciendo la medicion

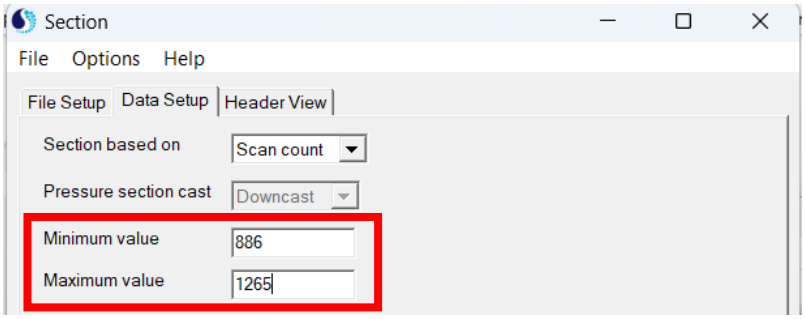


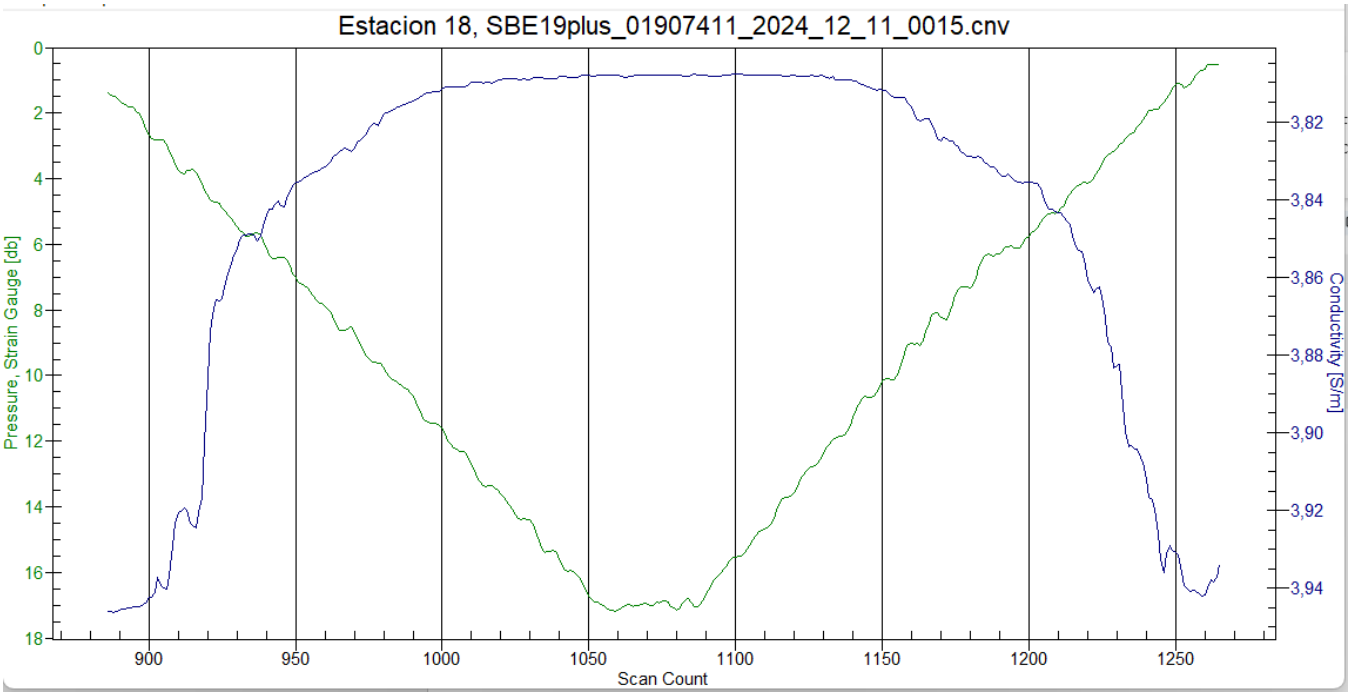


Al hacer un zoom notamos el punto en que baja y sube el CTD: **886** de bajada y **1265** de subida

