

BBP: real-time QC, delayed mode QC -> austral check

- argo_bio-profile_index.txt [May 23th] only v3.1
- 69 WMO of with BBP700 in AUSTRAL area
[ftp from gdac coriolis on Sep. 22th]

BBP: real-time QC, delayed mode QC

-> austral check

- **New Argo Reference Tables.xlsx**
 - **4 Biogeochemical sensors with BBP700**

SENSOR_MODEL

FLBB
FLBB_AP2
FLNTU
ECO_BB
ECO_NTU
ECO_FLBB
ECO_FLNTU
ECO_BB2
ECO_PUCK
ECO_TRIPLET
ECO_FLBBCD
ECO_FLBB2
ECO_BB3
ECO_MCOMS

COMMENTS

Fluorescence and Backscatter
Fluorescence and Backscatter
Fluorescence and Turbidity
Wetlabs optical sensor packages
Wetlabs optical sensor packages
Wetlabs optical sensor packages
Wetlabs optical sensor packages
Wetlabs optical sensor packages
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Wetlabs optical sensor packages
Wetlabs optical sensor packages
Wetlabs optical sensor packages
Optical sensor (WETLABS)

SENSOR

FLUOROMETER_CHLA,FLUOROMETER_CDOM,SCATTEROMETER_BBP
FLUOROMETER_CHLA,FLUOROMETER_CDOM,SCATTEROMETER_BBP
FLUOROMETER_CHLA, SCATTEROMETER_TURBIDITY
SCATTEROMETER_BBP
SCATTEROMETER_TURBIDITY
FLUOROMETER_CHLA, SCATTEROMETER_BBP
FLUOROMETER_CHLA, SCATTEROMETER_TURBIDITY
SCATTEROMETER_BBP
FLUOROMETER_CHLA,SCATTEROMETER_BBP
FLUOROMETER_CHLA,FLUOROMETER_CDOM, SCATTEROMETER_BBP
FLUOROMETER_CHLA,FLUOROMETER_CDOM, SCATTEROMETER_BBP
FLUOROMETER_CHLA, SCATTEROMETER_BBP
SCATTEROMETER_BBP
FLUOROMETER_CHLA,FLUOROMETER_CDOM,SCATTEROMETER_BBP

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 - **4 Biogeochemical sensors with BBP700**

SENSOR_MODEL	COMMENTS	SENSOR
FLBB	Fluorescence and Backscatter	FLUOROMETER_CHLA,FLUOROMETER_CDOM,SCATTEROMETER_BBP
FLBB_AP2	Fluorescence and Backscatter	FLUOROMETER_CHLA,FLUOROMETER_CDOM,SCATTEROMETER_BBP
FLNTU	Fluorescence and Turbidity	FLUOROMETER_CHLA, SCATTEROMETER_TURBIDITY
ECO_BB	Wetlabs optical sensor packages	SCATTEROMETER_BBP
ECO_NTU	Wetlabs optical sensor packages	SCATTEROMETER_TURBIDITY
ECO_FLBB	Wetlabs optical sensor packages	FLUOROMETER_CHLA, SCATTEROMETER_BBP
ECO_FLNTU	Wetlabs optical sensor packages	FLUOROMETER_CHLA, SCATTEROMETER_TURBIDITY
ECO_BB2	Wetlabs optical sensor packages	SCATTEROMETER_BBP
ECO_PUCK	Wetlabs optical sensor packages	FLUOROMETER_CHLA,SCATTEROMETER_BBP
ECO_TRIPLET	Wetlabs optical sensor packages	FLUOROMETER_CHLA,FLUOROMETER_CDOM, SCATTEROMETER_BBP
ECO_FLBBCD	Wetlabs optical sensor packages	FLUOROMETER_CHLA,FLUOROMETER_CDOM, SCATTEROMETER_BBP
ECO_FLBB2	Wetlabs optical sensor packages	FLUOROMETER_CHLA, SCATTEROMETER_BBP
ECO_BB3	Wetlabs optical sensor packages	SCATTEROMETER_BBP
ECO_MCOMS	Optical sensor (WETLABS)	FLUOROMETER_CHLA,FLUOROMETER_CDOM,SCATTEROMETER_BBP

