INSTANT Sunda Data Report
Description and Quality Control

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1.1 Scientific Objectives

The INSTANT (International Nusantara STratification ANd Transport program) project was designed to directly measure the leakage of warm and fresh waters from the western equatorial Pacific into the South Indian Ocean via the Indonesian passages. The size and depth distribution of this Indonesian Throughflow (ITF) has not been well determined, and this has lead to ambiguity of the mean and variability of the ITF. The INSTANT project consisted of a 3-year deployment of *in situ* velocity, temperature and salinity data from the sea-floor to the surface in the major inflow and outflow straits that make up the Indonesian choke point. The array was designed to measure the mass, heat and freshwater transports that flow into and out of the Indonesian Seas. Five nations participated in INSTANT: Indonesia, France, the Netherlands, the USA and Australia. The Indonesian Ministry of Marine and Fisheries sponsored the Indonesian involvement.

This document describes the quality control of the mooring data collected during the INSTANT deployments in the outflow straits – Lombok Strait, Ombai Strait and Timor Passage (see Figure 1). Complimentary data in the Makassar Strait and Lifamatola Strait are described elsewhere.

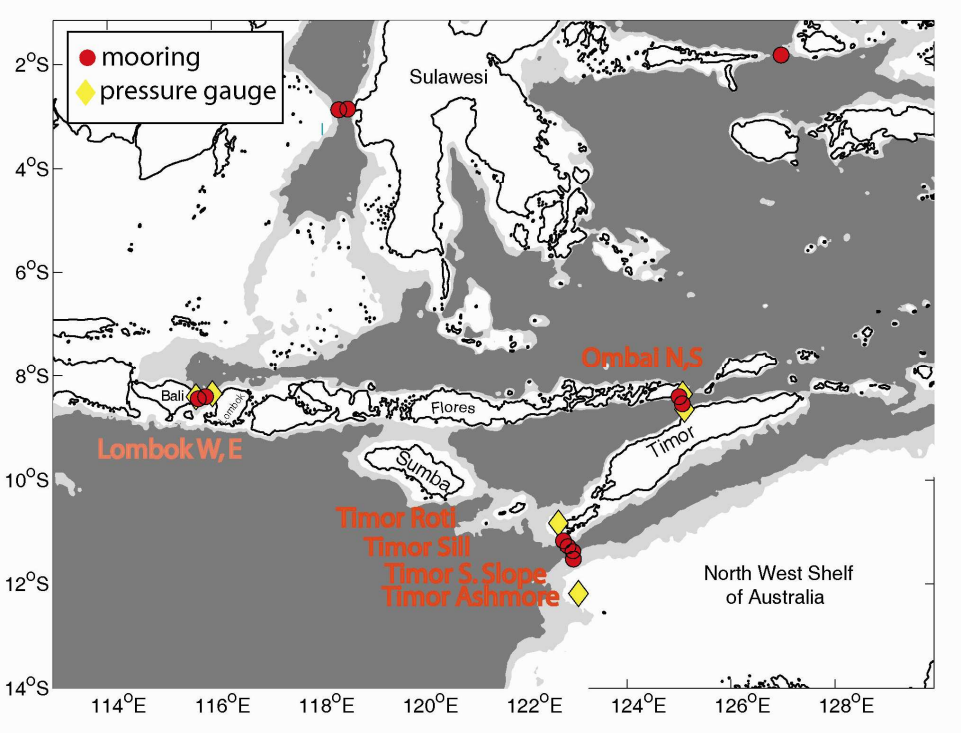


Figure 1: Map of locations of INSTANT moorings and shallow pressure gauges.

1.2 Deployment 1

The moorings for deployment 1 were deployed in two cruises. The Ombai South mooring was deployed during the Southern Surveyor voyage SS06/2003, in August 2003. The remaining moorings were deployed from the Baruna Jaya VIII in December 2003 to January 2004. Table 1 shows these details. Appendix 1a shows the mooring configurations. Mooring locations are shown in Figure 1.

Table 1: Deployment details of moorings for deployment 1.

Mooring	Date/Time (GMT)	Anchor Drop	Ranged in Position	Depth
Timor 4 Ashmore	30/12/2003 03:03	122° 58.493' E 11° 31.62' S	122° 58.435' E, 11° 31.703' S	901.8m
Timor 3 South Slope	30/12/2003 08:37	122° 57.531' E 11° 22.147' S	122° 57.588' E 11° 22.096' S	1386.3m
Timor 2 Sill	31/12/2003 13:30	11° 16.48' S 122° 51.90' E	-	1890m (est.)
Timor 1 Roti	01/01/2004 05:47	122° 46.805' E 11° 09.796' S	122° 46.788' E 11° 9.745' S	741.42m(1006m nearest obs)
Ombai 1 (N)	04/01/2004 03:30	125° 0.163' E 8° 24.098' S	Likely close to anchor drop	1329m
Ombai 2 (S)	08/08/2003 1503	125º 4.72'E 8º 31.62'S	125º 3.86'E 8º 32.00'S	3224m
Lombok 1(W)	09/01/2004 03:46	115° 45.549'E 8° 26.281'S	115° 45.553'E 8° 26.387'S	921m (?)
Lombok 2(E)	10/01/2004 02:56	115° 53.881'E 8° 24.144'S	Same as anchor	1144m

1.3 Deployment 2

Recovery of moorings from deployment 1 and re-deployment of the moorings was completed during legs 1 and 2 of the Baruna Jaya VIII cruise (June 12 - July 6 2005). Details of the recovery and deployment are shown in table 2. Appendix 1b shows the mooring configurations.

Table 2: Recovery of moorings from deployment 1, and redeployment details.

Mooring	Date/Time (GMT) Recovered	Date/Time (GMT) Deployed	Anchor Drop	Ranged in Position	Depth
Lombok West (1)	15/06/2005 0235	17/06/2005 0943	115° 45.492'E 8° 26.594'S	115° 45.487'E 8° 26.774'S	910 m
Lombok East (2)	15/06/2005 0705	18/06/2005 0946	115° 53.905'E 8° 24.424'S	115° 53.769'E 8° 24.566'S	1133 m
Timor 4 (Ashmore)	21/06/2005 0125	24/06/2005 1400	122° 58.437' E 11° 31.707' S	122° 58.360' E, 11° 31.766' S	899 m
Timor 3 (S-slope)	21/06/2005 0517	24/06/2005 0834	122° 57.556' E 11° 22.094' S	122° 57.404' E 11° 22.193' S	1380 m

Timor 2 (Sill)	21/06/2005 2355	25/06/2005 1044	11° 16.484' S 122° 51.798' E	11° 16.6084'S 122° 51.506'E	1874 m
Timor 1 (North)	21/06/2005 1010	26/06/2005 0910	122° 46.801' E 11° 09.756' S	122° 46.803' E 11° 9.677' S	995 m
Ombai South (2)	01/07/2005 0732	03/07/2005 1225	125° 1.985'E 8° 32.356'S	125° 32.262'E 8° 32.335S	3203 m
Ombai North (1)	29/06/2005 0330	02/07/05 1312	125° 2.013' E 8° 24.057' S	125° 02.268'E 8° 24.044'S	1315 m

Recovery of Timor and Lombok moorings was undertaken from the KR Baruna Jaya 1, Leg 3 from Kupang to Bali (December 10 - December 19, 2006). Recovery of the Ombai moorings was undertaken during Leg 2 of the same cruise (3-10 December 2006). Details of recovery are shown in table 3.

Table 3: Details from recovery of moorings from deployment 2.

Mooring	**Date/Time (GMT) Recovered**	**Position**	**Depth**
Ombai North (1)	06/12/2006 0530	125° 02.268'E 8° 24.044'S	1315 m
Ombai South (2)	07/12/2006 0400	125° 02.262'E 8° 32.335S	3203 m
Lombok West (1)	NOT RECOVERED	115° 45.487'E 8° 26.774'S	910 m
Lombok East (2)	16/12/2006 0130	115° 53.769'E 8° 24.566'S	1120 m
Timor 4 (Ashmore)	13/12/2006 0125	122° 58.360' E, 11° 31.766' S	902 m
Timor 3 (south-slope)	12/12/2006 0100	122° 57.404' E 11° 22.193' S	1386 m
Timor 2 (Sill)	12/12/2006 0500	11° 16.6084'S 122° 51.506'E	1874 m
Timor 1 (North)	13/12/2006 0030	122° 46.803' E 11° 9.677' S	992 m

2. GENERAL QUALITY CONTROL METHODS

The data was quality controlled in the following ways:

- All data was plotted and visually inspected for obvious problems.
- Each mooring was then 'stacked', with the data from all the instruments on that mooring being put together on the same time-base (that of the ADCP) and then visually inspected again.
- Instrument time bases were checked using correlations of hourly pressure or temperature, as well as the noted 'start' and 'stop' times on deployment and retrieval.
- Data fields were trimmed to remove any out-of-water values at each end of the record. The out-of-water values were set to 'missing' in the raw data files.
- Vector plots, temperature and pressure comparisons, and various plots of u and v were done and obvious problems addressed. Notes on edits to raw data are included in Tables 4 and 5, and are also included in the comments sections of the netcdf files.

All the netcdf files have a '_raw' field for each parameter measured. This field contains the raw instrument data, with no adjustments, except as noted in the comments fields (eg, the magnetic declination was added to some '_raw' fields). Any adjustments to the data that are noted in the following sections have been made in the field that is not the '_raw' field.

The following sections describe instrument-type quality control in more detail.

3. ADCP QUALITY CONTROL

The ADCP instruments used on the moorings are of the following types:

- Broad Band 300kHz
- Long Ranger 75kHz
- Work Horse 300kHz

The method for quality control of the data from these instruments was developed by Janet Sprintall. Janet determined thresholds for the ADCP's on the two Ombai moorings (deployment 2) and the Lombok East mooring (deployment 2). The method of applying the quality control thresholds and determining the thresholds is given in Appendix 2 (Quality control of INSTANT ADCP velocity – Janet Sprintall).

This method was repeated for all ADCP data and the final thresholds for each instrument are given in tables 4 and 5. The 'pass' threshold values are also included in the raw netcdf files in the 'comments' field. Data that failed the threshold tests were replaced with the fill value in the netcdf files. All raw data is retained in the '*_raw' fields in the netcdf files.

Generally the ADCPs performed well. The Timor Sill mooring from deployment 1 prematurely parted in August 2004, leaving only one instrument (an Aanderaa) at the bottom. The broken part of the mooring was recovered later and the data to August 2004 was quality controlled as per the other ADCPs. The ADCP used on the Timor Sill mooring in deployment 2 had a faulty connection and only a small number of bins close to the instrument had data in them.

A small number of the ADCPs had missing data points, where an entire point was just not recorded. In these cases, the missing time step was inserted, and missing values (-99999) were inserted in the corresponding data points. The instruments that had this problem were:

- Timor Roti (BB ADCP 1143), deployment 2;
- Timor Ashmore (BB ADCP 1136), deployment 2;
- Timor South Slope (BB ADCP 0136), deployment 1.

Some of the ADCPs did not sense the orientation correctly. In these cases, the u and v data were adjusted to correct for the incorrect orientation. Comparison with instruments below and nearby confirmed the correction was valid.

4. VMCM QUALITY CONTROL

The VMCM data was visually compared with other current-measuring instruments on the mooring (eg, ADCP, Aanderaa, etc). In some cases, the VMCM data required adjustment. All the VMCM instruments used in deployment 2, except for those used on the Lombok East mooring, required the following adjustment:

u = v_raw; and v = -u_raw.

Some of the instruments were also adjusted further, and this is noted in Tables 4 and 5, and in the comments sections of the netcdf files.

5. SEABIRD 37/39 QUALITY CONTROL

Some of the SBE instruments underwent wire slippages during their deployments, and these are noted in Tables 4 and 5. In cases where the instrument recorded pressure, the data was retained, but where there was no pressure record, the data was set to missing.

Pre and post deployment calibrations were completed on the SBE instruments, and these details are included in Appendix 3.

6. ACM (CM04) QUALITY CONTROL

The ACM's often returned short records due to instrument leaks. ACM 3017 had some severe timing errors and should be used with caution. The two ACMs on the Ombai South deployment 2 mooring needed directional re-adjustment.

All details of adjustments are given in Tables 4 and 5.

7. TIDBIT AND SIO T-LOGGER QUALITY CONTROL

Several of the TidBit loggers showed some drift during the deployments, and in some of these this was confirmed by the pre- and post-calibrations (Appendix 3). Some of these drifting instruments' data were set to missing, and some were adjusted where possible.

Some of the T-loggers slipped down the wire. Those that did had their data set to missing, as no pressure records are recorded with the T-loggers.

All details of adjustments are given in Tables 4 and 5.

8. AQUADOPP QUALITY CONTROL

The Aquadopp instruments were only used in deployment 2. No manual quality control was required as we found no obvious problems with these records.

9. AANDERAA QUALITY CONTROL

The Aanderaa instruments suffered from multiple problems. Some had pressure sensor failures, and several suffered from 'drop-outs' in the speed readings. Some also required direction corrections.

Events where speed drops to zero suspiciously (compared to surrounding instruments) occurred in the following instruments (all from deployment 2):

- 10100, Timor Sill
- 10102, Timor Sill
- 11729, Timor Sill
- 10916, Timor South Slope
- 10869, Ombai North
- 10868, Ombai North

- 10283, Ombai South
- 10766, Ombai South

Some of these instruments were corrected by interpolation with adjacent instruments, others had their data set to missing where a drop-out was found.

Aanderaa 10992 data from the Ombai North mooring, deployment 2 has a strong meridional component compared with ACM 3004 which is below it on the mooring. The data has been accepted because it may be real, and an artefact of the bottom bathymetry where there are north-south canyons present. Similar behaviour is found in deployment 1 at the corresponding depths in Aanderaa 7777 and Aanderaa 10921, although it is not as strong.

All details of adjustments are given in Tables 4 and 5.

Table 4 Quality control notes, deployment 1.