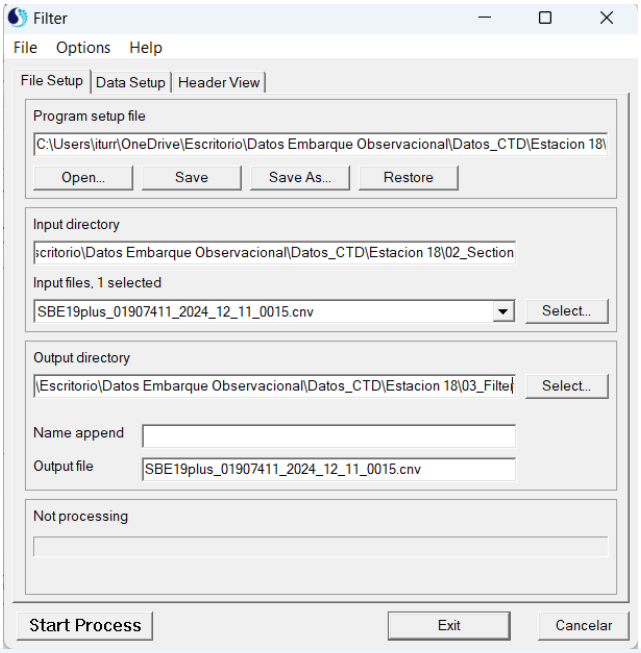
4) Recortamos los datos

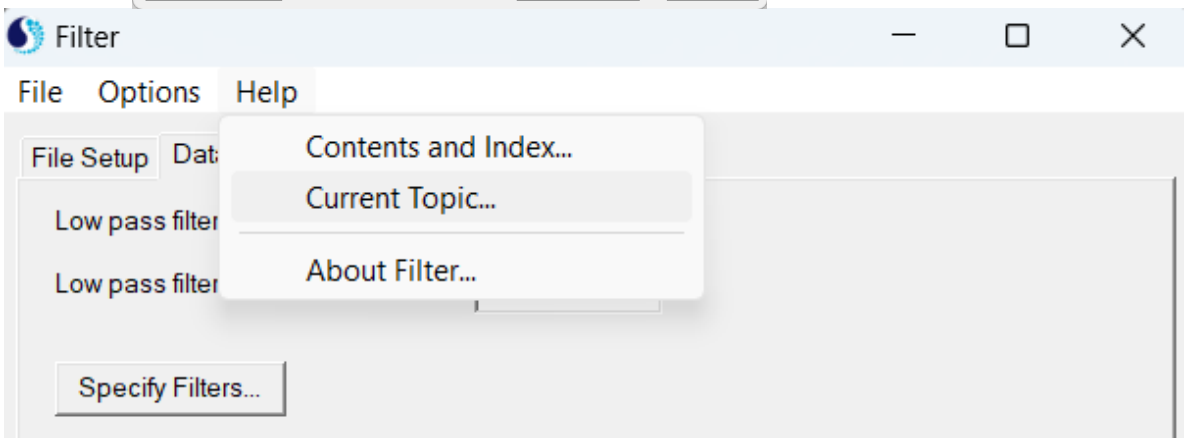




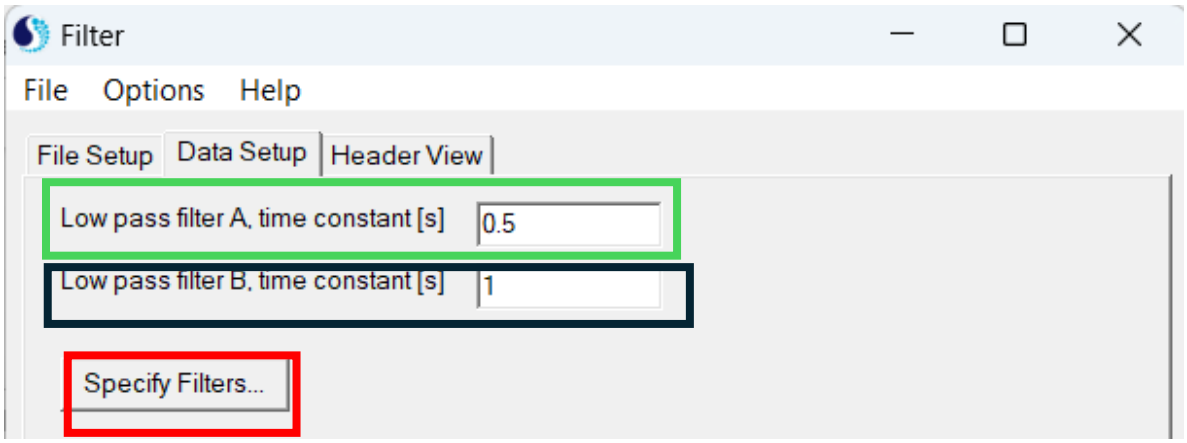


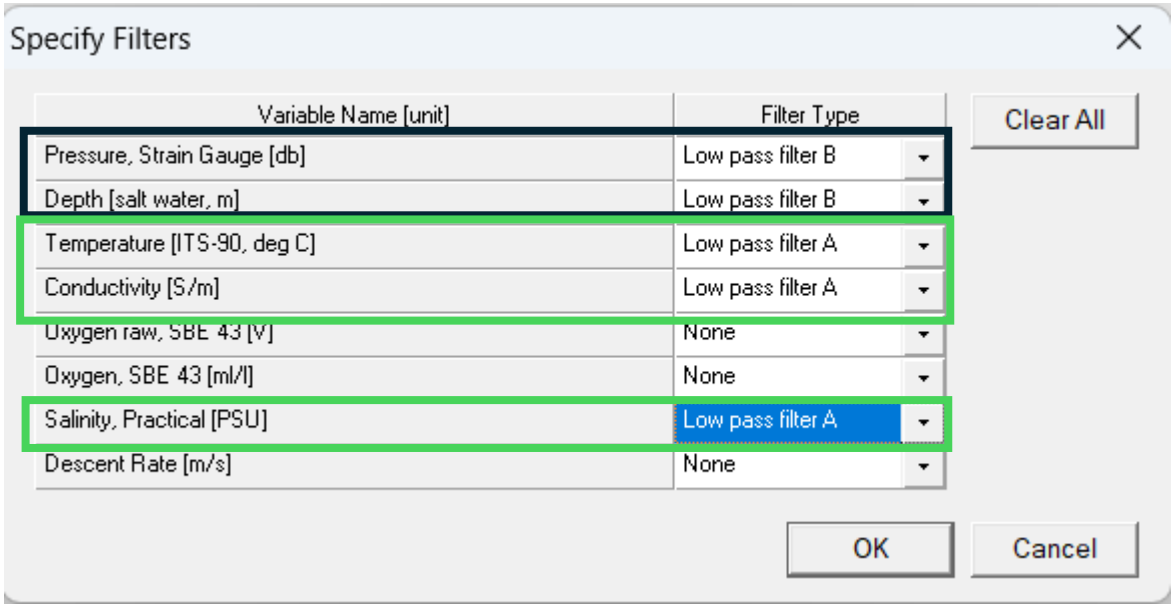
5) Generamos Filter





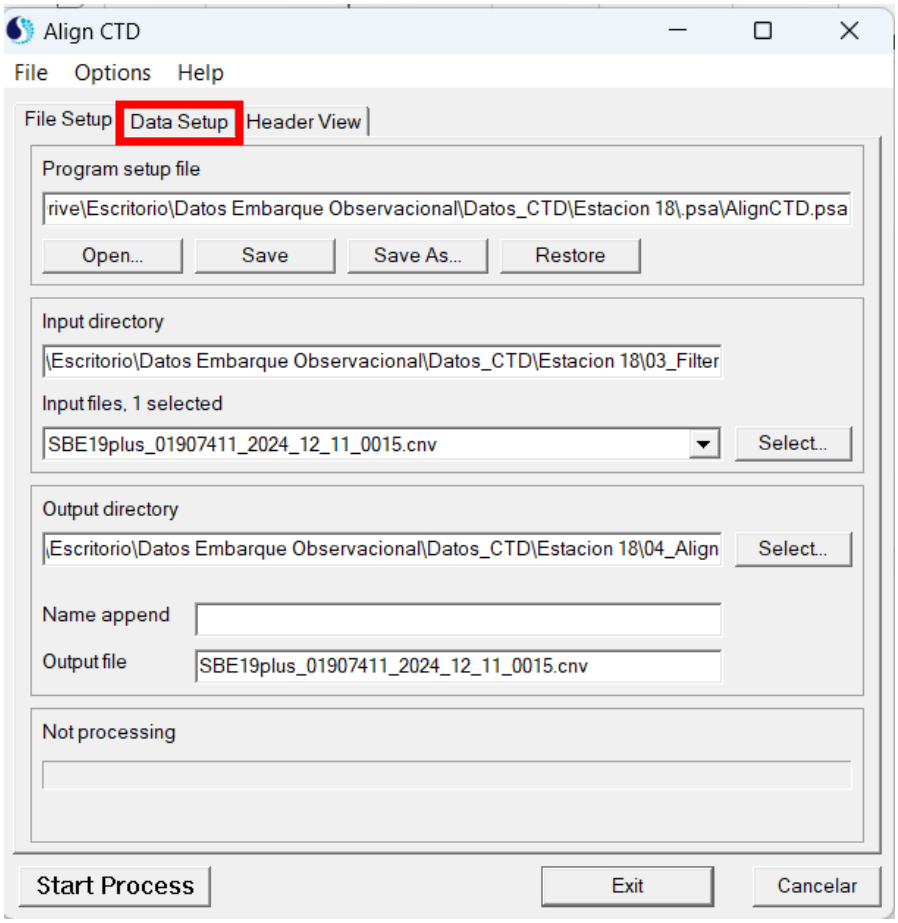
Instrument	Temperature (seconds)	Conductivity (seconds)	Pressure (seconds)
SBE 9*plus*	--	--	0.15
SBE 19*plus* or 19*plus* V2	0.5	0.5	1.0
SBE 19 (not *plus*) with or without TC duct and pump	0.5	0.5	2.0
SBE 25 or 25*plus*	0.1	0.1	0.5
SBE 49 *	0.085	0.085	0.25