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Wetlabs Sensor	Measurements angle	Full Width at Half Maximum (FWHM)	Bandwidth	χ
MCOMS and SeaOWL UV-A	149°	20°	20nm	1.142*
Single Channel Sensors	124°	20°	20nm	1.076**
Dual Channel Sensors (FLbb, FLNTU)	142°	30°	20nm	1.097*
Three Channel Sensors	124°	20°	20nm	1.076**

Argo data management

Processing Bio-Argo particle backscattering at the DAC level

7

Combined Three Channel Sensors	124°	20°	20nm	1.076**
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in austral we have :
3 type of flaut (sbe, nke, wrc) with only

4 differents type of bbp sensors

Table 1: Summary of all the WETLabs ECO sensors' characteristics for backscattering meters. (cf 5. Annexes) (* Mike Twardowski, Com. Pers) (** Sullivan et al., 2013)

njin

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DAC	PLATFORM_T YPE	SENSOR_MAKER SENSOR_MODEL		PREDEPLOYMENT_CALIB_COEF FICIENT Khi / angle	
csiro	2 SBE	wetlabs	flbb_ap2	1.140	150°
csiro	8 WRC	wetlabs	flbb_ap2	1.167	140°
csiro	2 WRC	wetlabs	flbb_ap2	Na	Na
Incois	2 WRC	wetlabs	flbb	1.167	140°
Incois	5 NKE	wetlabs	flbb	1.097	142°
corioli s	17 NKE	wetlab	eco_puck	1.076	124°
aoml	29 TWR	Na	Na	Na	Na

SOCOMViz 6.0 - Data visualization for SOCCOM, a US NSF sponsored project focused on carbon and climate in the Southern Ocean

Using [ISUS nitrate sensors](#) and [Deep-Sea DuraFET pH sensors](#) in [Webb Research Apex](#) and [Sea-Bird Electronics Navis](#) profiling floats

Quick Instructions	Float list and link to complete Ascii data files	Data Adjustments	Map of float tracks	Apex/ISUS description page
<p>Select Output Type and Send Request:</p> <p><input type="radio"/> Plot <input type="radio"/> Text File</p> <p><input type="button" value="SEND"/></p> <p>Raw Data or Adjusted Data: <input type="radio"/> Raw <input checked="" type="radio"/> Adjusted</p> <p>Data Quality Flag: <input type="radio"/> All Data <input checked="" type="radio"/> Good and Quest. <input type="radio"/> Good Only</p> <p>What dates? <input checked="" type="radio"/> All Dates available <input type="radio"/> Week Ending on End Date <input type="radio"/> Month Ending on End Date <input type="radio"/> Specify Start/End Date</p> <p>Change dates: (MM/DD/YYYY) Start Date: 09/17/2007 End Date: 09/27/2016</p>	<p>Select Float (ctrl click for more than one)</p> <p>5146SoOcn.....N/O/d 5426DrakePass.....N/O/d 6967SoAtlantic.....N/O/FL 0068RossSeaN/O/FL 6968SoOcn.....N/O/FL 7552SoOcn.....N/O/FL 7619SoOcn.....N/O/FL 7620SoOcn.....N/O/FL 6091SoOcn.....O/FL 7557SoOcn.....N/O/FL 7567SoOcn.....O/FL 7613SoOcn.....N/O/FL 7614SoOcn.....N/O/FL 9091SoOcn.....pH/N/O/FL 9092SoOcn.....pH/N/O/F 9031SoOcn.....pH/N/O/FL 9018SoOcn.....pH/O 9095SoOcn.....pH/N/O/F 9101SoOcn.....pH/O 9254SoOcn.....pH/N/O/F 0037SoOcn.....N/O6/FLM 0508SoOcn.....N/O6/FLM 9313SoOcn.....pH/N/O/FL 9096SoOcn.....pH/N/O/F 0509SoOcn.....pH/N/O6/ 7652SoOcn.....N/O/FL 0511SoOcn.....pH/N/O6/F 9094SoOcn.....pH/N/O/F 9275SoOcn.....pH/N/O/FL 9099SoOcn.....pH/N/O/F</p>	<p>Select One X Variable</p> <p>Nitrate[μM] Depth[m] Date Salinity Temperature[°C] DensityAnomaly Oxygen[μM] OxygenSat[%] Chlorophyll[μg/l] BackScatter[/m/sr] CDOM[ppb] pHinsitu[Total] pH25C[Total] Lon [°E] Lat [°N] *BackScatter530[</p>	<p>Select Y Variables (ctrl click >1)</p> <p>Nitrate[μM] Depth[m] Salinity Temperature[°C] DensityAnomaly Oxygen[μM] OxygenSat[%] Chlorophyll[μg/l] BackScatter[/m/sr] CDOM[ppb] pHinsitu[Total] pH25C[Total] Lon [°E] Lat [°N] *BackScatter530[</p>	<p>Autoscale X & Y axis : <input type="checkbox"/> On <input checked="" type="checkbox"/> Off</p> <p>Enter Ranges if Autoscale is Off (Min & max ranges default to 0 a 200 if Autoscale off and box is empty. Depth ranges are entered : negative values on Y axis and as positive values on X axis.) X Min: <input type="text"/> X Max: <input type="text"/> Y Min: <input type="text"/> Y Max: <input type="text"/></p> <p>Y Stack: (In a single graph, multiple Y variables or multiple stations are stacked vertically if it is On) <input type="checkbox"/> On <input checked="" type="checkbox"/> Off</p> <p>Enter Min and Max Depth range for data used in Time Series Plot (X Var = Date) Min Depth: <input type="text"/> 0 Max Depth: <input type="text"/> 1050</p>