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass	
Ombai North	169	ACM 2070	Temperature			
			Velocity			
	169	Tidbit 694723	Temperature	Instrument drifted during deployment. All data set to missing.		
	193	SBE-37-STP 2949	Temperature	Instrument slipped down wire. Data ok as pressure was measured.		
			Salinity			
			Pressure	-1 m pressure creep observed due to slip down wire.		
	208	ADCP 3518	Temperature		Percent good (%)	>50
			Pressure		Error velocity (m/s)	≤0.15
			Currents	11 bins	Correlation magnitude	>110
					Horizontal velocity (m/s)	≤2
					Vertical velocity (m/s)	≤0.15
					Echo amplitude (counts)	20
					Depth cutoff (m)	>0
	240	SBE-37-STP 2955	Temperature			
			Salinity			
			Pressure			
	270	Tlogger 142	Temperature	Post-deployment calibrations show an offset. However, data not edited as it appears OK.		
	325	VMCM 007	Current	Fails 04-Mar-2005		
			Temperature	Fails 04-Mar-2005		
			Conductivity	Complete sensor failure		
			Pressure	Fails 14-Feb-2005		
	421	VMCM 010	Current	Fails 16-May-2005		
			Temperature	Fails 16-May-2005		
			Conductivity	Fails 16-May-2005		
			Pressure	Fails 27-Apr-2005		
	471	Tidbit 694726	Temperature			
	522	Aanderaa 10870	Temperature			
			Pressure	Unusable, pressure set to Missing original pressure data in pressure_raw variable		
			Current	Has some flat spots in speed. These have been left in. May be real.		
	621	Tlogger 138	Temperature			

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass
Ombai North	792	Aanderaa 7777	Temperature		
			Pressure	Unusable, pressure set to Missing original pressure data in pressure_raw variable	
			Current		
	1112	Aanderaa 10921	Temperature		
			Pressure	Spiky pressure plot when compared to VMCM 010, probably due to diff in depth between instruments. Data is OK.	
			Current		

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	Data	Comments	ADCP QC thresholds for pass	
Ombai South				Mooring broke in Feb 2005, top three instruments were lost. The remaining mooring got tangled and recovery of top 5 instruments was out of order. Recovery order: VMCM 003, ADCP 3758, VMCM 002, SBE-39-TP 1331, Tlogger 161.		
	ACM			Lost.		
	SBE-39			Lost		
	SBE-37			Lost.		
	323	SBE-39-TP 1331	Temperature	Pressure measured for this instrument, so data OK.		
			Pressure	Instrument fell ~100 m when top bouy parted ~6/2/2005 19:00. Mean pressure before top buoy parted (and when 161 measured) 285		
	314	Tlogger 161	Temperature	Last good 20-May-2004		
	366	ADCP 3758	Temperature		Percent good (%)	>50
			Pressure		Error velocity (m/s)	≤0.15
			Current		Correlation magnitude	>64
					Horizontal velocity (m/s)	≤2
					Vertical velocity (m/s)	≤0.2
					Echo amplitude (counts)	20
					Depth cutoff (m)	>2
	410	VMCM 003	Current	Last good 15-Sep-2003		
			Temperature	Last good 15-Sep-2003		
			Conductivity	Last good 08-Sep-2003		
			Pressure	Last good 08-Sep-2003		
	513	VMCM 002	Current	Last good 19-Sep-2003		
			Temperature	Last good 19-Sep-2003		
			Conductivity	Last good 11-Sep-2003		
			Pressure	Last good 11-Sep-2003		
	566	Tlogger 160	Temperature			
	624	Aanderaa 6560	Temperature			
			Pressure	Drifted by 70 dBar - corrected		
			Currents	Bad data before 9/9/2003		

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	Data	Comments	ADCP QC thresholds for pass
Ombai South	724	SBE-37-ST 908	Temperature	1 spike removed. Missing data points due to corrupted download - can be seen when checking time difference between data points	
			Salinity	1 spike removed. Missing data points due to corrupted download - can be seen when checking time difference between data points	
	893	AANDERAA 7662	Temperature		
			Pressure		
			Currents		
	1186	AANDERAA 6166	Temperature		
			Pressure		
			Currents		
	1687	AANDERAA 7773	Temperature		
			Pressure		
			Currents		

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	data	Comments	ADCP QC thresholds for pass	
Lombok West	154	ACM 3015	Currents			
			Temperature			
	154	Tidbit	Temperature	Lost		
	179	SBE-37-STP 2951	Temperature			
			Salinity			
			Pressure			
	194	ADCP 3517	Temperature		Percent good (%)	>50
			Pressure		Error velocity (m/s)	≤0.2
			Currents	11 bins	Correlation magnitude	>110
					Horizontal velocity (m/s)	≤1.75
					Vertical velocity (m/s)	≤0.1
					Echo amplitude (counts)	30
					Depth cutoff (m)	>2
	214	Tidbit 694728				
	226	VMCM 008	Current	Last good 24-Mar-2004		
			Temperature	Last good 12-May-2005		
			Conductivity	Last good 12 May 2005		
			Pressure	Last good 17-Apr-2005		
	256	Tlogger 143	Temperature	Slipped on wire. Probably happened in June 04. Set T to Missing after this date.		
	309	VMCM 019	Current	Last good 24-Jan-2005		
			Temperature	Bad temperature data after start of 23 June 04. Set T to Missing after this date.		
			Conductivity	Bad data		
			Pressure	Last good 15-Jan-2005		
	355	Tlogger 146	Temperature	Slipped to vmcm004. Set T data to Missing after end 06 March 2004.		
	405	VMCM 004	Current			
			Temperature			
			Conductivity	Last good 06-Jun-2005		
			Pressure	Last good 06-Jun-2005		
	455	Tidbit 694724	Temperature			
	509	VMCM 011	Current	Last good 04-Dec-2004		
			Temperature	Last good 04-Dec-2004		
			Conductivity	Last good 29-Nov-2004		
			Pressure	Last good 29-Nov-2004		

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	Data	Comments	ADCP QC thresholds for pass	
Lombok East	109	ACM 2071	Currents	Amplitude attenuation from end June 04. All data set to missing.		
			Temperature			
	109	Tidbit 694722	Temperature	Temperature drift, redundant due to ACM and SBE at same depth. Set data to Missing.		
	110	SBE-39-TP 1332	Temperature	Difference in temperature from 2953 is spiky, probably due to depth differences.		
			Pressure			
	146	SBE-37-STP 2953	Temperature	Slipped to SBE 1528, probably in late Jan 2004, pressure measured, so data OK.		
			Pressure			
			Salinity			
	149	SBE-39-TP 1528	Temperature			
			Pressure			
	169	Tidbit 694730	Temperature			
	178	SBE-39-TP 1329	Temperature			
			Pressure			
	208	Tlogger 147	Temperature	Slipped to 1472 after mid-March 04. Set T to Missing after slip date.		
	255	SBE-39-TP 1472	Temperature			
			Pressure			
	305	ADCP 3787	Temperature		Percent good (%)	>60
			Pressure		Error velocity (m/s)	≤0.2
			Currents		Correlation magnitude	>64
					Horizontal velocity (m/s)	≤2
					Vertical velocity (m/s)	≤0.15
					Echo amplitude (counts)	20
					Depth cutoff (m)	>2
	359	VMCM 015	Temperature	To 22-Dec-2004		
			Pressure	To 07-Dec-2004		
			Conductivity	To 07-Dec-2004		
			Currents	U and v data bad after 16 March 2004, set to missing.		
	427	Tidbit 694729	Temperature			
	477	Aanderaa 10990	Temperature			
			Pressure			
			Currents			
	940	SIO T-logger	Temperature	Dead battery, data not recovered.		

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	Data	Comments	ADCP QC thresholds for pass
Timor Roti				Mooring seems to have sunk, we can see this in T and P	
	94	ACM 3018	Currents	Last good 07-Feb-2004	
			Temperature	Last good 07-Feb-2004	
	96	SBE-39-TP 1326	Temperature		
			Pressure		
	130	SBE-37-STP 2954	Temperature	Slipped to tidbit on deployment. Pressure was recorded, so we can keep this data.	
			Pressure		
			Salinity		
	140	Tidbit 694736	Temperature	No data, instrument in trigger start mode.	
	151	Tidbit 694734	Temperature	Drift in temperature, fixed using a 4th degree polynomial when compared with SBE 1327.	
	161	SBE-39-TP 1327	Temperature		
			Pressure		
	191	ADCP 1143	Temperature		Percent good (%) >50
			Currents	Orientation sensor reversed, this has been fixed in u in NC files. Gaps in u/v data quick-fixed by squeezing the data together for plots.	Error velocity (m/s) ≤0.2
					Correlation magnitude >64
					Horizontal velocity (m/s) ≤0.6
					Vertical velocity (m/s) ≤0.2
					Echo amplitude (counts) 20
					Depth cutoff (m) >2
	241	VMCM 009	Temperature		
			Pressure	All data bad	
			Conductivity		
			Currents		
	300	Tidbit 694733	Temperature	No data, instrument in trigger start mode.	
	350	ACM 3006		Lost.	
	391	SBE-37-STP 2952	Temperature		
			Pressure		
			Salinity		
	464	Aanderaa 10992	Temperature		
			Pressure		
			Currents		
	700	Aanderaa 10770		Instrument flooded and destroyed	

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	Data	Comments	ADCP QC thresholds for pass	
Timor Sill				Mooring parted in August 2004. Bottom Aanderaa remained in place, the remaining instruments were recovered later.		
	350	ADCP 166	Temperature		Percent good (%)	>80
			Currents		Error velocity (m/s)	≤0.2
			Pressure		Correlation magnitude	>75
					Horizontal velocity (m/s)	≤1
					Vertical velocity (m/s)	≤0.2
					Echo amplitude (counts)	20
					Depth cutoff (m)	>2
	458	Aanderaa 7962	Temperature			
			Pressure			
			Currents	Heading corrected by comparison with adjacent instruments.		
	720	Aanderaa 10102	Temperature			
			Pressure			
			Currents			
	1000	Aanderaa 11187		Lost.		
	1417	Aanderaa 11863	Temperature			
			Pressure	Pressure sensor OK, large difference in pressure from neighboring sensors due to mooring movement.		
			Currents			
	1819	Aanderaa 12020	Temperature			
			Pressure	Mooring broken in August 04, data continues for this instrument. Pressure increases from break.		
			Currents			

Data coverage - 1 Jan 2004 - 9 Aug 2004, 166, 7962, 10102, 11863

Data coverage - 1 Jan -2004 - 22 Jun 2005, 12020

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	Data	Comments	ADCP QC thresholds for pass	
Timor South Slope	142	ACM 3017	Currents	Current data appears OK, but time records have errors. A section of data is missing after 02/03/2004 12:58. Three other parts where overlaps in data were found have been fixed in the edited version. Leaked, covered in fishing line.		
			Temperature	Temperature data appears OK, but time records have errors. A section of data is missing after 02/03/2004 12:58. Three other parts where overlaps in data were found have been fixed in the edited version. Leaked, covered in fishing line.		
	146	SBE-37-ST 0911	Temperature			
			Salinity			
	161	SBE-39-TP 1004	Temperature			
			Pressure			
	182	SBE-39-TP 1003	Temperature			
			Pressure			
	192	SBE-37-ST 1777	Temperature			
			Salinity			
	222	ADCP 0136	Temperature		Percent good (%)	>50
			Currents	Gaps in data. The instrument did not sense orientation, so u data has been flipped in netcdf files. Some places where an hour was missing. The missing hour was inserted and NaNs were inserted in the corresponding data.	Error velocity (m/s)	≤0.15
					Correlation magnitude	>64
					Horizontal velocity (m/s)	≤0.6
					Vertical velocity (m/s)	≤0.4
					Echo amplitude (counts)	20
					Depth cutoff (m)	>2
	275	VMCM 001	Temperature			
			Pressure			
			Conductivity	Last 10-Jul-2004		
			Currents	Velocity amplitude and phase not consistent with meters above and below after 15-Sep-2004 18:08:00		
	373	VMCM 005	Temperature			
			Pressure			
			Conductivity			
			Currents			
	400	SBE-39	Temperature	Fishing line wrapped around instrument, all data bad		

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	Data	Comments	ADCP QC thresholds for pass
Timor South Slope	492	Aanderaa 10991	Temperature		
			Pressure		
			Currents		
	592	SBE-37-TS 1776	Temperature		
			Salinity		
	783	Aanderaa 7776	Temperature		
			Pressure	Bad pressure sensor for the entire time period. Pressure data set to Missing. Use interpolated pressure from neighboring sensors for plots.	
			Currents		
	1037	Aanderaa 10283	Temperature		
			Pressure		
			Currents		

Table 4 - Quality control notes, deployment 1.

Mooring	Depth	Instrument/Serial Number	Data	Comments	ADCP QC thresholds for pass	
Timor Ashmore	100	ACM 3016	Currents	Data to 09-Jun-2004		
			Temperature	Temperature data bad, set it to Missing for entire data. Probably due to growths on instrument.		
	101	SBE-39-T 0107	Temperature	Slipped to 0909 on deployment, no P measurement, set all T data to Missing.		
	125	SBE-37-TS 0909	Temperature			
			Salinity			
	140	SBE-39-T 0112	Temperature			
	160	SBE-39-T 0089	Temperature	Slipped to 1471 in April 04, no P measurement, set T to missing.		
	170	SBE-39-TP 1471	Temperature			
			Pressure			
	200	ADCP 1136	Temperature		Percent good (%)	>50
			Currents	10 bins. u data wrong orientation. Fixed in netcdf file.	Error velocity (m/s)	≤0.1
					Correlation magnitude	>75
					Horizontal velocity (m/s)	≤0.6
					Vertical velocity (m/s)	≤0.3
					Echo amplitude (counts)	20
					Depth cutoff (m)	>20
	250	VMCM 018	Temperature			
			Pressure	22-Jun-05		
			Conductivity	3-May-05		
			Currents			
	300	Tidbit 694725	Temperature			
	355	VMCM 014	Temperature	21-Mar-05		
			Pressure	2-Mar-05		
			Conductivity	2-Mar-05		
			Currents	21-Mar-05		
	476	Aanderaa 10766	Temperature			
			Pressure			
			Currents			
	477	Tidbit 694732	Temperature	Drift in temperature, small. Redundant measurement as temperature measured by adjacent instruments, set all to Missing.		
	901	Tidbit 694731	Temperature			

Table 5: Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass
Timor Roti	102m	SBE-37 2230	Temperature		
			Pressure		
	112m	Tidbit 860186	Temperature		
	127m	SBE-37 1777	Temperature		
	142m	SBE-39 1004	Temperature		
			Pressure	Pressure bad after 3 November 2005. Data set to missing after this in netcdf file.	
	172m	SBE-39 112	Temperature	Missing data points due to corrupted download - can be seen when checking time difference between data points	
	213m	SBE-37 2952	Temperature		
			Pressure		
	253m	BB ADCP 1143	Temperature		Percent good (%) >50
			Current	Instrument did not sense orientation. Current data was adjusted to fix this.	Error velocity (m/s) ≤0.15
			Pitch		Correlation magnitude >75
			Roll		Horizontal velocity (m/s) ≤0.7
			Heading		Vertical velocity (m/s) ≤0.4
			Time	Missing hours. Some places where an hour was missing. The missing hour was inserted and NaNs were inserted in the corresponding data.	Echo amplitude (counts) 20
					Depth cutoff (m) >2
	304m	VMCM 005	Temperature	Temperature data has a bias. Data set to missing in netcdf file.	
			Pressure		
			Current	u = v_raw; v = -u_raw. Direction has been adjusted by -5degrees.	
			Conductivity		
	355m	VMCM 009	Temperature		
			Pressure		
			Current	u = v_raw; v = -u_raw. Direction has been adjusted by 5degrees.	
			Conductivity		
	454m	Aanderaa 10914	Temperature		
			Pressure		
			Current		
	555m	Aanderaa 10998	Temperature		
			Pressure		
			Current		

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass	
Timor Sill	390m	ADCP LR 166	Temperature		Percent good (%)	>0
			Current	Instrument had an electrical connection problem. Only a small amount of data recovered.	Error velocity (m/s)	≤0.15
			Pitch		Correlation magnitude	>5
			Roll		Horizontal velocity (m/s)	≤0.6
			Heading		Vertical velocity (m/s)	≤0.06
					Echo amplitude (counts)	5
					Depth cutoff (m)	>100
	446m	SBE-39 1104	Temperature			
	539m	Aanderaa 7962	Temperature			
			Pressure			
			Current			
	545m	SBE-37 2764	Temperature			
			Salinity			
	687m	Aanderaa 10100	Temperature			
			Pressure			
			Current	Speed dropped to zero in some places. The current data was set to missing where this happened. Direction was corrected by 180 deg.		
	987m	Aanderaa 10102	Temperature			
			Pressure			
			Current	Speed dropped to zero in some places. The current data was set to missing where this happened.		
	1386m	Aanderaa 11729	Temperature			
			Pressure			
			Current	Speed dropped to zero in some places. The current data was set to missing where this happened. A spike was chopped on 14 Jul 2005		
	1589m	SBE-39 1105	Temperature			
	1787m	Aanderaa 11864	Temperature			
			Pressure			
			Current	Direction was corrected by 180 deg.		
	1797m	SBE-37 0909	Temperature	Missing data points due to corrupted download - can be seen when checking time difference between data points		
			Salinity	Missing data points due to corrupted download - can be seen when checking time difference between data points		

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass	
Timor South Slope	98m	SBE-37 2954	Temperature	Instrument slipped down wire, temperature data OK as pressure was measured.		
			Pressure			
			Salinity			
	108m	Tidbit 860184	Temperature			
	123m	SBE-37 2951	Temperature			
			Pressure			
			Salinity			
	138m	SBE-39 1471	Temperature			
			Pressure			
	168m	SBE-39 0089	Temperature	Missing data points due to corrupted download - can be seen when checking time difference between data points		
	188m	Tidbit 860185	Temperature			
	208m	SBE-39 1332	Temperature			
			Pressure			
	248m	BB ADCP 135	Temperature		Percent good (%)	>50
			Current	Instrument did not sense orientation. Current data was adjusted to fix this. U, v data have been interpolated where orien = 1.	Error velocity (m/s)	≤0.15
			Pitch		Correlation magnitude	>75
			Roll		Horizontal velocity (m/s)	≤0.6
			Heading	Heading errors wher orientation = 1. u,v and heading have been interpolated where orientation = 1.	Vertical velocity (m/s)	≤0.3
					Echo amplitude (counts)	20
					Depth cutoff (m)	>2
	299m	VMCM 018	Temperature			
			Pressure			
			Current	u = v_raw; v = -u_raw.		
			Conductivity			
	350m	ACM 3009	Temperature			
			Current			
	450m	VMCM 014	Temperature			
			Pressure			
			Current	u = v_raw; v = -u_raw.		
			Conductivity			

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass
Timor South Slope	550m	Aanderaa 10990	Temperature		
			Pressure		
			Current		
	747m	Aanderaa 10919	Temperature		
			Pressure		
			Current		
	749m	SBE-37 0911	Temperature	Missing data points due to corrupted download - can be seen when checking time difference between data points	
			Salinity	Missing data points due to corrupted download - can be seen when checking time difference between data points	
			Conductivity	Missing data points due to corrupted download - can be seen when checking time difference between data points	
	997m	Aanderaa 10916	Temperature		
			Pressure		
			Current	Some bad data where speed dropped to zero. U and v have been interpolated from Aand 10919 where speed = 0.	