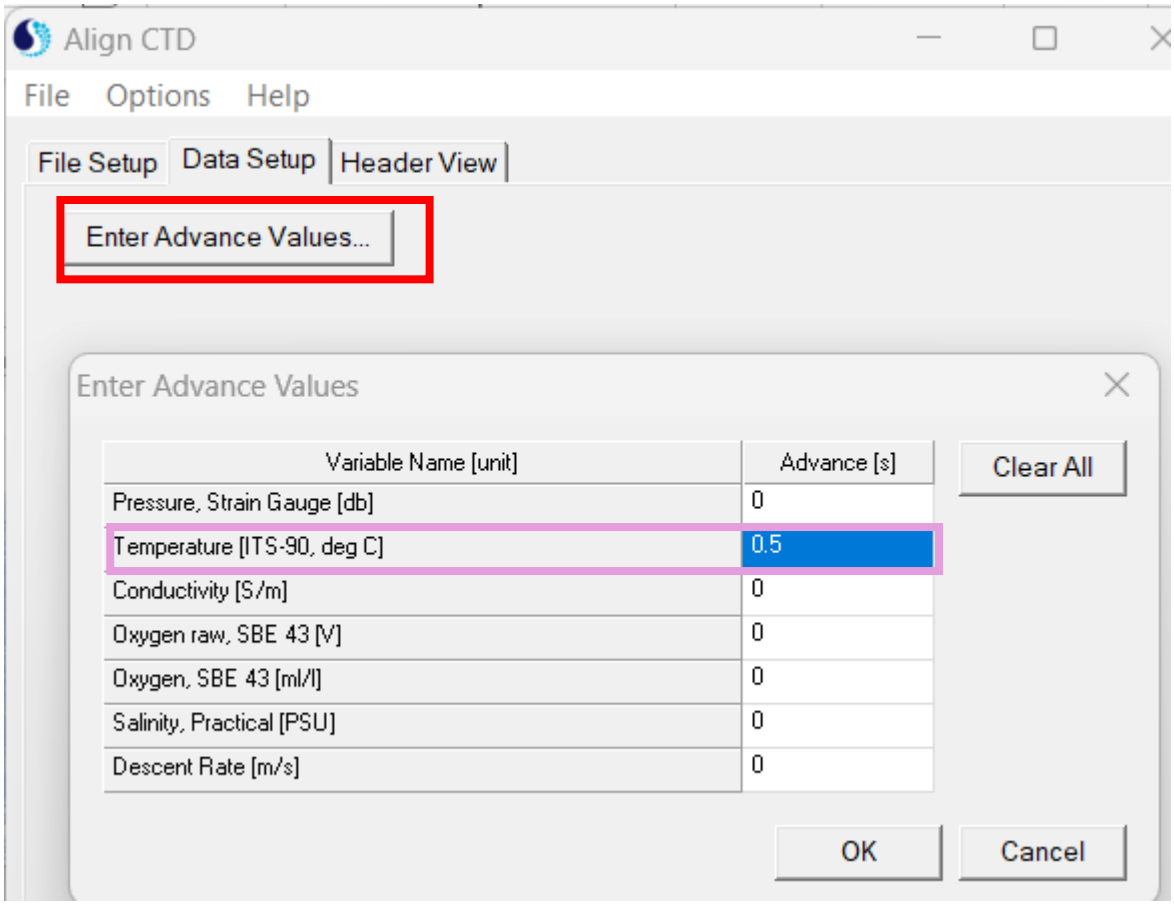




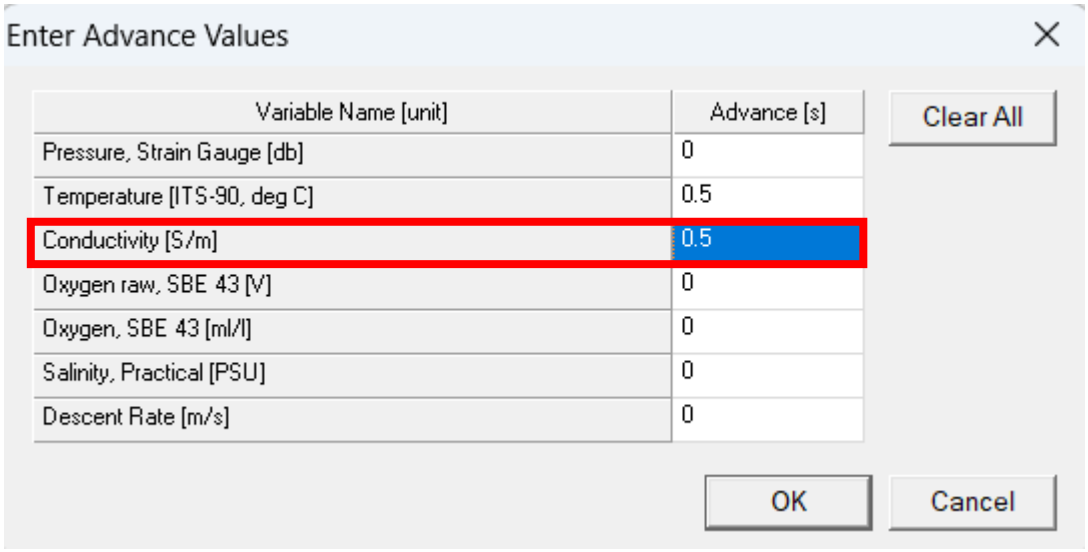
6) Align CTD, nuevamente entramos a helo y vemos lo siguiente:

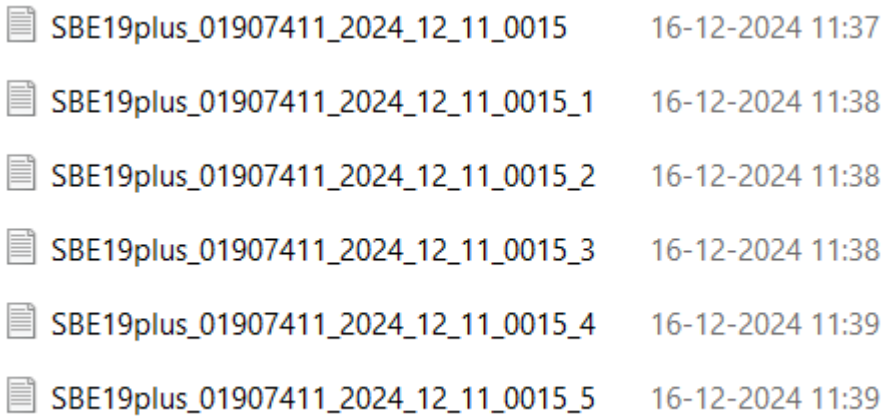
Instrument	Advance of Temperature Relative to Pressure (seconds)
9*plus*	0
19, 19*plus*, or 19*plus* V2	+0.5
25 or 25*plus*	0
49 *	+0.0625



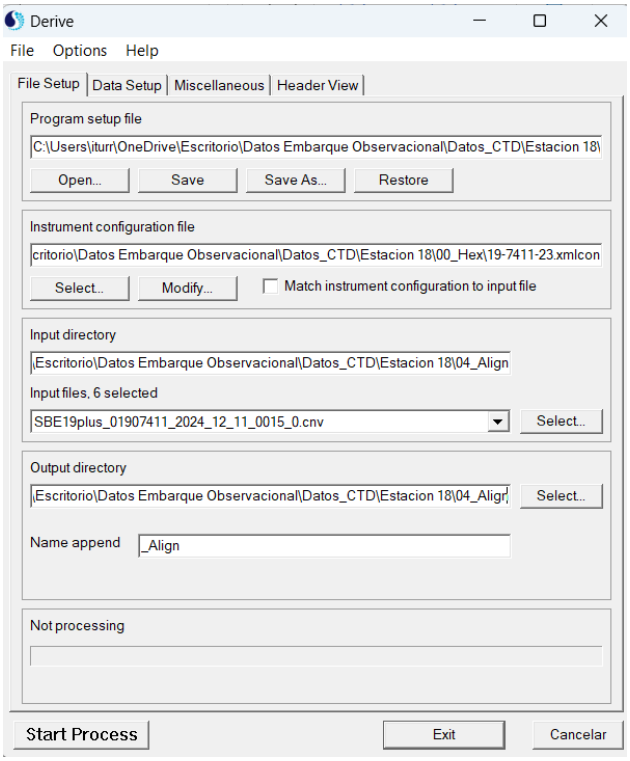


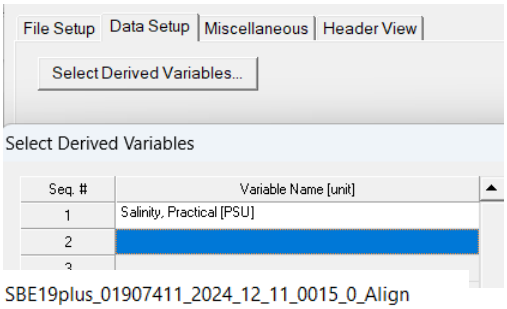
Generamos distintos archivos cambiando la alineación de conductividad a 0.1 0.2 ... 0.5 y se van guardando