N: These floats have an ISUS or SUNA nitrate sensor.

O: These floats have an Aanderaa Optode oxygen sensor.

O6: These floats have a Sea-Bird SBE63 optical oxygen sensor.

pH: These floats have a Deep-Sea DuraFET pH sensor and pH is reported on the total proton scale.

FL: These floats have [FLBB biooptical sensors for chlorophyll \(470/695 nm Ex/Em\) and backscatter \(700 nm, 140 degrees\)](#).

FLM: These floats have a WET Labs MCOM FL, BB at 700 nm and CDOM optical sensor.

*FLM530: These floats have a WET Labs MCOM FL, BB at 700 nm, and BB at 530 nm. Float 0565 only.

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), Tianjin

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DAC	PLATFORM_T YPE	SENSOR_MAKER/SENSOR_M ODEL	PREDEPLOYMENT_CALIB_COEFFICIE NT Khi / angle
csiro	2 SBE	wetlabs flbb_ap2	1.140 450° 149°
csiro	8 WRC	wetlabs flbb_ap2	1.167 440° 142°
csiro	2 WRC	wetlabs flbb_ap2	Na Na
Incois	2 WRC	wetlabs flbb	1.167 440° 142°
Incois	5 NKE	wetlabs flbb	1.097 142°
corioli S	17 NKE	wetlab eco_puck	1.076 124°
coml	20 TWR	wetlabs flbb*	Na -140°* 142°

* Found the info

<http://soccom.princeton.edu/soccomviz.php>

ADMT #17 BIO-Argo, Tianjin

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-> austral check

DAC	PLATFORM_T YPE	SENSOR_MAKER/SENSOR_M ODEL	PREDEPLOYMENT_CALIB_COEFFICIE NT Khi / angle
csiro	2 SBE	wetlabs flbb_ap2	1.140 450°-149°
csiro	8 WRC	wetlabs flbb_ap2	1.167 1.097 140° 142°
csiro	2 WRC	wetlabs flbb_ap2	Na Na
Incois	2 WRC	wetlabs flbb	1.167 1.097 140° 142°
Incois	5 NKE	wetlabs flbb	1.097 142°
corioli S	17 NKE	wetlab eco_puck	1.076 124°

* Found the info

<http://soccom.princeton.edu/soccomviz.php> ADMT #17 BIO-Arco. Tianjin

aoml	29 TWR	wetlabs flbb*	Na -140°* 142°
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csiro	2 WRC	wetlabs flbb_ap2	Na Na
Incois	2 WRC	wetlabs flbb	1.167 1.097 140° 142°
Incois	5 NKE	wetlabs flbb	1.097 142°
corioli	17 NKE	wetlab eco_puck	1.076 124°
gaml	20 TWP	wetlabs flbb*	Na 140°* 142°