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass	
Timor Ashmore	99m	SBE-39 1327	Temperature			
			Pressure			
	109m	Tidbit 860182	Temperature			
	124m	SBE-37 1776	Temperature			
			Salinity			
	139m	SBE-39 1003	Temperature			
			Pressure			
	169m	SBE-39 0107	Temperature	Missing data points due to corrupted download - can be seen when checking time difference between data points		
	189m	Tidbit 860183	Temperature			
	209m	SBE-39 1326	Temperature			
			Pressure			
	249m	BB ADCP 1136	Temperature		Percent good (%)	>50
			Current	Instrument did not sense orientation. Current data was adjusted to fix this.	Error velocity (m/s)	≤0.15
			Pitch		Correlation magnitude	>110
			Roll		Horizontal velocity (m/s)	≤0.6
			Heading		Vertical velocity (m/s)	≤0.2
			Time	Missing hours. Some places where an hour was missing. The missing hour was inserted and NaNs were inserted in the corresponding data.	Echo amplitude (counts)	20
					Depth cutoff (m)	>2
	300m	VMCM 001	Temperature			
			Pressure			
			Currents			
			Conductivity			
	400m	ACM 3003		Instrument lost		
	500m	Aanderaa 10993		Instrument lost		
	551m	Tidbit 694736		Instrument lost		
	750m	Tidbit 694733		Instrument lost		

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass	
Ombai North	102m	SBE-37 3779	Temperature			
			Pressure			
			Salinity			
	122m	Tidbit 860187	Temperature			
	137m	SBE-37 0914	Temperature	Missing data points due to corrupted download - can be seen when checking time difference between data points		
			Salinity	Missing data points due to corrupted download - can be seen when checking time difference between data points		
			Conductivity	Missing data points due to corrupted download - can be seen when checking time difference between data points		
	167m	Tidbit 860188	Temperature			
	195m	SBE-39 1472	Temperature			
			Pressure			
	245m	SIO-T 142	Temperature	Record is short. Last good data is 18-Mar-2006 03:50. Data is set to missing after this date		
	345m	Tidbit 860189	Temperature			
	392m	Longranger 3787	Temperature		Percent good (%)	>50
			Current		Error velocity (m/s)	≤0.15
			Pitch		Correlation magnitude	>64
			Roll		Horizontal velocity (m/s)	≤2
			Heading		Vertical velocity (m/s)	≤0.2
					Echo amplitude (counts)	20
					Depth cutoff (m)	>2

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass
Ombai North	452m	Aquadopp 1490	Temperature		
			Pressure		
			Current		
			Pitch		
			Roll		
			Heading		
	555m	VMCM 007	Temperature	Short record. Last good data is on 04-Oct-2006 10:15. Data is set to missing after this date.	
			Pressure	Short record. Last good data is on 04-Oct-2006 10:15. Data is set to missing after this date.	
			Current	u = v_raw; v = -u_raw. Short record. Last good data is on 04-Oct-2006 10:15. Data is set to missing after this date.	
			Conductivity	Short record. Last good data is on 04-Oct-2006 10:15. Data is set to missing after this date.	
	657m	Aanderaa 10869	Temperature		
			Pressure	Pressure data bad. All data set to missing.	
			Current	Speed dropped to zero in some places. The current data was set to missing where this happened.	
	757m	Aanderaa 10868	Temperature		
			Pressure	Pressure data bad. All data set to missing.	
			Current	Speed dropped to zero in some places. The current data was set to missing where this happened. Data ends on 22-Sep-2006 13:59.	
	857m	Aanderaa 10992	Temperature	Record is short. Last good data is 24-Jul-2006 00:56.	
			Pressure	Record is short. Last good data is 24-Jul-2006 00:56.	
			Current	Record is short. Last good data is 24-Jul-2006 00:56. Data has a strong meridional component compared with ACM 3004 below. Accept the data. May be a real artefact of the bottom bathymetry. Similar behaviour is found in deployment 1 (Aanderaa 7777 and 10921)	
	956m	ACM 3004	Temperature		
			Current		

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass	
Ombai South				Kevlar wire stretched during deployment, this has caused pressure drift in all instruments.		
	96m	SBE-37 2949	Temperature			
			Pressure			
			Salinity			
	119m	Tidbit 860190	Temperature			
	134m	SBE-37 2955	Temperature			
			Pressure			
			Salinity			
	164m	SBE-37 0908	Temperature	Spiky temperature. Spikes were chopped where temperature < 5degrees. Missing data points due to corrupted download - can be seen when checking time difference between data points		
			Salinity	Missing data points due to corrupted download - can be seen when checking time difference between data points		
	194m	SBE-39 1331	Temperature			
			Pressure			
	210m	SIO-T 138	Temperature	Instrument slipped down wire after 29-Dec-2005. Data set to missing after this date.		
	256m	SIO-T 160	Temperature			
	306m	Longranger 3758	Temperature		Percent good (%)	>50
			Current		Error velocity (m/s)	≤0.15
			Pitch		Correlation magnitude	>64
			Roll		Horizontal velocity (m/s)	≤2
			Heading		Vertical velocity (m/s)	≤0.2
					Echo amplitude (counts)	20
					Depth cutoff (m)	>2
	360m	VMCM 003	Temperature	Last good data on 26-Aug-2005 05:15. Data set to missing after this date		
			Pressure	Last good data on 19-Aug-2005 12:45. Data set to missing after this date		
			Current	Last good data on 26-Aug-2005 05:15. Data set to missing after this date. u=v_raw, v=-u_raw.		
			Conductivity	Last good data on 26-Aug-2005 05:15. Data set to missing after this date.		

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass
Ombai South	413m	Aquadopp 1414	Temperature		
			Pressure		
			Current		
			Pitch		
			Roll		
			Heading		
	459m	VMCM 010	Temperature	Last good data on 06-Dec-2006 23:45.	
			Pressure	Last good data on 06-Dec-2006 23:45.	
			Current	u=v_raw,v=-u_raw. Fishing line tangled around bottom rotor. Last good data on 30-Mar-2006 at 14:00.	
			Conductivity	Last good data on 06-Dec-2006 23:45.	
	510m	SIO-T 161	Temperature		
	563m	VMCM 002	Temperature	Last good data on 23-Aug-2005. Data set to missing after this date.	
			Pressure	Last good data on 23-Aug-2005. Data set to missing after this date.	
			Current	Last good data on 23-Aug-2005. Data set to missing after this date. u=v_raw, v=-u_raw.	
			Conductivity	Last good data on 23-Aug-2005. Data set to missing after this date.	
	610m	Tidbit 860191	Temperature		
	662m	Aanderaa 10283	Temperature		
			Pressure		
			Current	Some data where speed dropped to zero have been set to missing.	
	766m	Aanderaa 10766	Temperature		
			Pressure		
			Current	Some data where speed dropped to zero have been set to missing.	
	866m	Aanderaa 10996	Temperature		
			Pressure		
			Current		
	966m	ACM 3005	Temperature		
			Current	Direction adjusted by +10 degrees.	
	1563mm	ACM 3014	Temperature		
			Current	Direction adjusted by +10 degrees.	

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass	
Lombok East						
	104m	ACM 3012	Temperature	Missing a data point at 19-Jun-2005 00:00:00.		
			Current	Last good data on 04-Feb-2006 18:36. Data set to missing after this date. Missing a data point at 19-Jun-2005 00:00:00.		
	106m	SBE 39 1329	Temperature	Battery failed on 01-Sep-2005 03:42. Sensor appears to have slipped down wire.		
			Pressure	Battery failed on 01-Sep-2005 03:42. Sensor appears to have slipped down wire.		
	113m	Tidbit 860180	Temperature			
	128m	SBE-37 913	Temperature	Missing data points due to corrupted download - can be seen when checking time difference between data points		
			Salinity	Missing data points due to corrupted download - can be seen when checking time difference between data points		
	133m	SIO-T 139	Temperature			
	143m	Longranger 3517	Temperature		Percent good (%)	>50
			Current		Error velocity (m/s)	≤0.15
			Pitch		Correlation magnitude	>110
			Roll		Horizontal velocity (m/s)	≤2
			Heading		Vertical velocity (m/s)	≤0.2
					Echo amplitude (counts)	30
					Depth cutoff (m)	>2
	160m	SIO-T 146	Temperature			
	172m	VMCM 019	Temperature	Temperature data offset. All data set to missing.		
			Current	All data bad. Data set to missing		
			Pressure	All data bad. Data set to missing		
			Conductivity			
	209m	Aquadopp 148	Temperature			
			Pressure			
			Current			
			Pitch			
			Roll			
			Heading			
	248m	VMCM 011	Temperature	Last good data on 15-Nov-2005 23:30. Data set to missing after this date.		
			Current	Last good data on 15-Nov-2005 23:30. Data set to missing after this date.		
			Pressure	Last good data on 15-Nov-2005 23:30. Data set to missing after this date.		

Table 5 - Quality control notes, deployment 2

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass
Lombok East	300m	Aquadopp 1502	Temperature		
			Pressure		
			Current		
			Pitch		
			Roll		
			Heading		
	354m	VMCM 004	Temperature		
			Current	Speed drops after 7-Jul-2006. All u and v data set to missing after this date.	
			Pressure		
			Conductivity		
	394m	Tidbit 860181	Temperature		
	433m	Aanderaa 10918	Temperature		
			Pressure		
			Current		
	803m	SIO-T 147	Temperature		

Mooring	Depth	Instrument/ Serial Number	Data	Comments	ADCP QC thresholds for pass	
Lombok West				Entire mooring lost, no instruments were retrieved.		

10. DATA COVERAGE

Figures 2 to 16 show the data coverage for the duration of the INSTANT deployments. These plots show only coverage for good data, after quality control.

Figure 2. Data coverage for Lombok West, deployment 1.

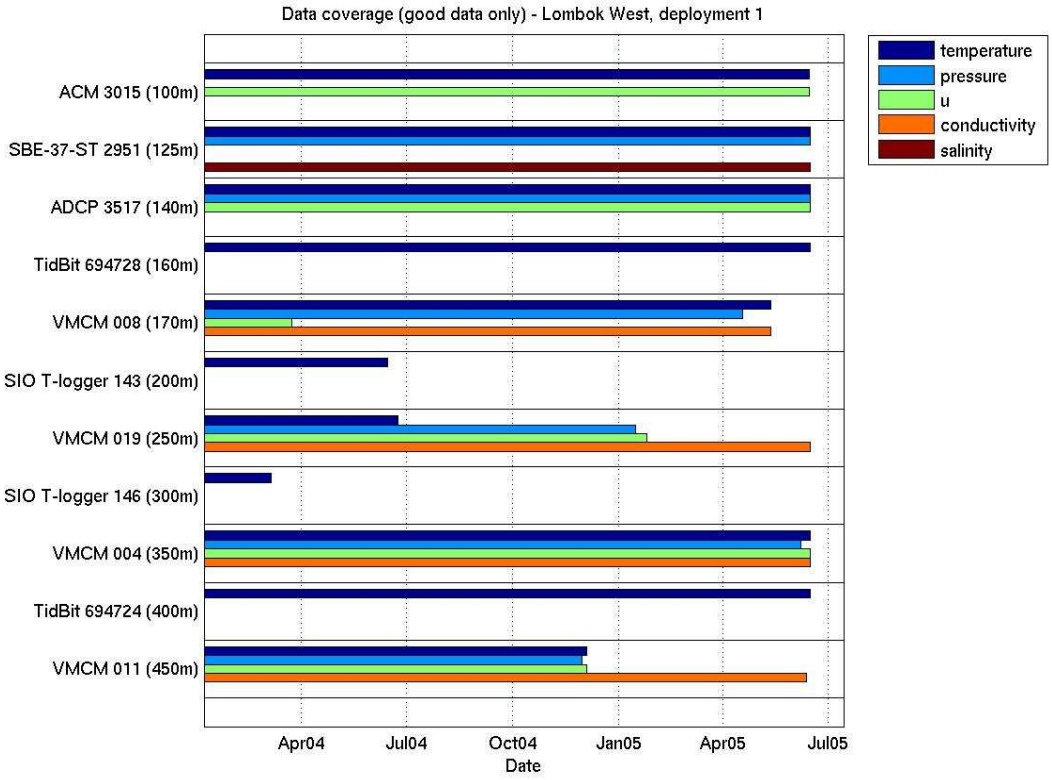


Figure 3. Data coverage for Lombok East, deployment 1.

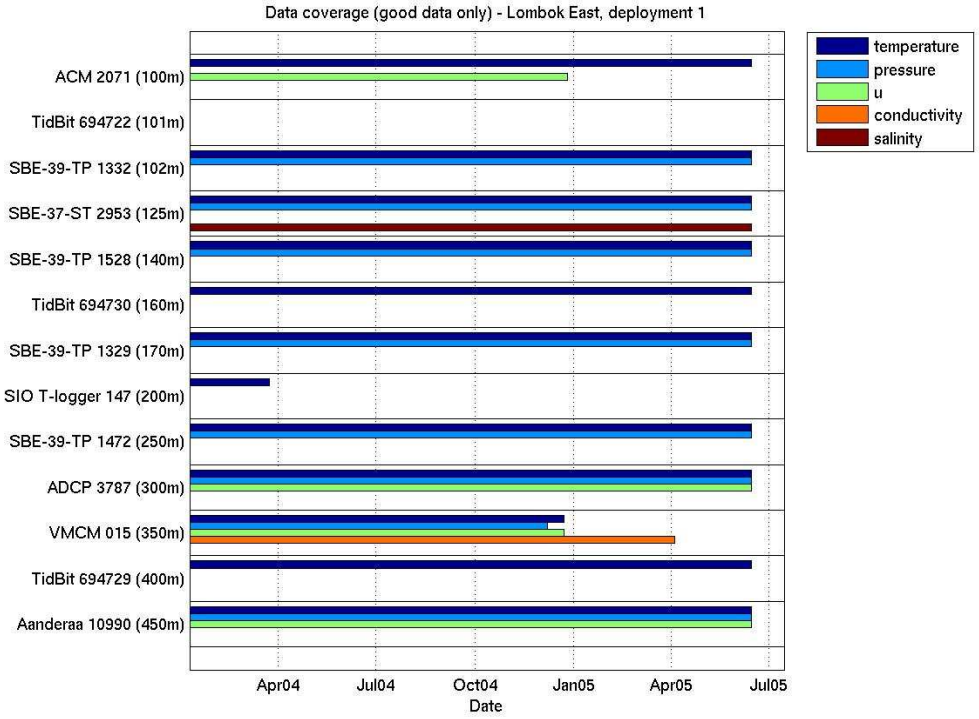


Figure 4. Data coverage for Lombok East, deployment 2.