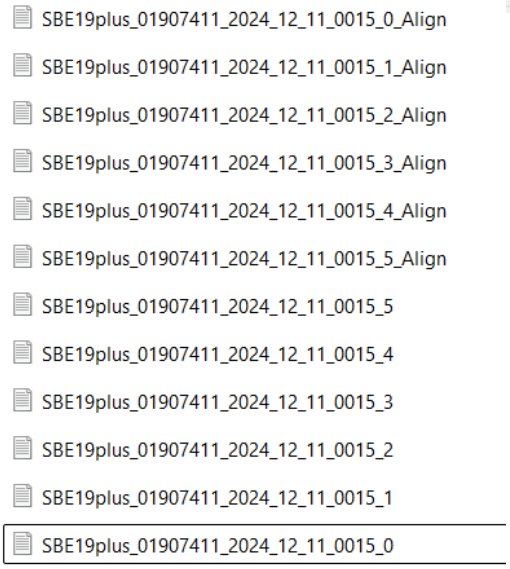


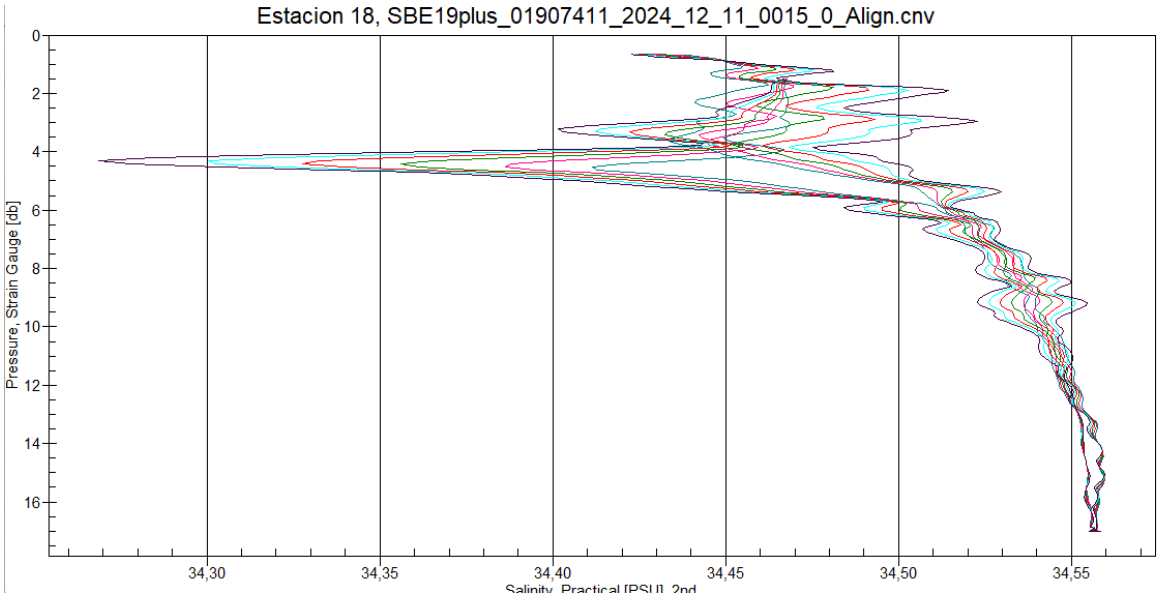


7) Derivamos salinidad





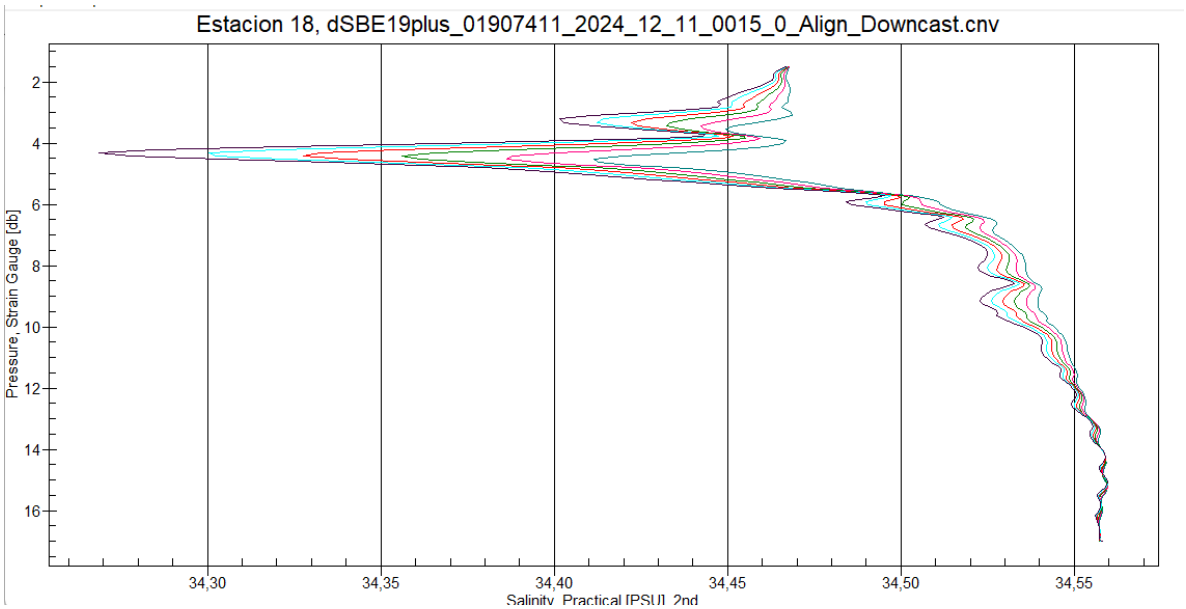




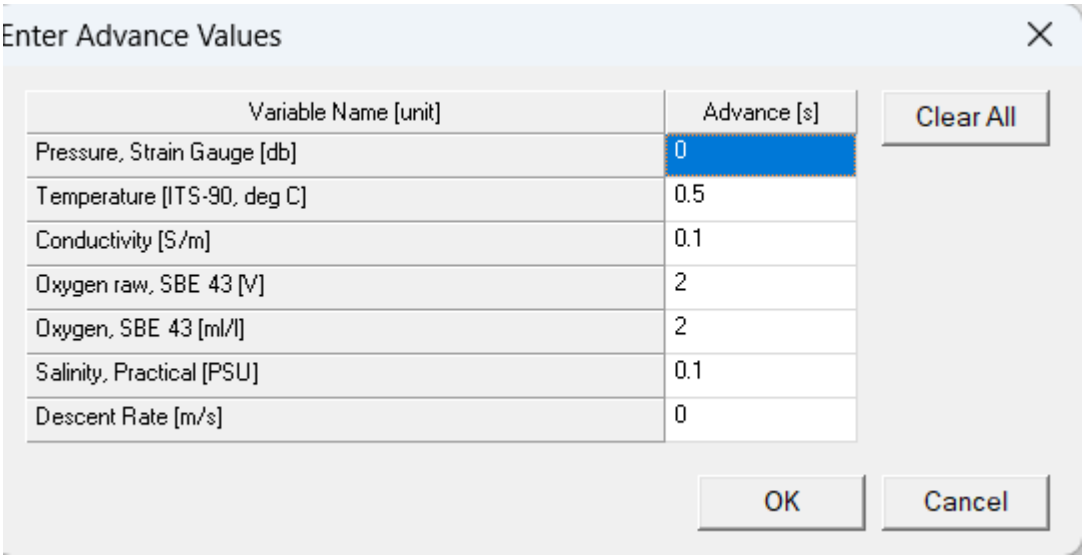
Si realizamos un **Split** para que se vean solo los datos de bajada y lo ploteamos resulta lo siguiente:

Hacemos esto con el fin de alinear el sensor de conductividad con la presión que corresponde.