* Found the info

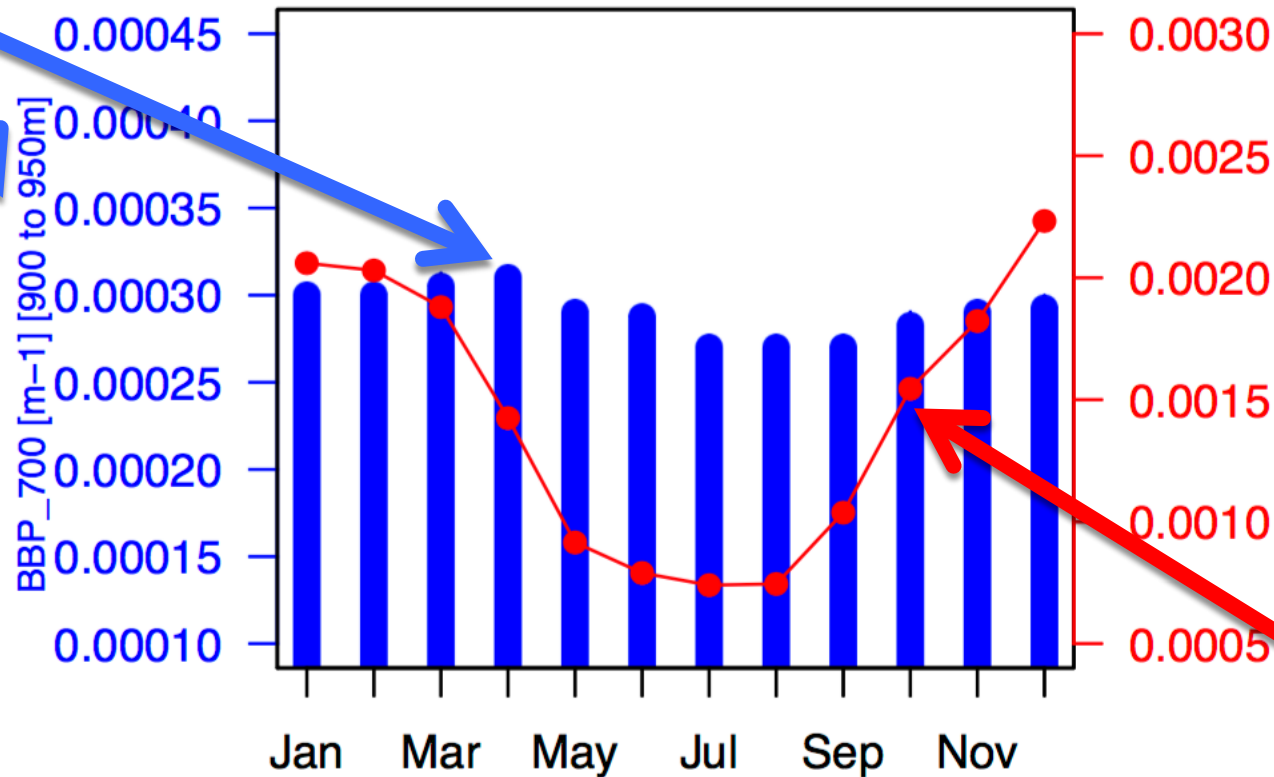
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ADMT #17 BIO-Argo, Tianjin

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Median bbp700
[900-950m]

5 WETLABS FLBB 1.097 142 NKE



Median bbp700
[10-50m]