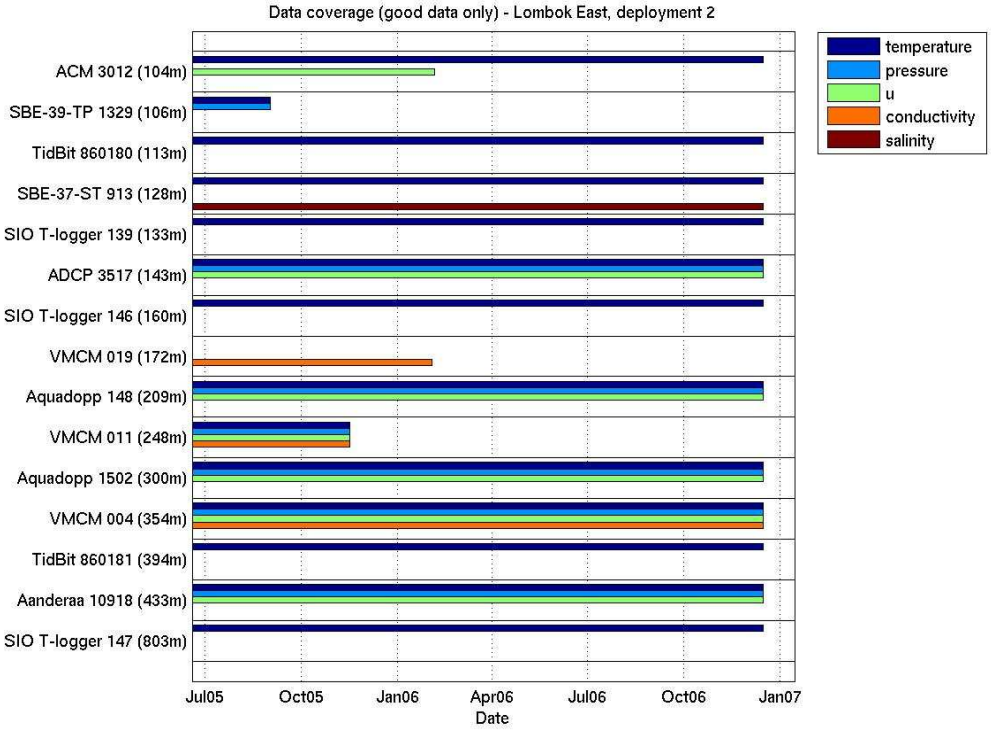


Figure 5. Data coverage for Timor Ashmore, deployment 1.

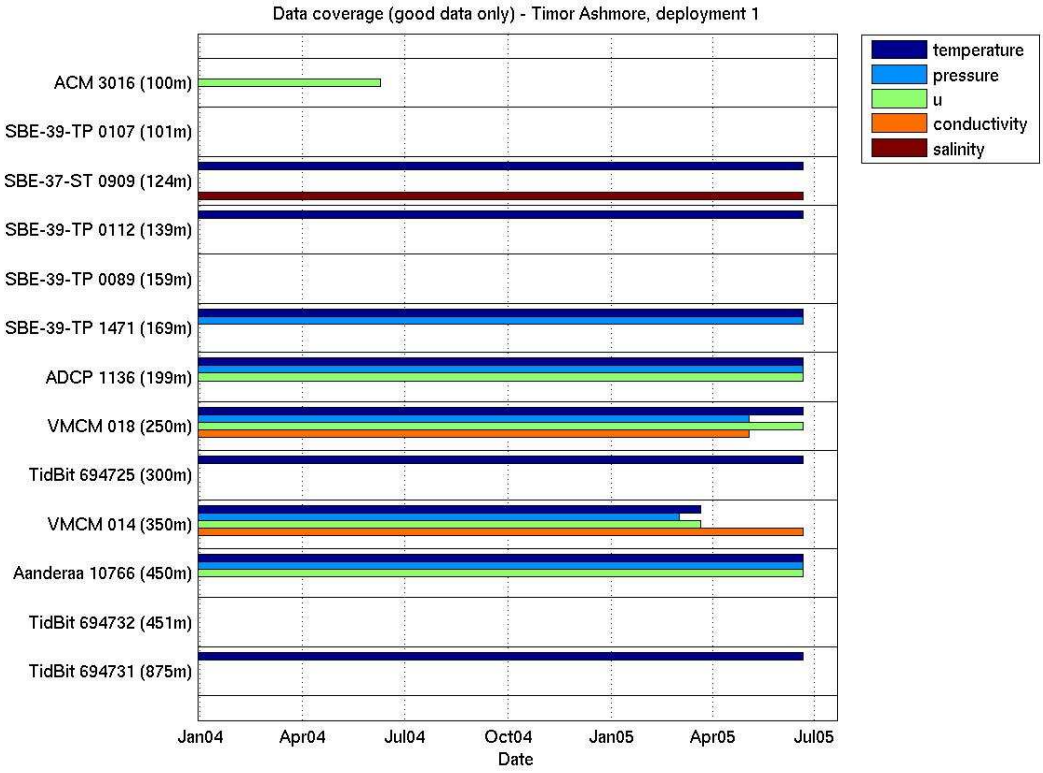


Figure 6. Data coverage for Timor Ashmore, deployment 2.

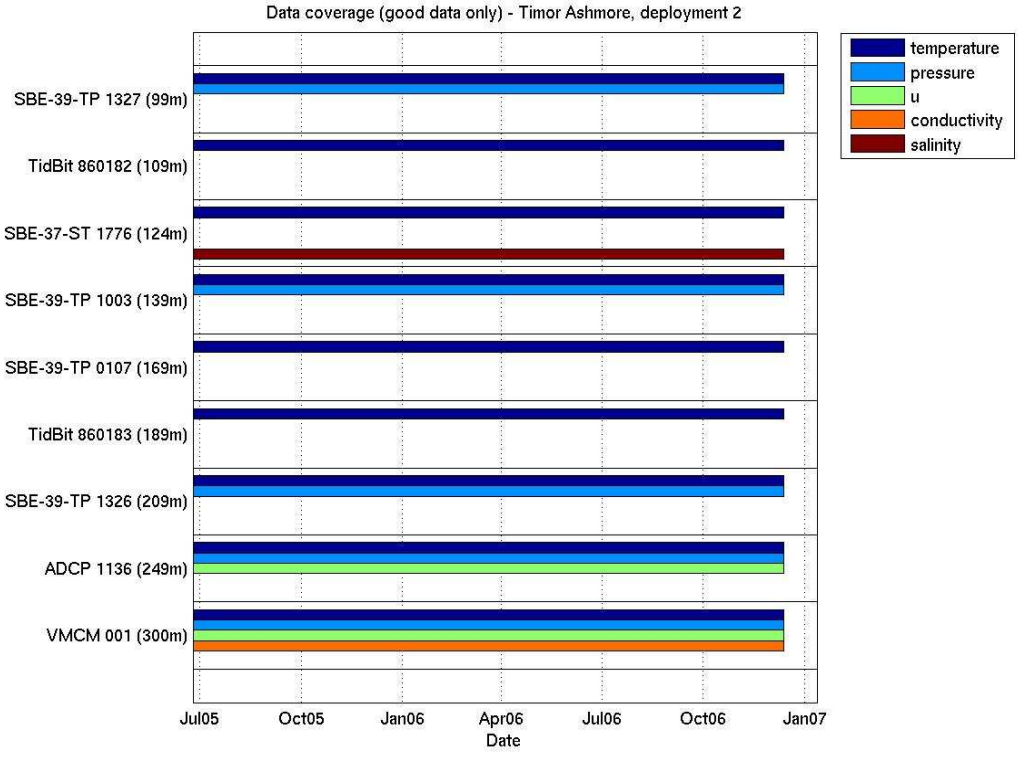


Figure 7. Data coverage for Timor South Slope, deployment 1.

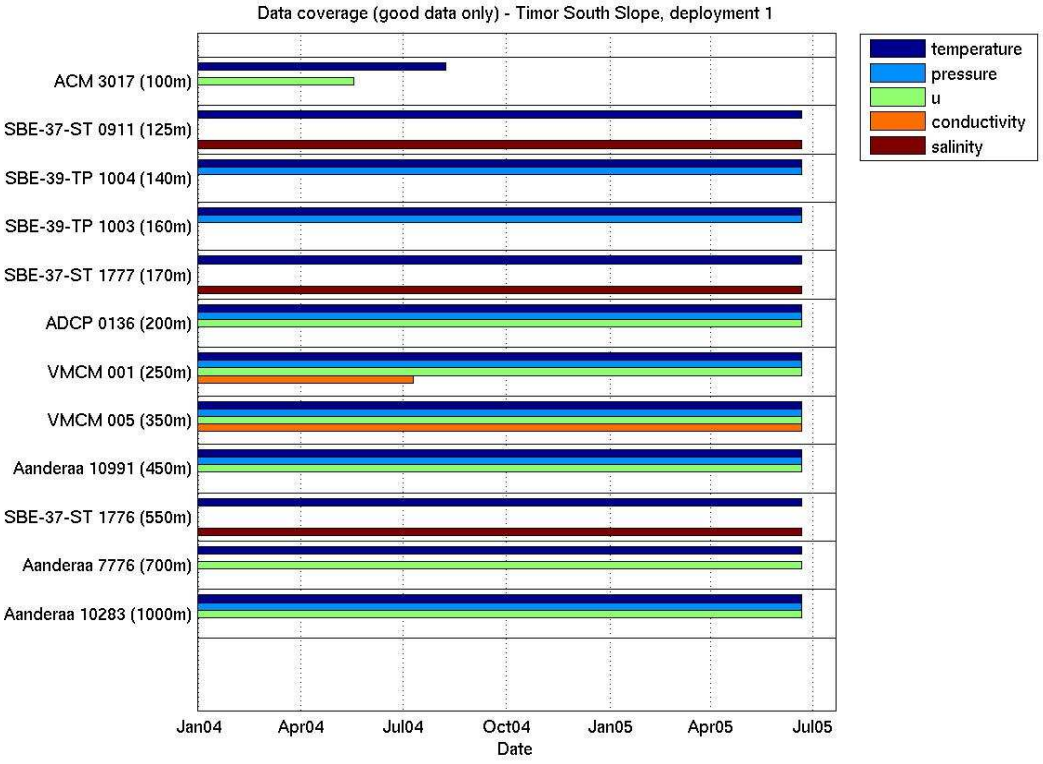


Figure 8. Data coverage for Timor South Slope, deployment 2.

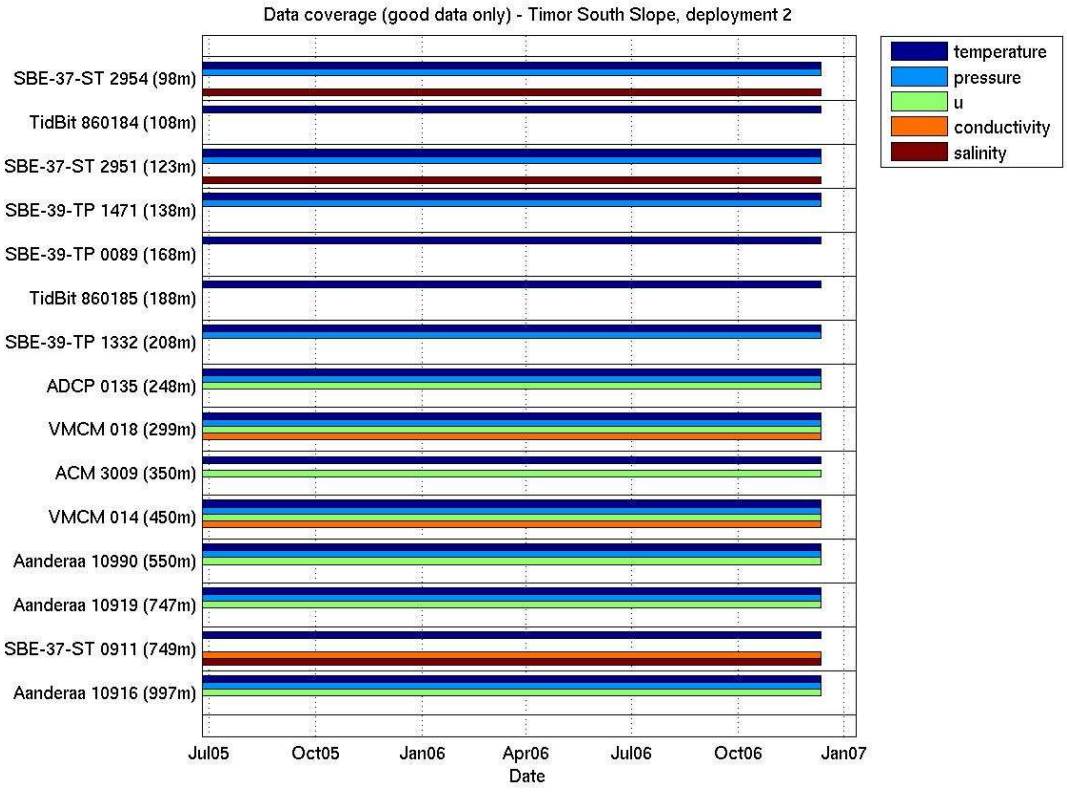


Figure 9. Data coverage for Timor Sill, deployment 1.

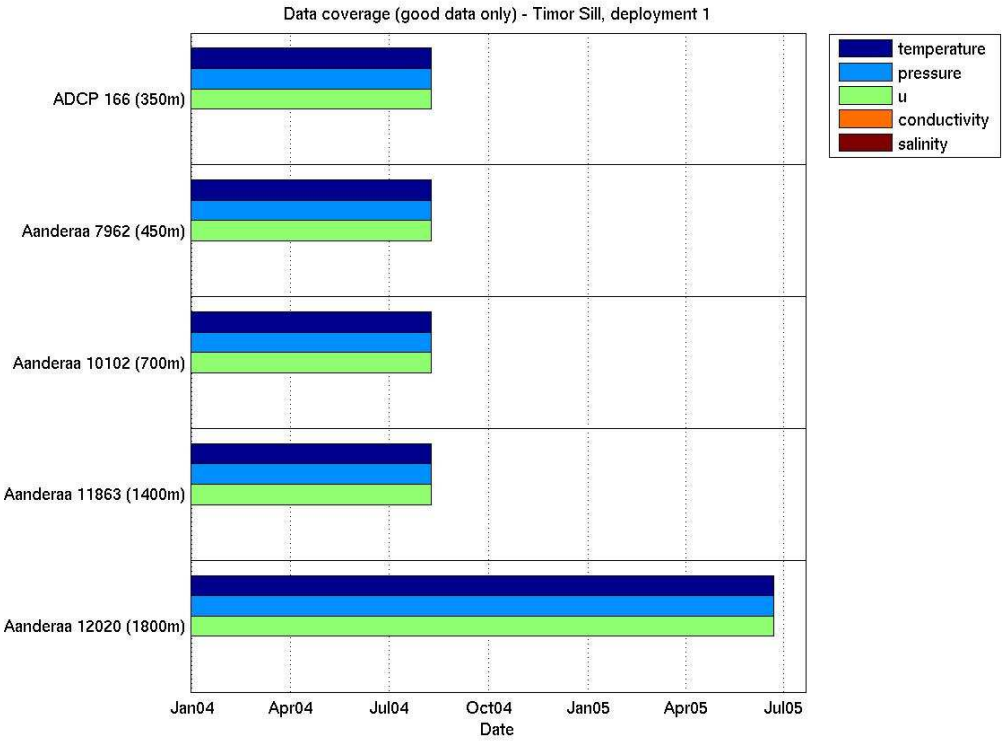


Figure 10. Data coverage for Timor Sill, deployment 2.