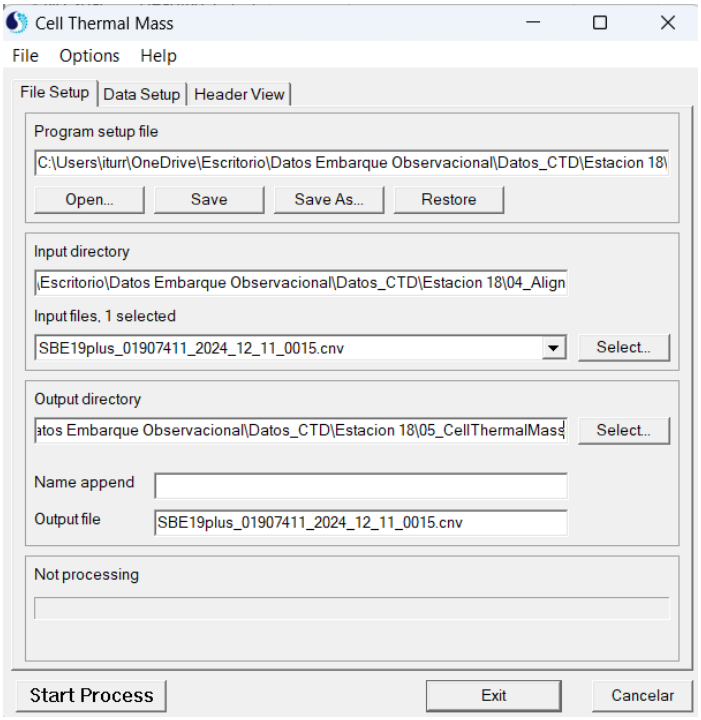
La serie que estoy analizando no es necesario que sea desface pues da la menor cantidad de **SPIKES**