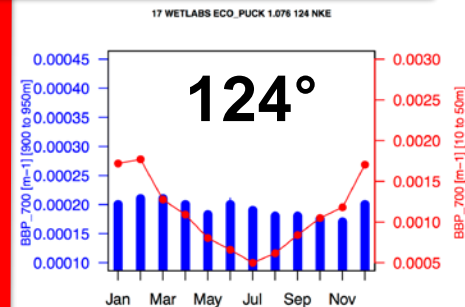
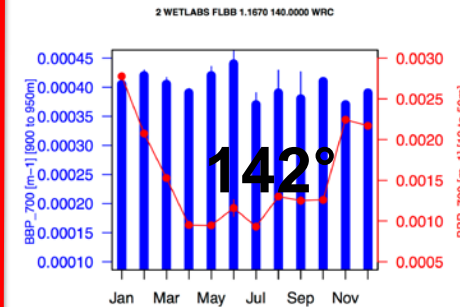
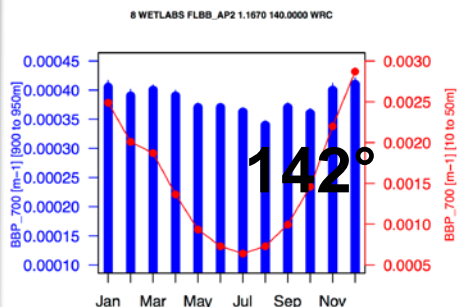
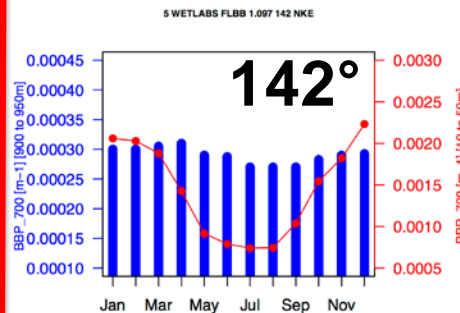
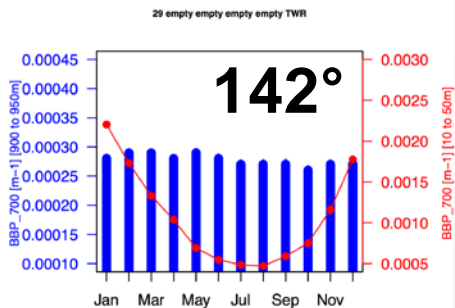
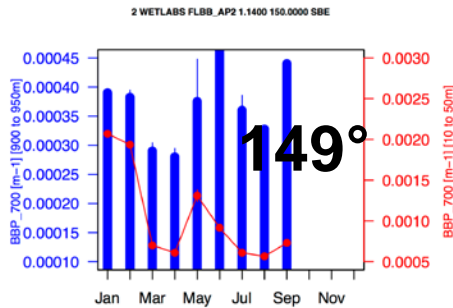
ADMT #17 BIO-Argo, Tianjin

aoml

csiro

incois

coriolis

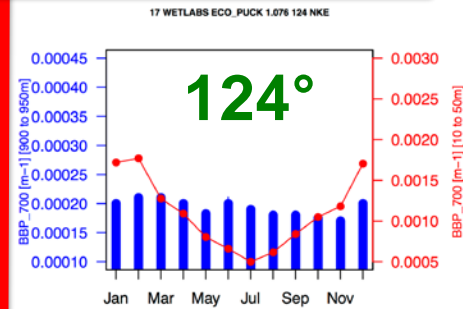
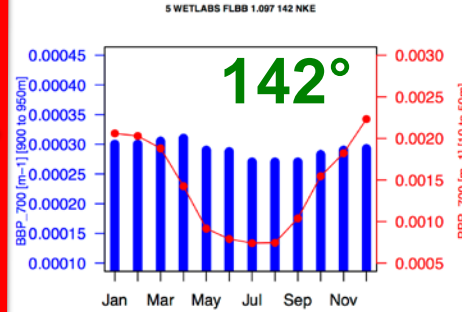
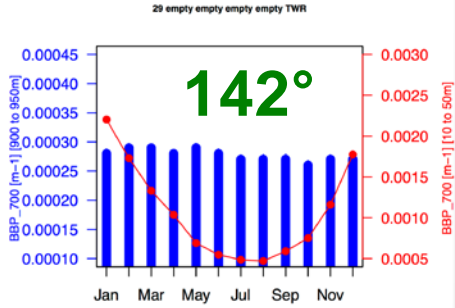
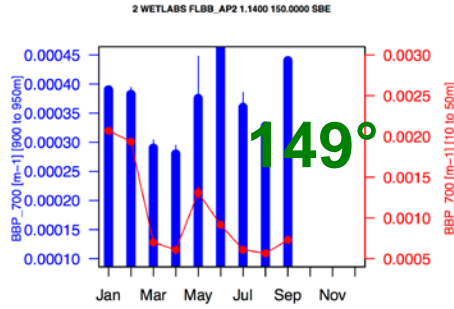