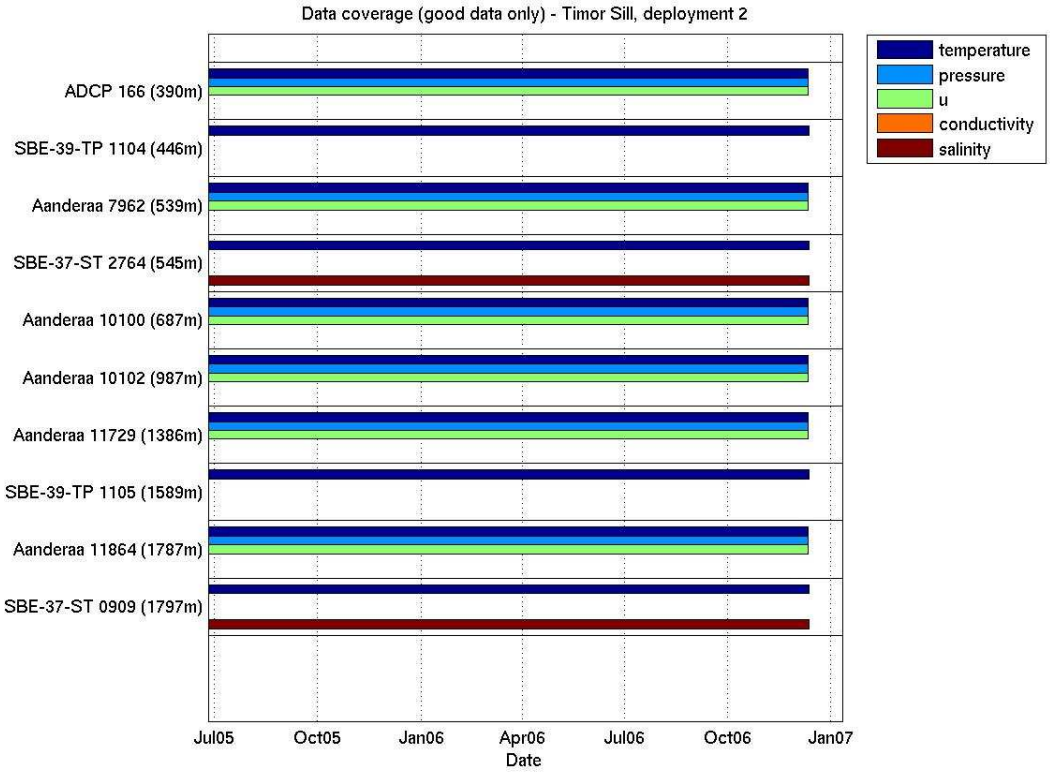


Figure 11. Data coverage for Timor Roti, deployment 1.

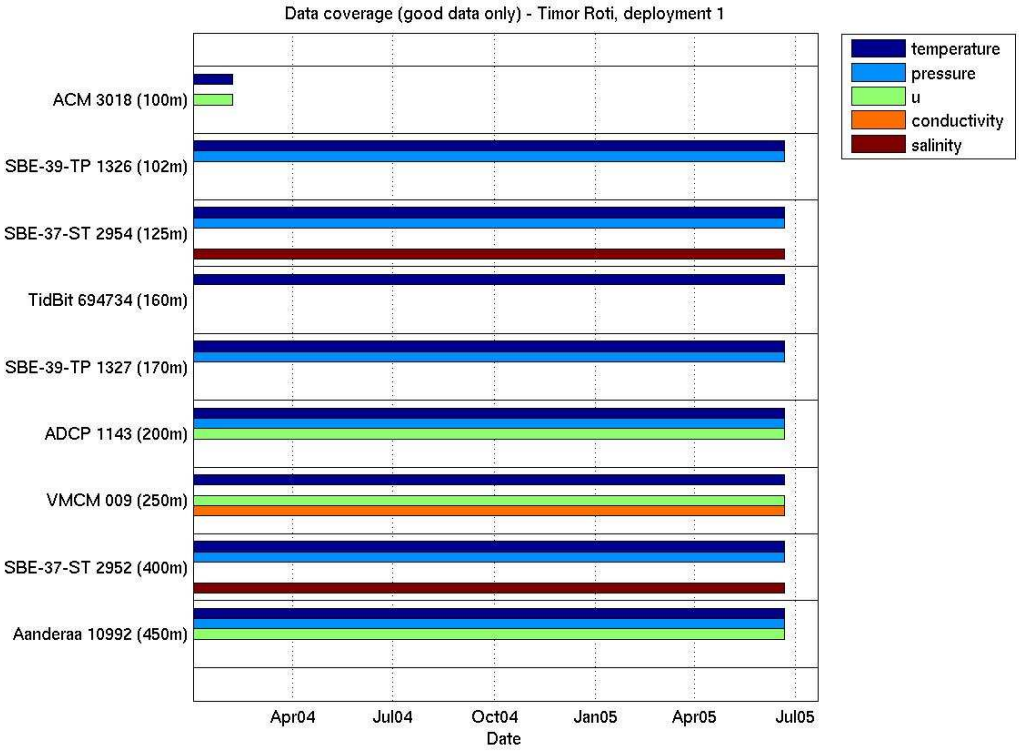


Figure 12. Data coverage for Timor Roti, deployment 2.

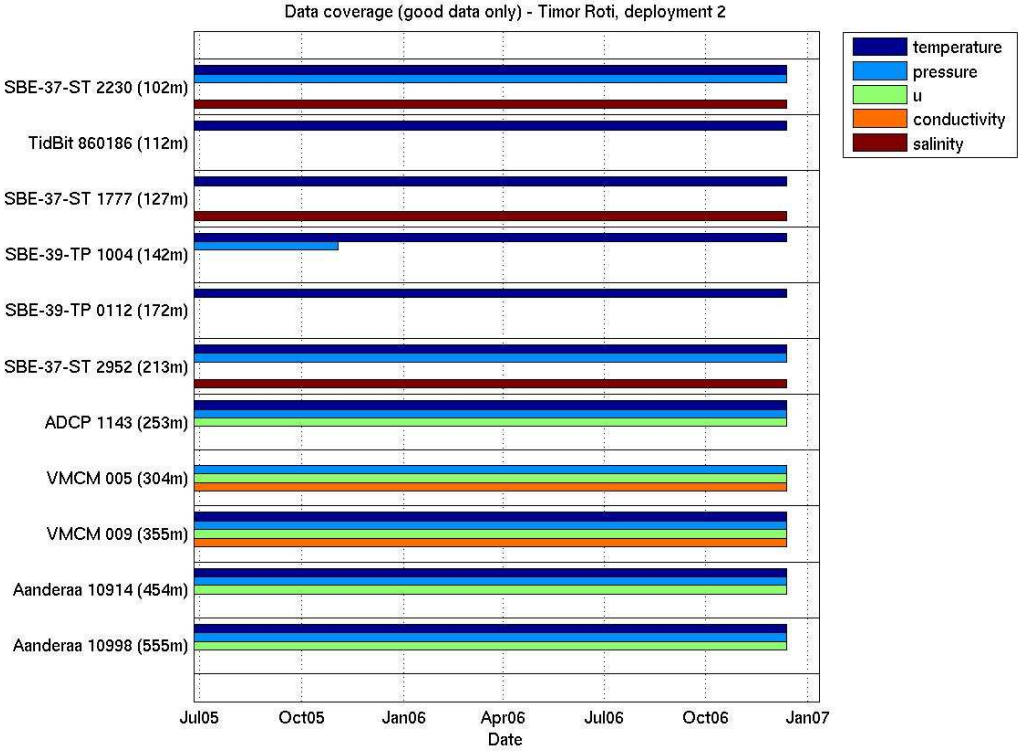


Figure 13. Data coverage for Ombai South, deployment 1.

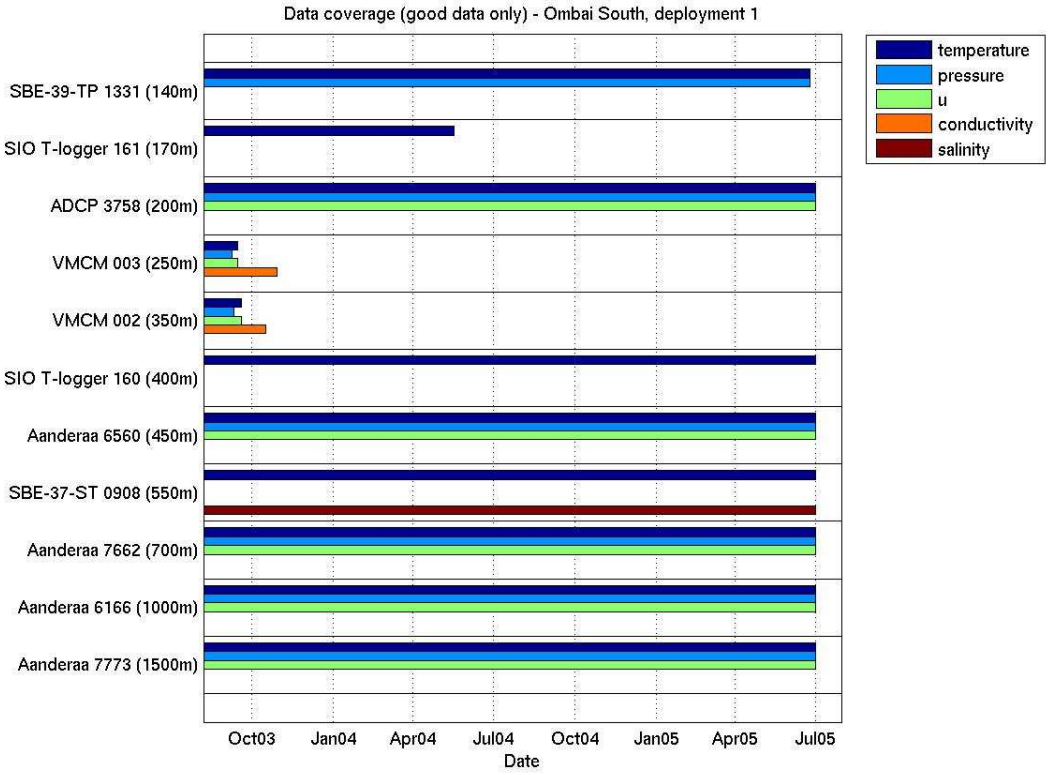


Figure 14. Data coverage for Ombai South, deployment 2.

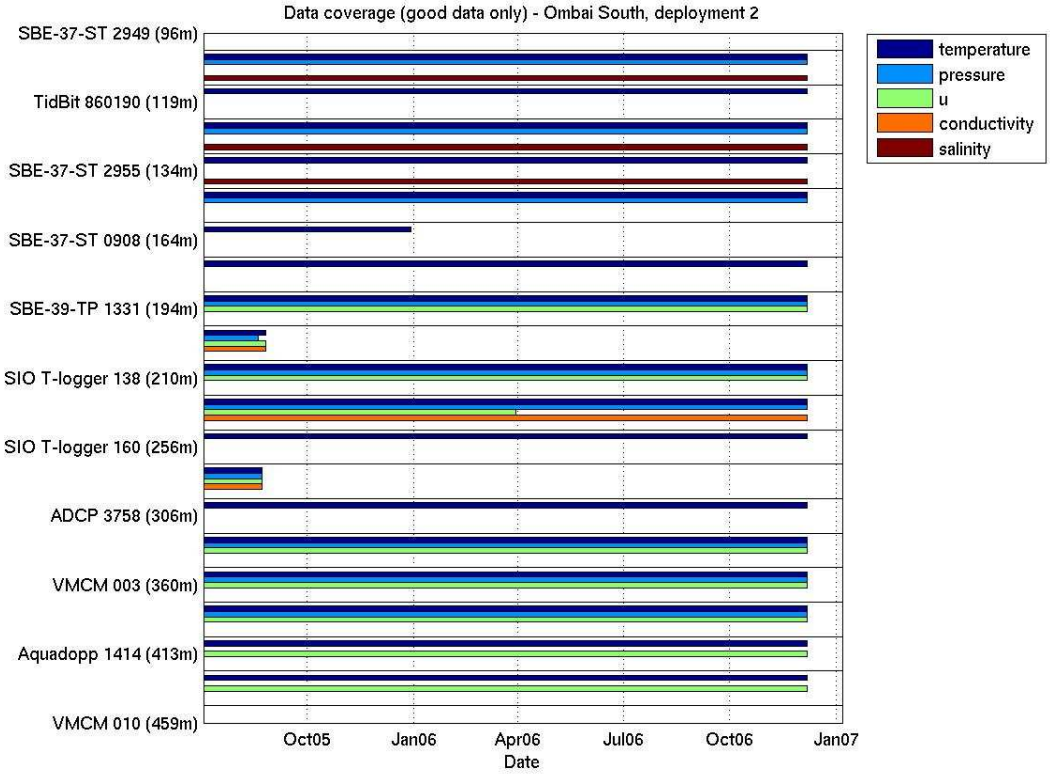


Figure 15. Data coverage for Ombai North, deployment 1.