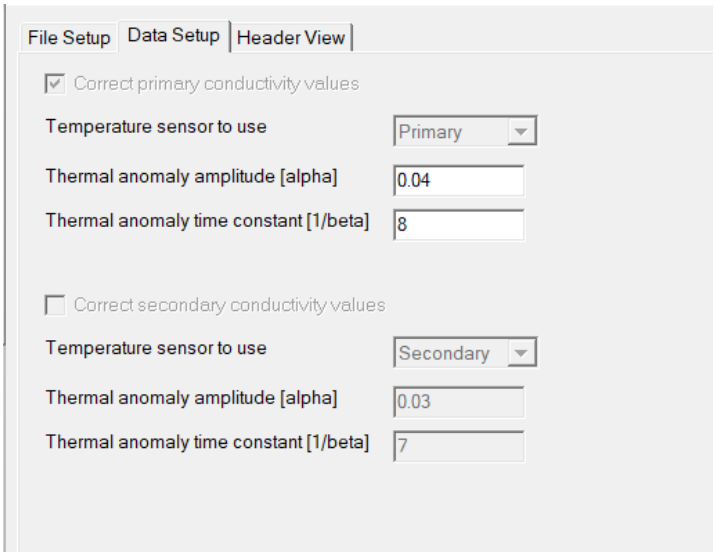
8) Alineamos el oxigeno



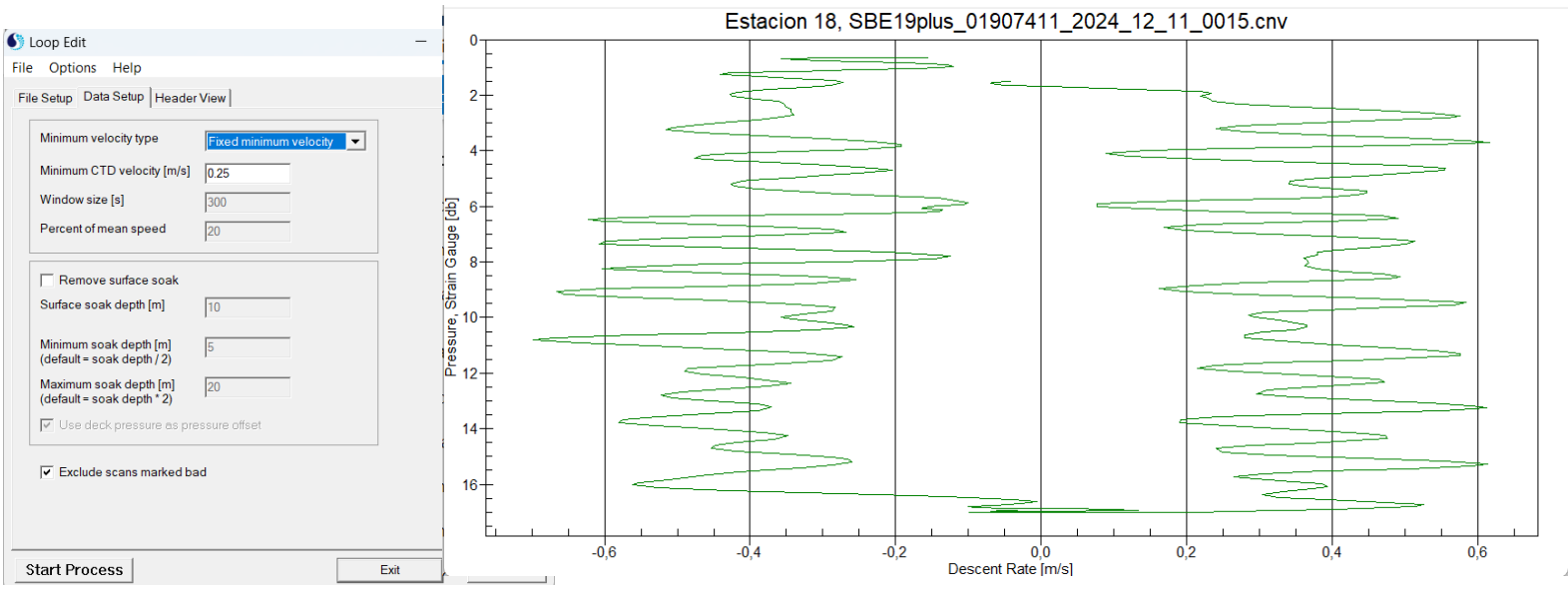
9) Ksjdk



Instrument	alpha	1/beta
SBE 9*plus* with TC duct and 3000 rpm pump	0.03	7.0
SBE 19*plus* or 19*plus* V2 with TC duct and 2000 rpm pump	0.04	8.0
SBE 19 (not *plus*) with TC duct and 2000 rpm pump	0.04	8.0
SBE 19 (not *plus*) with no pump, moving at 1 m/sec	0.042	10.0
SBE 25 or 25*plus* with TC duct and 2000 rpm pump	0.04	8.0
SBE 49 with TC duct and 3000 rpm pump *	0.03	7.0

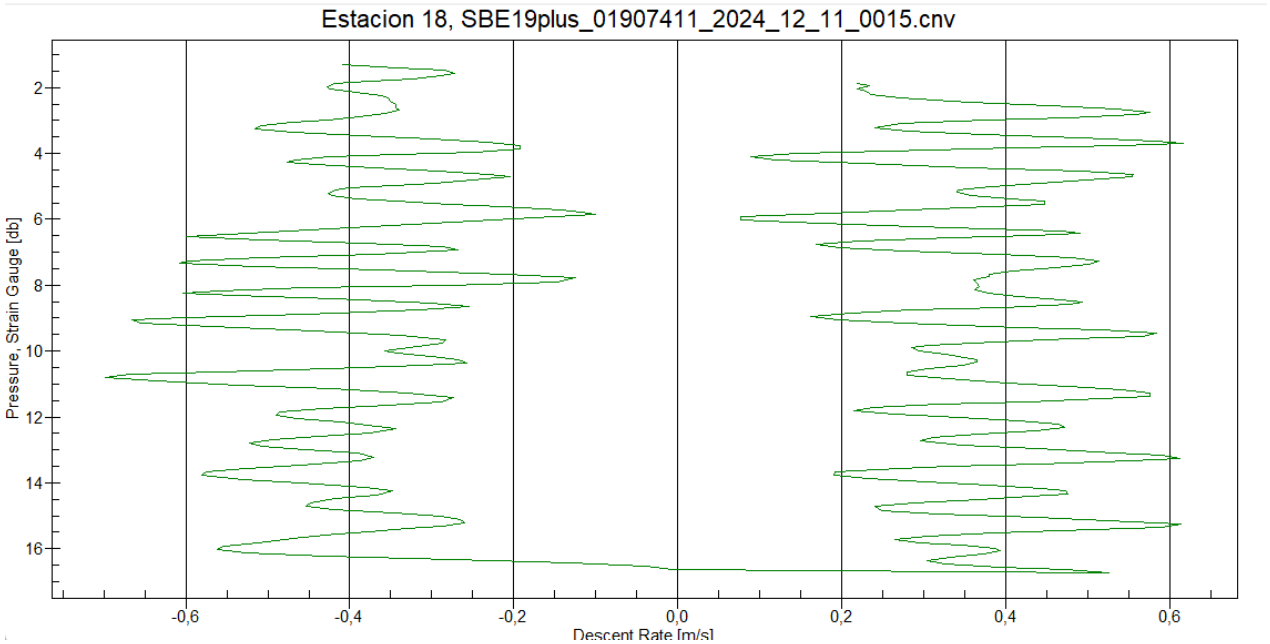


10) Loop Edit

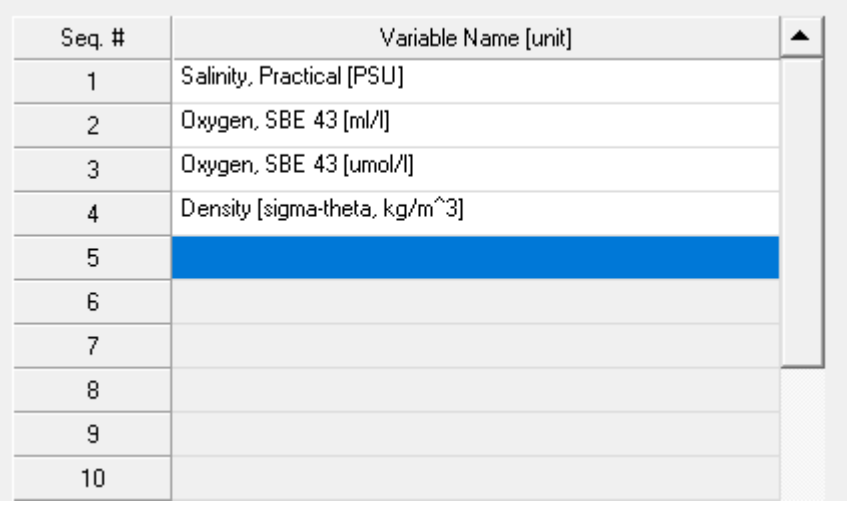


La imagen de arriba muestra el ploteo de la velocidad de bajada antes del **LoopEdit** y cuando se aplica, se tiene un grafico mucho mas “limpio”. Esto se puede ver con cualquier variable.

Del mismo modo, si se tiene una zona muy somera, se puede bajar la taza de velocidad de 0.25 a 0.1 por ejemplo.