aoml

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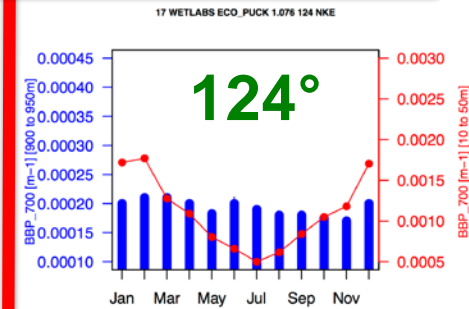
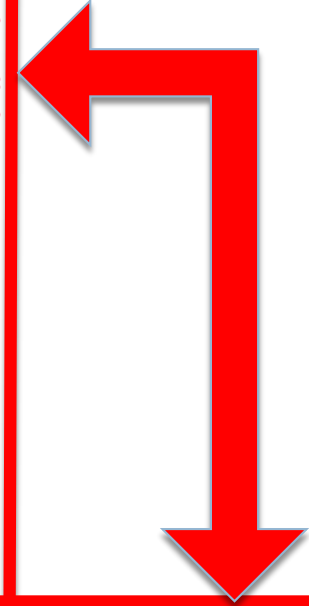
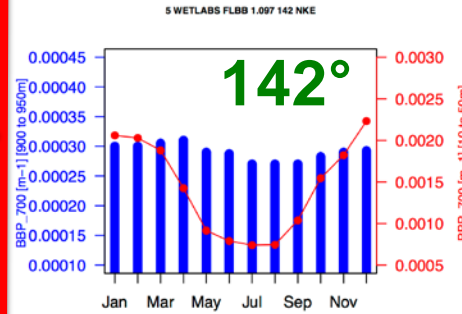
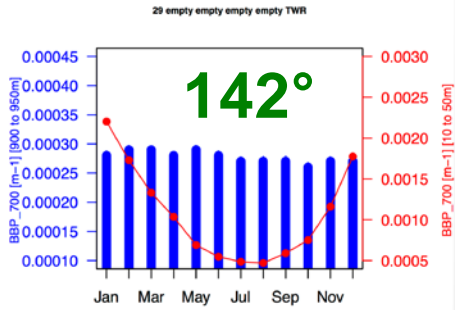
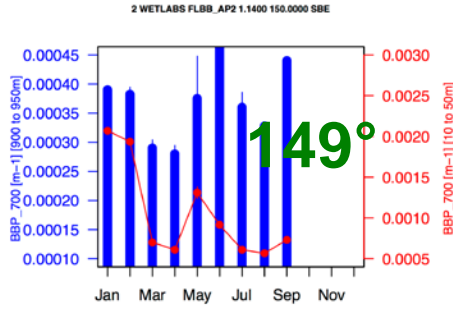


aoml

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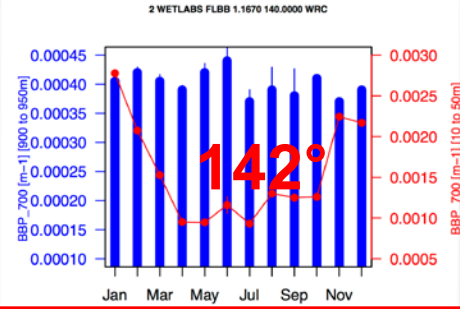
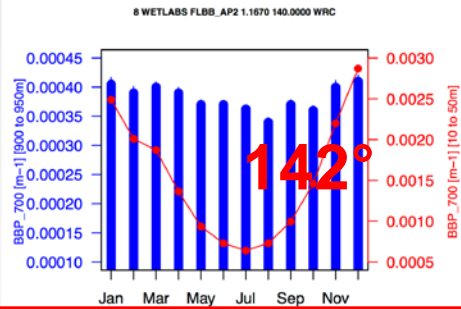


aoml

csiro

incois

coriolis



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- 2 different DAC : aoml and coriolis
- 2 different FLOAT: nke and twr
- Same sensors : wetlabs flbb/ wetlabs flbb_ap (same angle and khi)
 - > same bbp $\approx 1\%$
- same DAC : coriolis
- same FLOAT : nke
- 2 different sensors flbb and eco_puck (142° and 124°)
 - > different bbp $\approx 33\%$?

Calibration ?

Sampling resolution ?

Khi ?