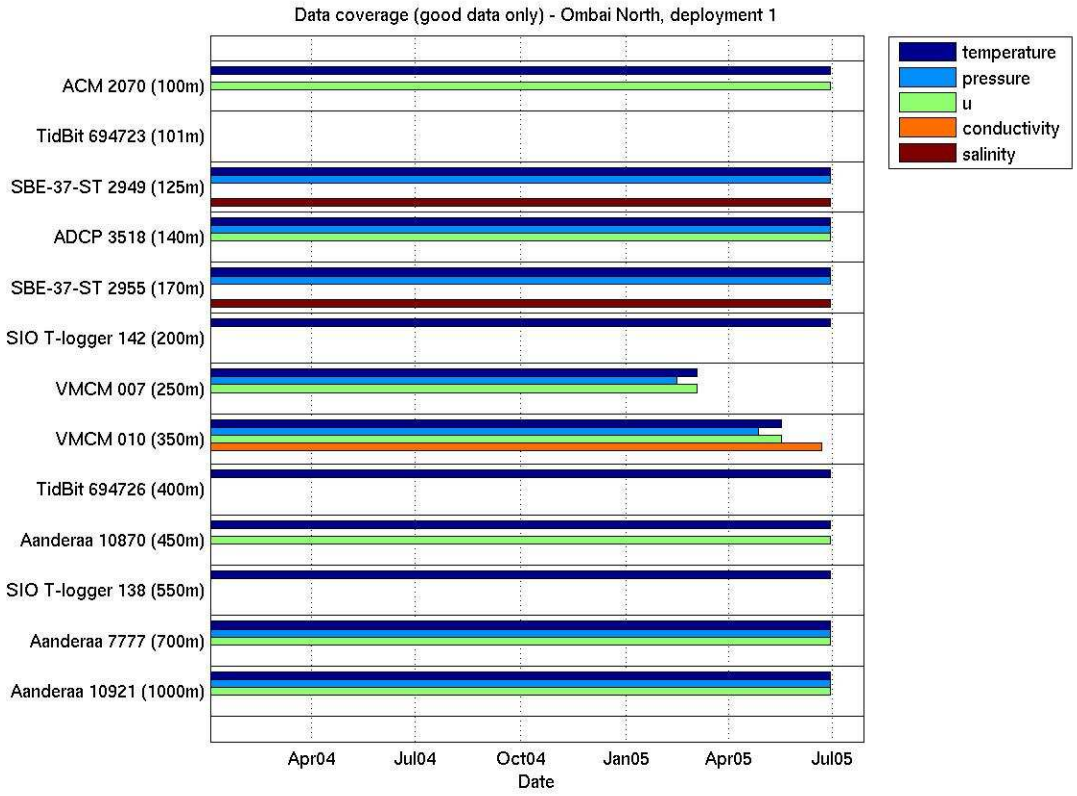
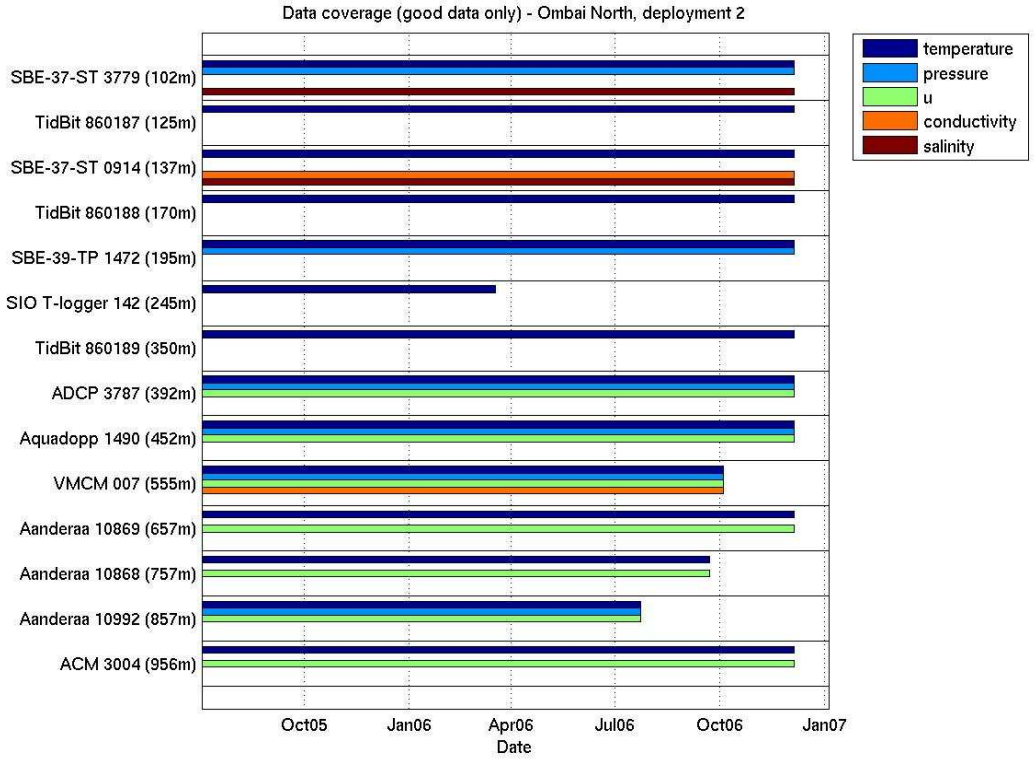
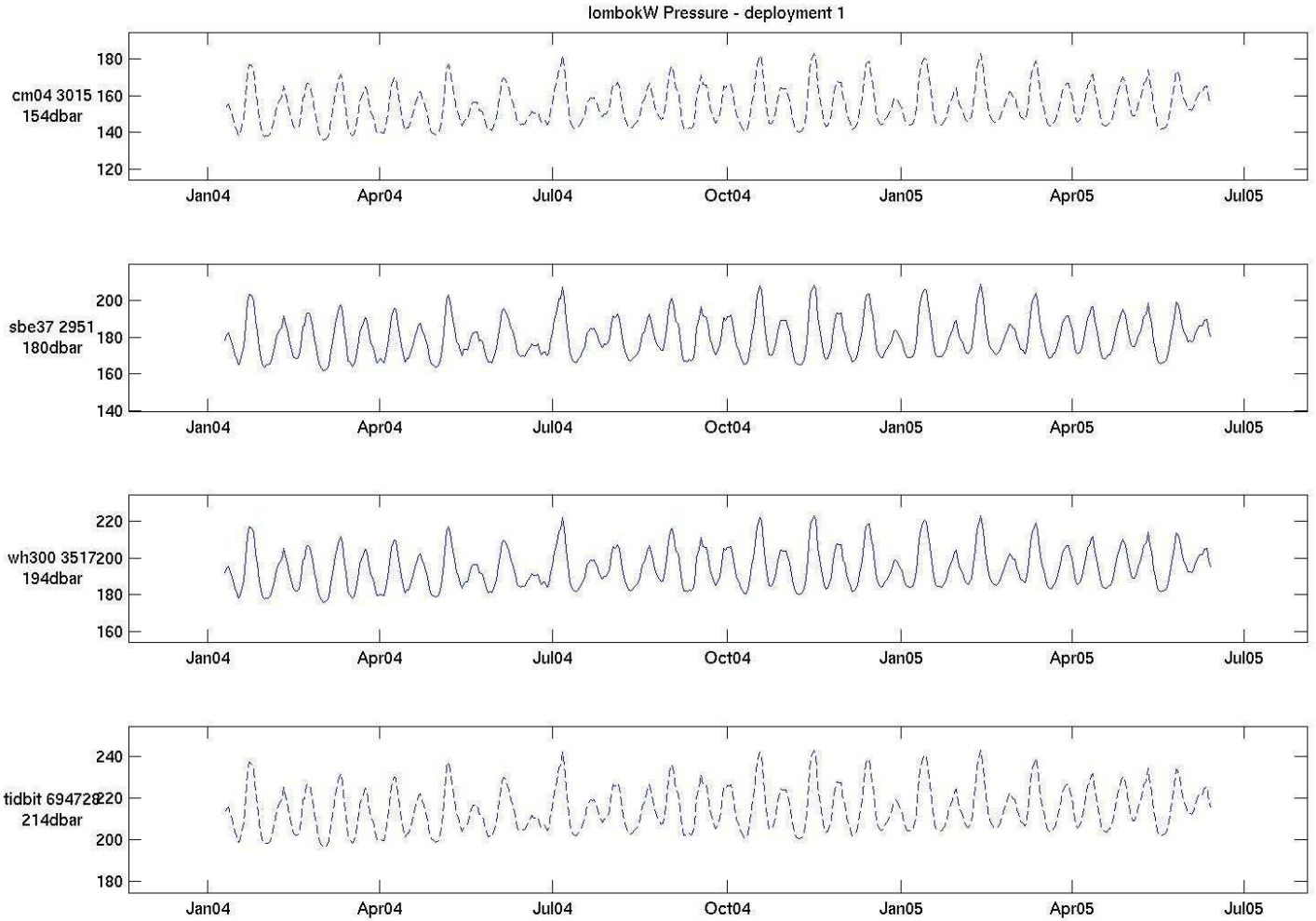


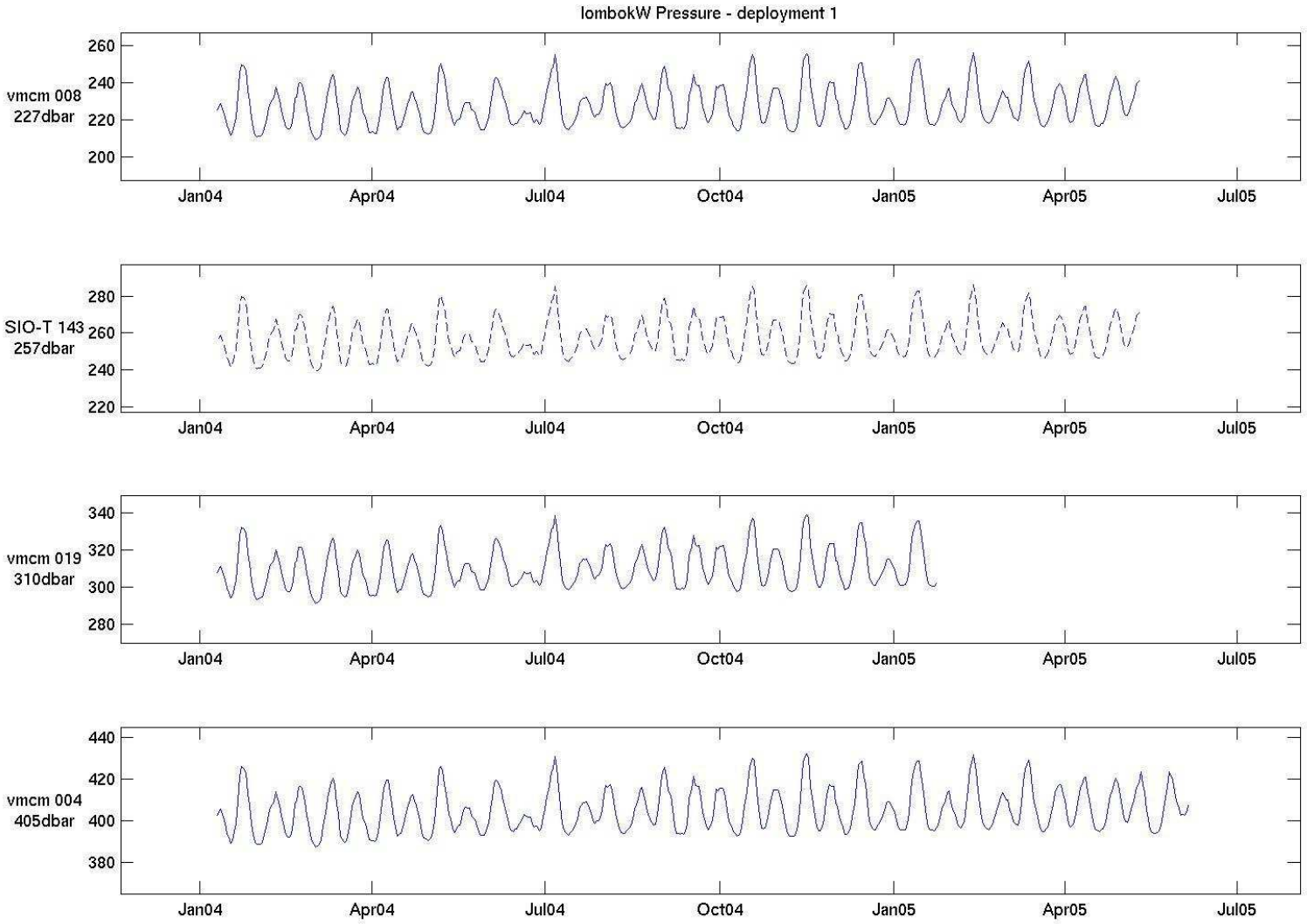
Figure 16. Data coverage for Ombai North, deployment 2.