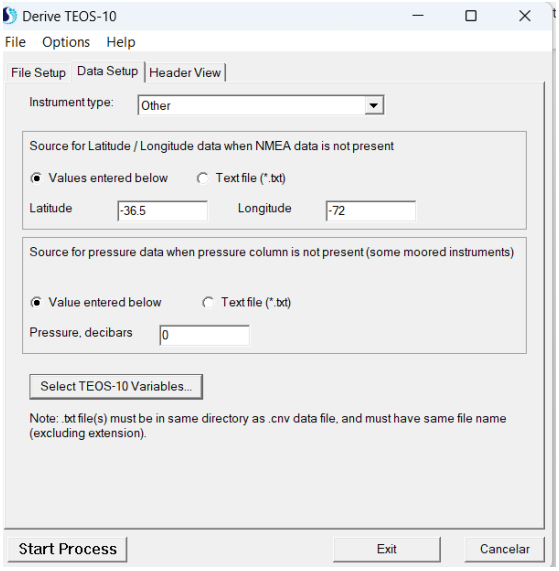


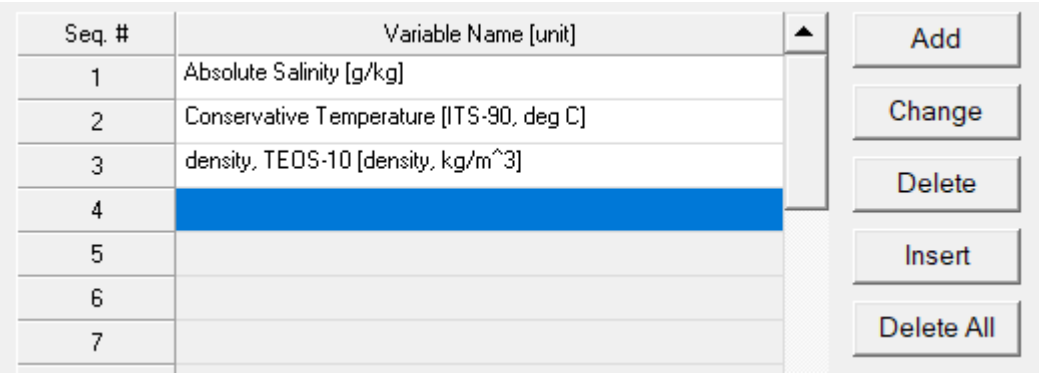
11) Derivamos



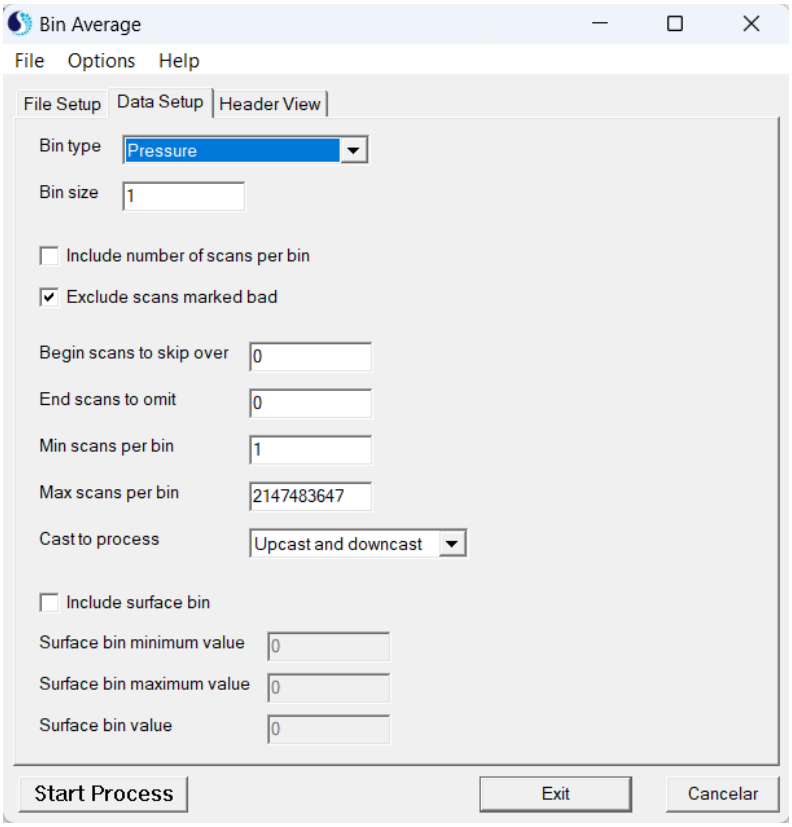
12) Derivamos teos

Se suele sacar T° potencial cuando hay cast de mas de 1000 metros





13) BinAverage



14) Final

```
# name 0 = scan: Scan Count
# name 1 = prdM: Pressure, Strain Gauge [db]
# name 2 = depSM: Depth [salt water, m], lat = 36.50
# name 3 = tv290C: Temperature [ITS-90, deg C]
# name 4 = c0S/m: Conductivity [S/m]
# name 5 = sbeox0V: Oxygen raw, SBE 43 [V]
# name 6 = sbeox0ML/L: Oxygen, SBE 43 [ml/l]
# name 7 = sal00: Salinity, Practical [PSU]
# name 8 = timeS: Time, Elapsed [seconds]
# name 9 = dz/dtM: Descent Rate [m/s]
# name 10 = sal00: Salinity, Practical [PSU]
# name 11 = sbeox0ML/L: Oxygen, SBE 43 [ml/l], WS = 2
# name 12 = sbeox0Mm/L: Oxygen, SBE 43 [umol/l], WS = 2
# name 13 = sigma-é00: Density [sigma-theta, kg/m^3]
# name 14 = gsw_saA0: Absolute Salinity [g/kg]
# name 15 = gsw_ctA0: Conservative Temperature [ITS-90, deg C]
# name 16 = gsw_densityA0: density, TEOS-10 [density, kg/m^3]
# name 17 = flag: flag
```

```
       895    2.000    1.985   12.0006   3.945427   1.2176   1.9924   34.4651   223.412    0.226   34.4672   1.9880   88.783   26.1752   34.6299   12.0008  1026.1877
0.0000e+00
       905    3.000    2.978   11.9057   3.935113   1.2050   1.9345   34.4346   225.952    0.419   34.4539   1.8960   84.677   26.1829   34.6166   11.9060  1026.2000
0.0000e+00
       916    4.000    3.971   11.6728   3.910293   1.1523   1.7083   34.3898   228.643    0.344   34.4265   1.6405   73.263   26.2054   34.5889   11.6734  1026.2268
```