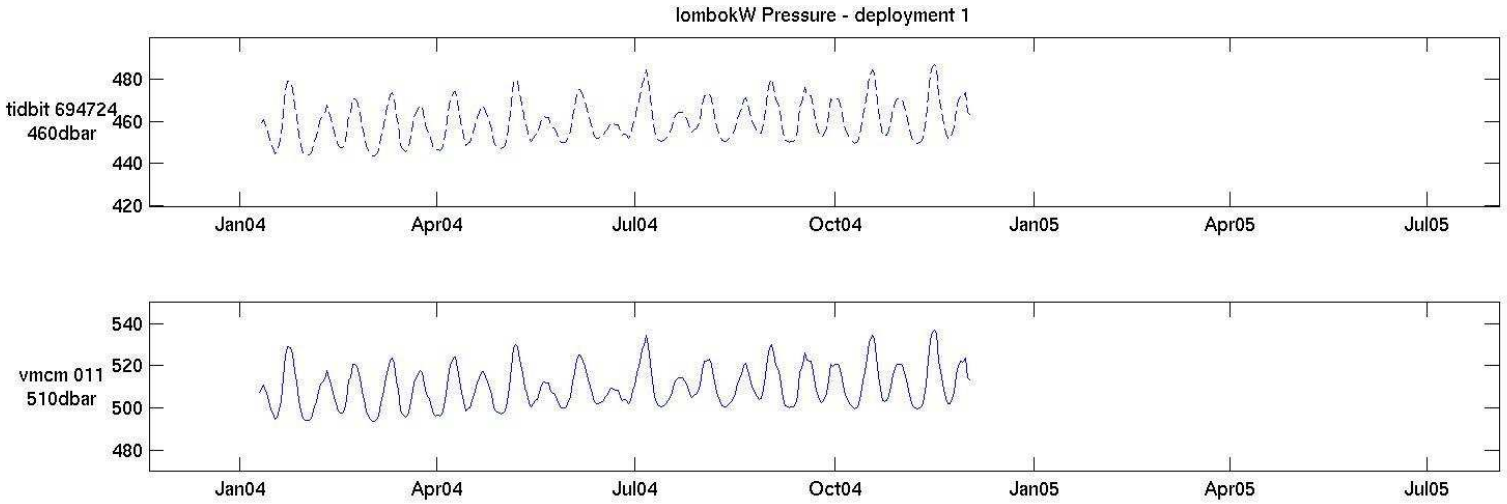


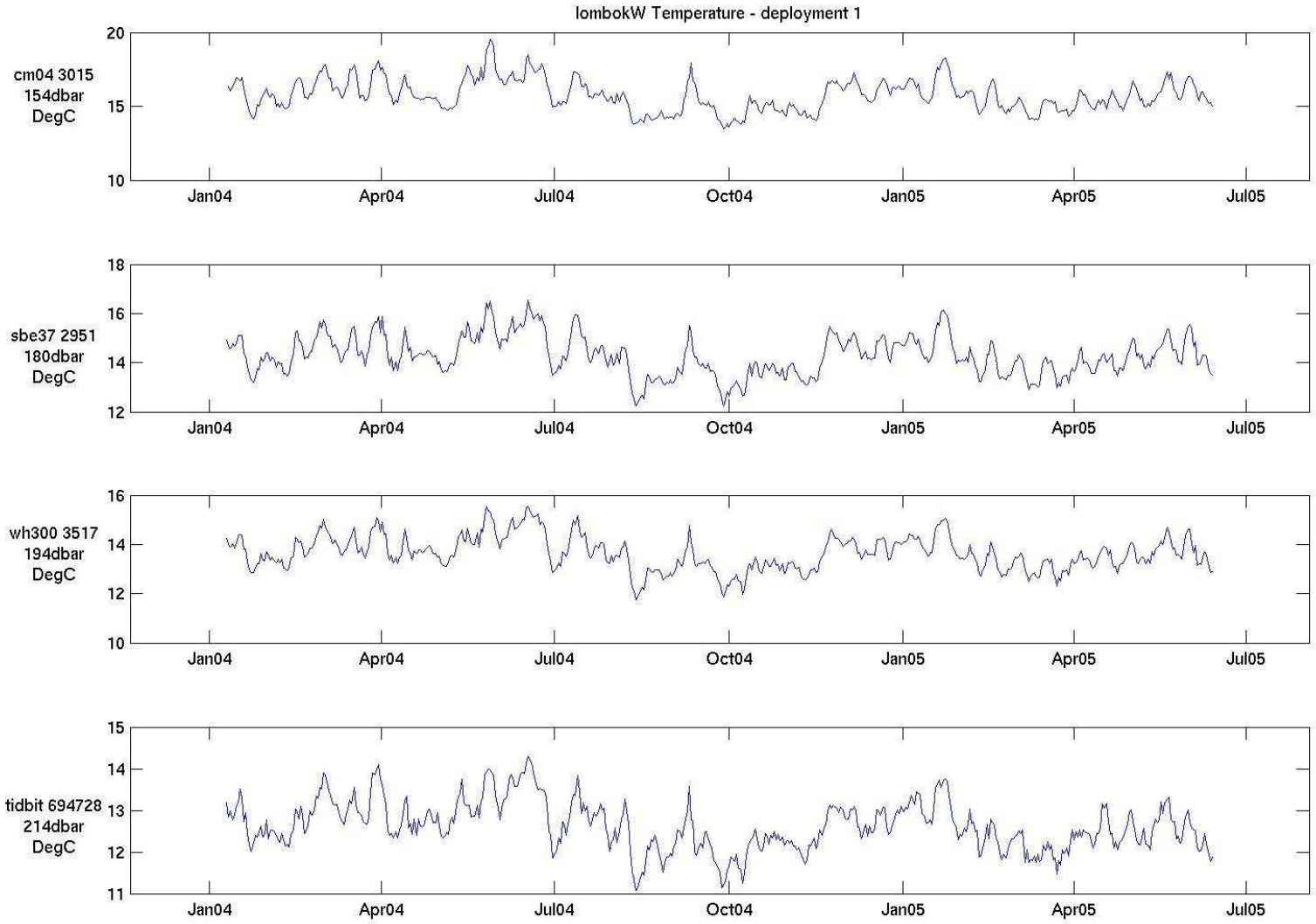
11. LOW PASS DATA PLOTS

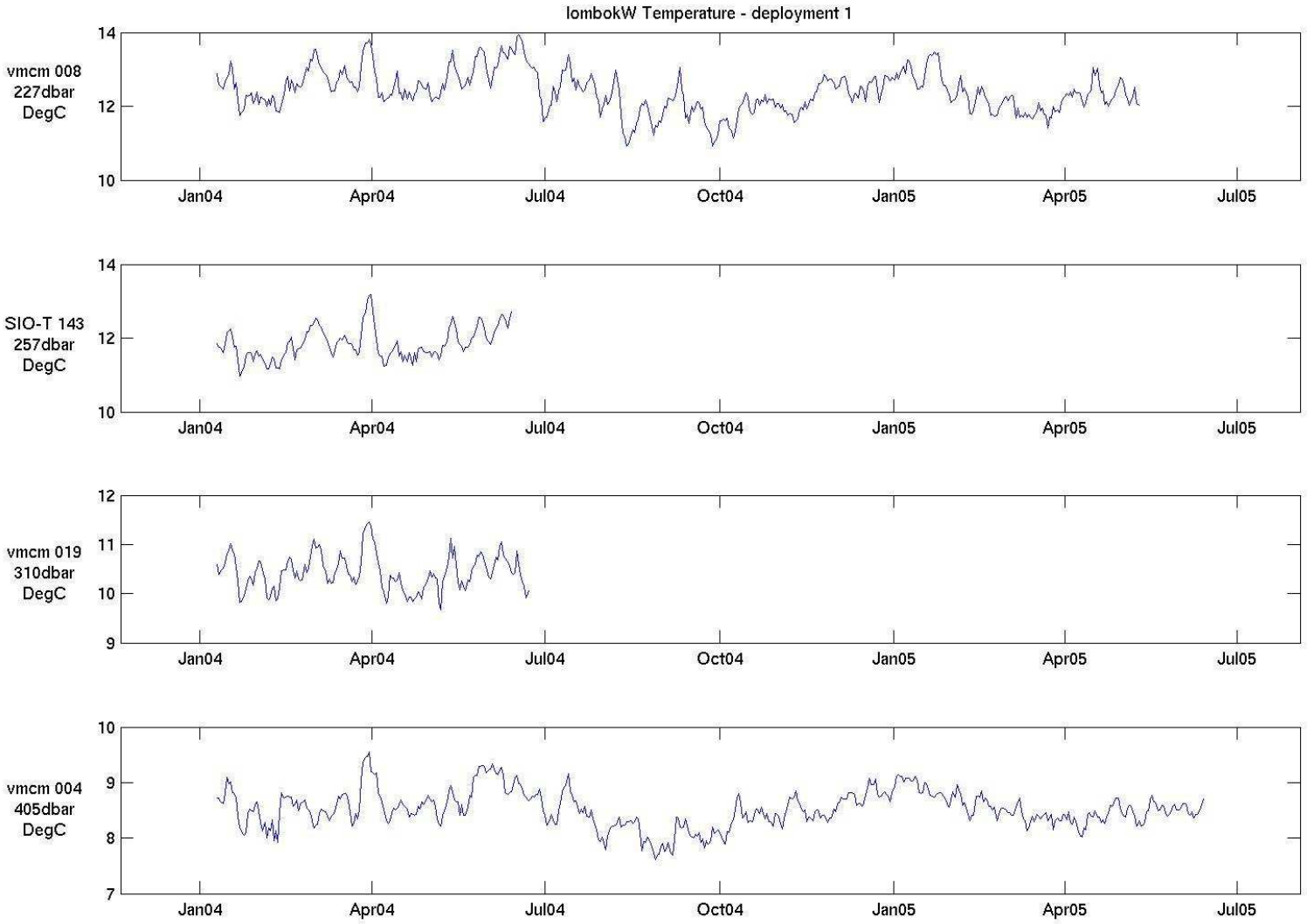
Figure 17. Low pass (1-day) plots of data for Lombok West mooring. **DOTTED LINES INDICATE INFERRED PRESSURE.**

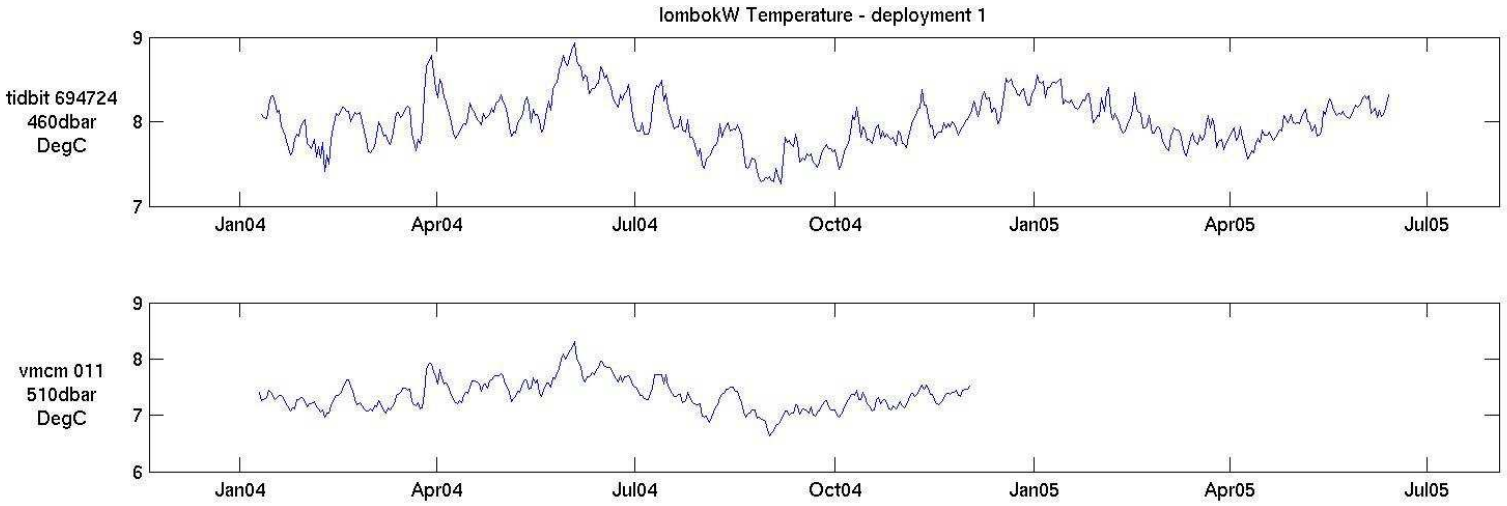


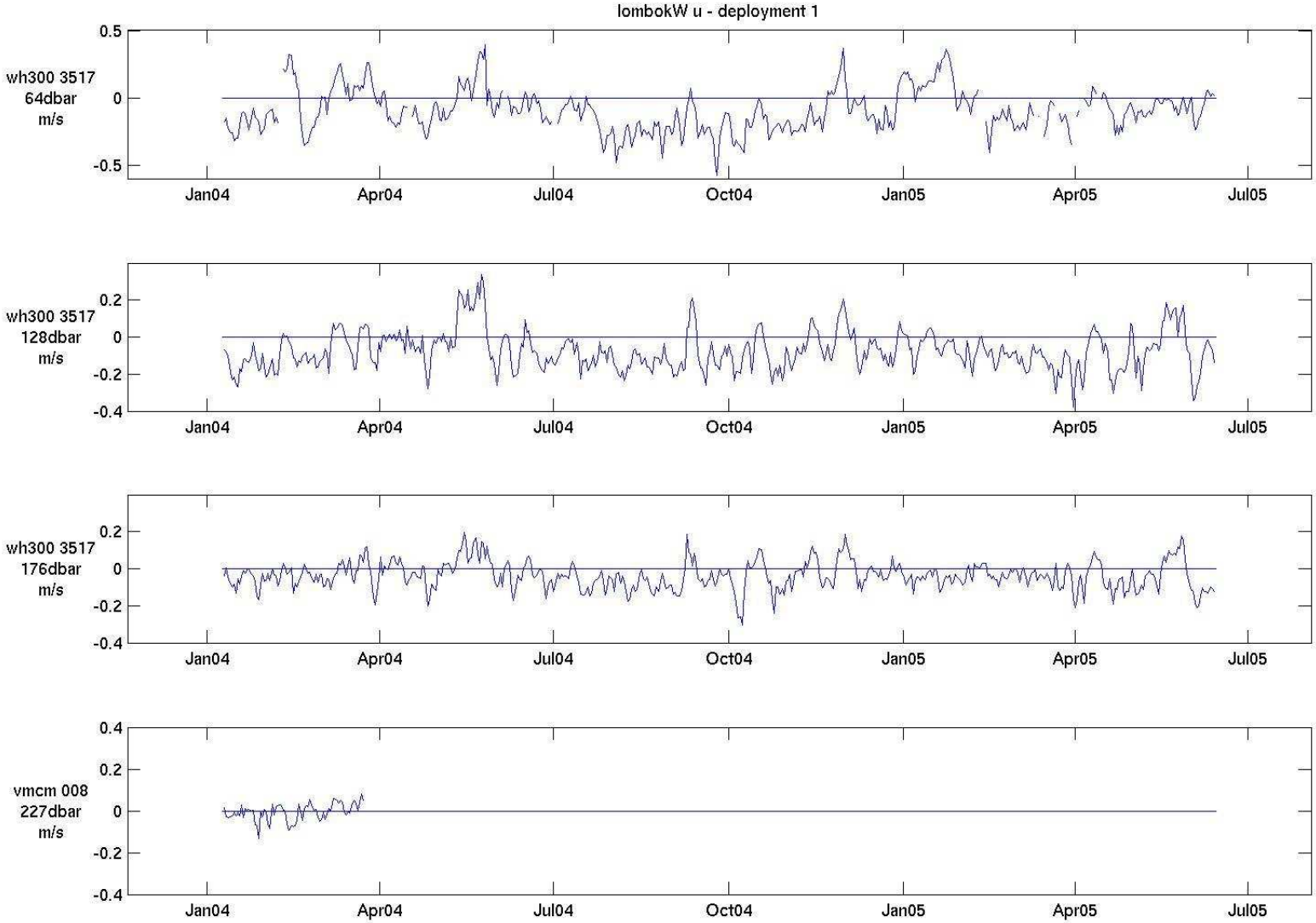

lombokW Pressure - deployment 1
vmcm 008
227dbar
260
240
220
200
SIO-T 143
257dbar
280
260
240
220
vmcm 019
310dbar
340
320
300
280
vmcm 004
405dbar
440
420
400
380
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

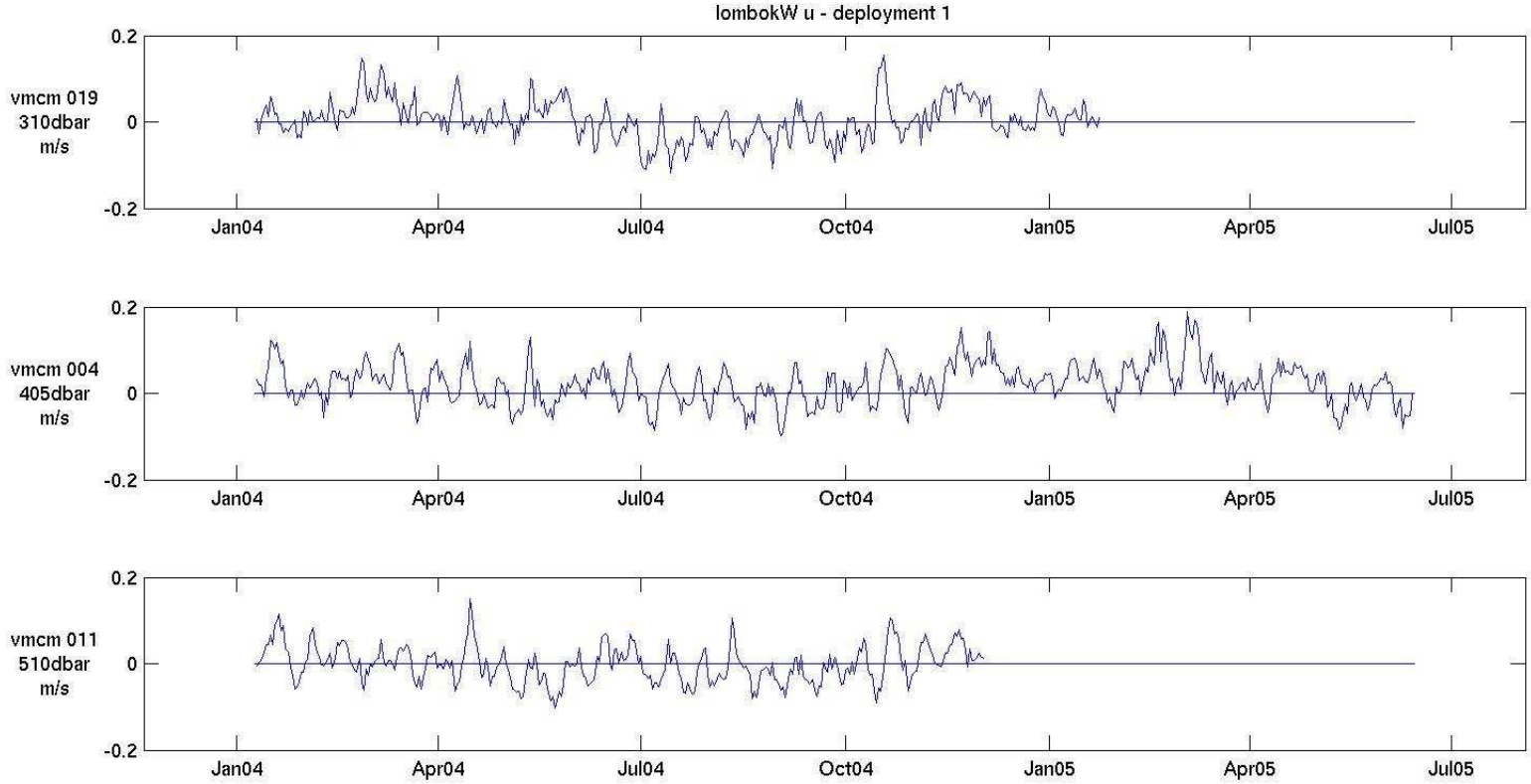

lombokW Pressure - deployment 1
tidbit 694724
460dbar
480
460
440
420
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
vmcm 011
510dbar
540
520
500
480
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

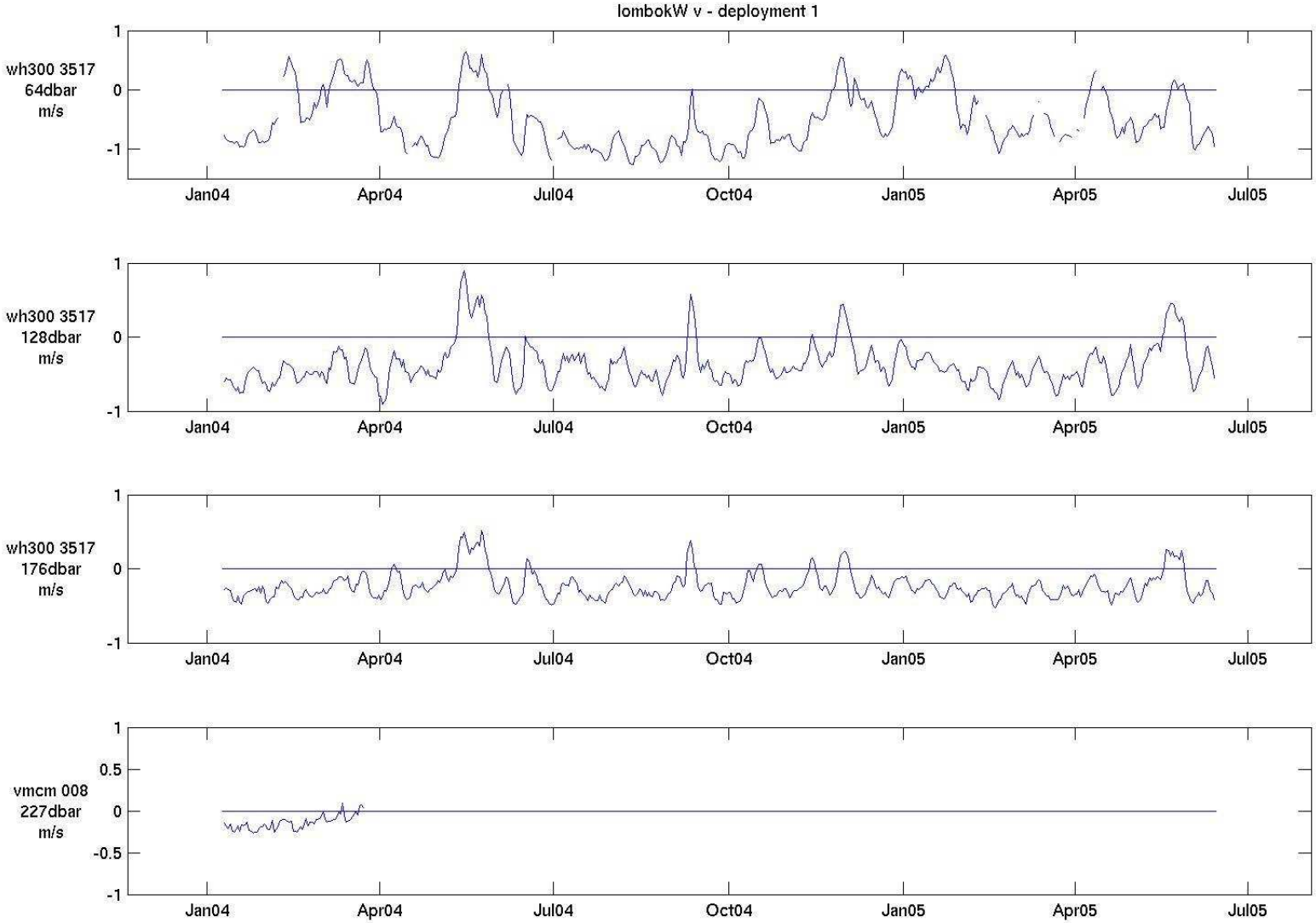

lombokW Temperature - deployment 1
cm04 3015
154dbar
DegC
sbe37 2951
180dbar
DegC
wh300 3517
194dbar
DegC
tidbit 694728
214dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

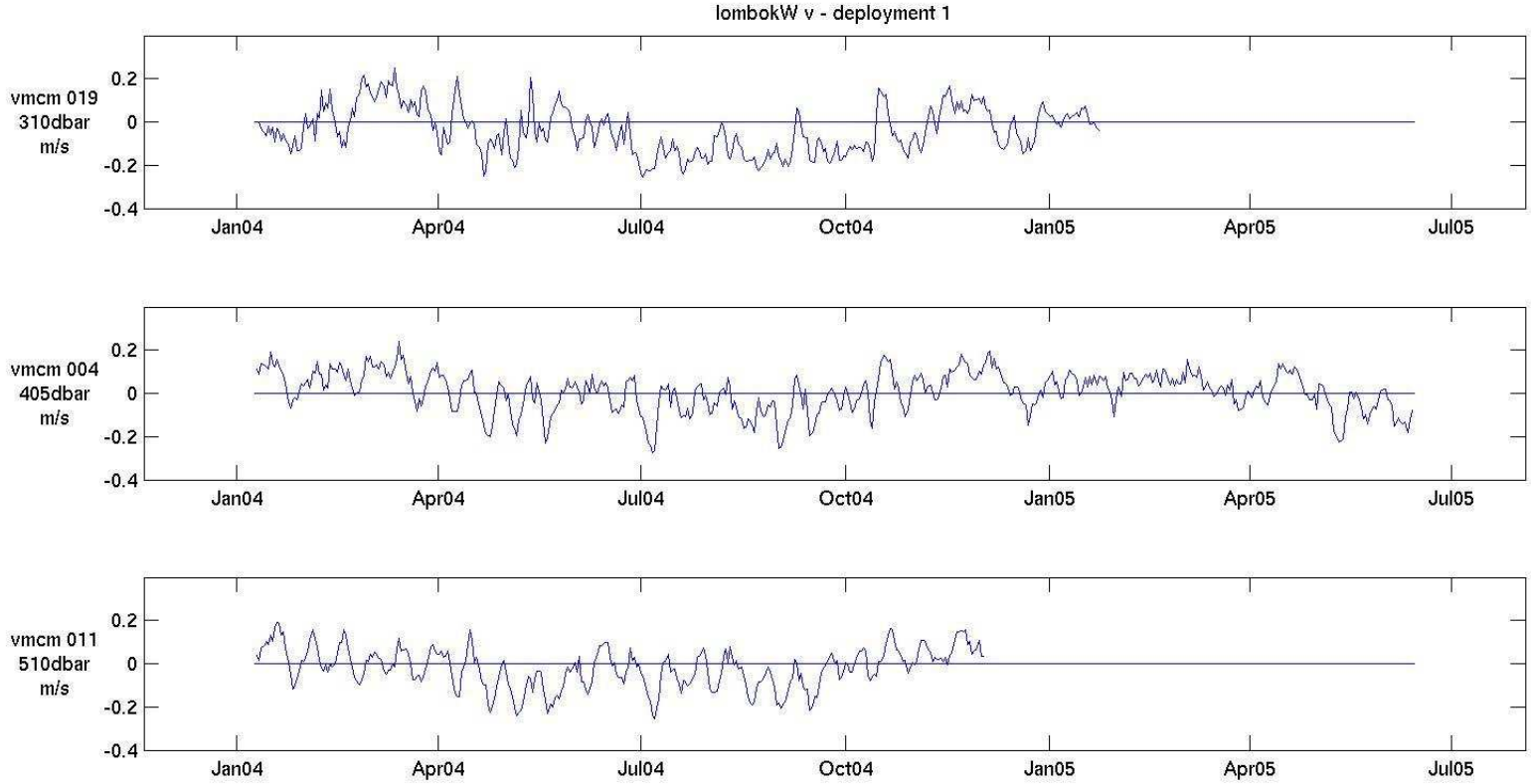

lombokW Temperature - deployment 1
vmcm 008
227dbar
DegC
SIO-T 143
257dbar
DegC
vmcm 019
310dbar
DegC
vmcm 004
405dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

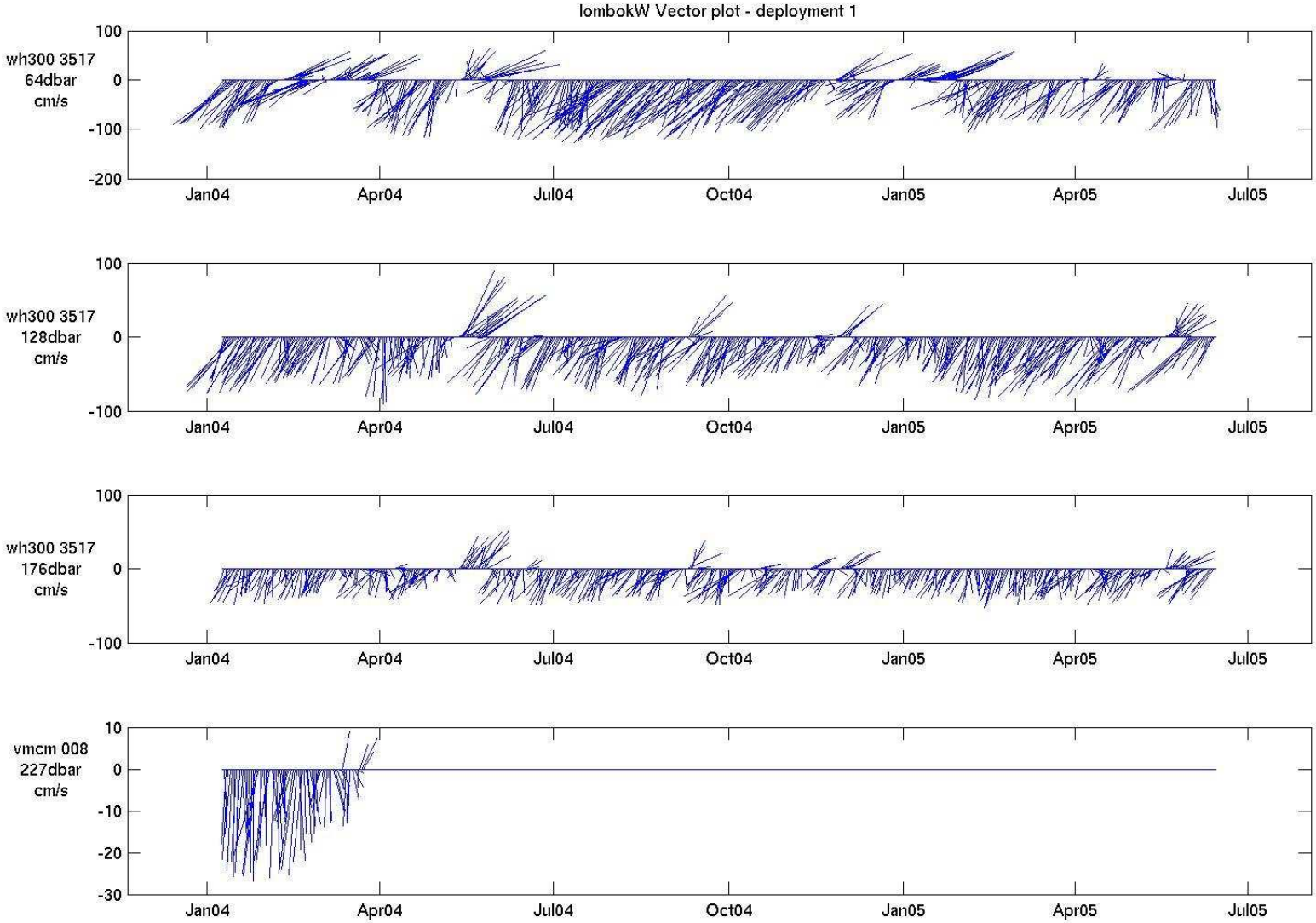

lombokW Temperature - deployment 1
tidbit 694724
460dbar
DegC
9
8
7
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
vmcm 011
510dbar
DegC
9
8
7
6
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05


lombokW u - deployment 1
wh300 3517
64dbar
m/s
0.5
0
-0.5
wh300 3517
128dbar
m/s
0.2
0
-0.2
-0.4
wh300 3517
176dbar
m/s
0.2
0
-0.2
-0.4
vmcm 008
227dbar
m/s
0.4
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05


lombokW u - deployment 1
vmcm 019
310dbar
m/s
vmcm 004
405dbar
m/s
vmcm 011
510dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05


lombokW v - deployment 1
wh300 3517
64dbar
m/s
wh300 3517
128dbar
m/s
wh300 3517
176dbar
m/s
vmcm 008
227dbar
m/s
1
0.5
0
-0.5
-1
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05


lombokW v - deployment 1
vmcm 019
310dbar
m/s
vmcm 004
405dbar
m/s
vmcm 011
510dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05


lombokW Vector plot - deployment 1
wh300 3517
64dbar
cm/s
100
0
-100
-200
wh300 3517
128dbar
cm/s
100
0
-100
wh300 3517
176dbar
cm/s
100
0
-100
vmcm 008
227dbar
cm/s
10
0
-10
-20
-30
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

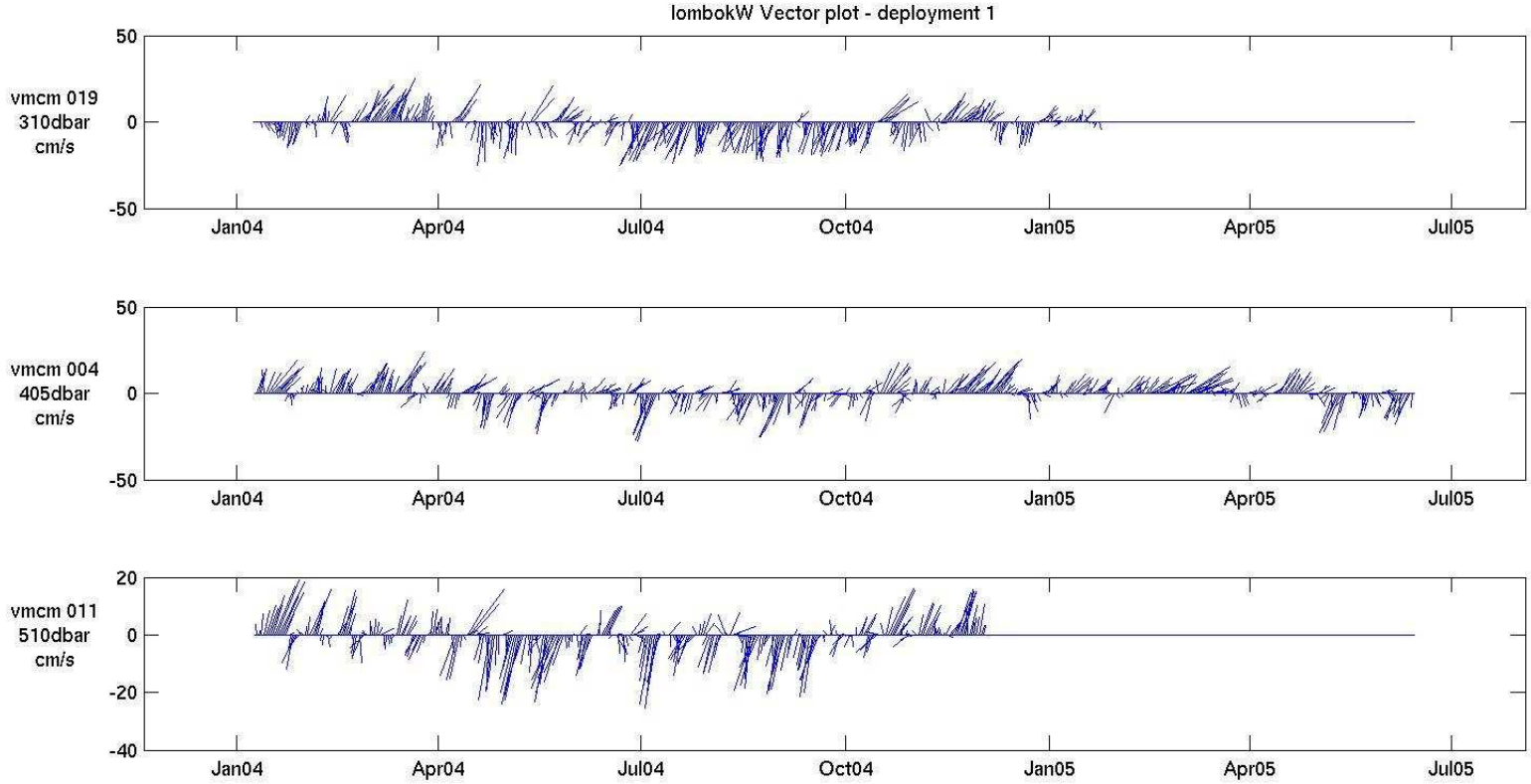
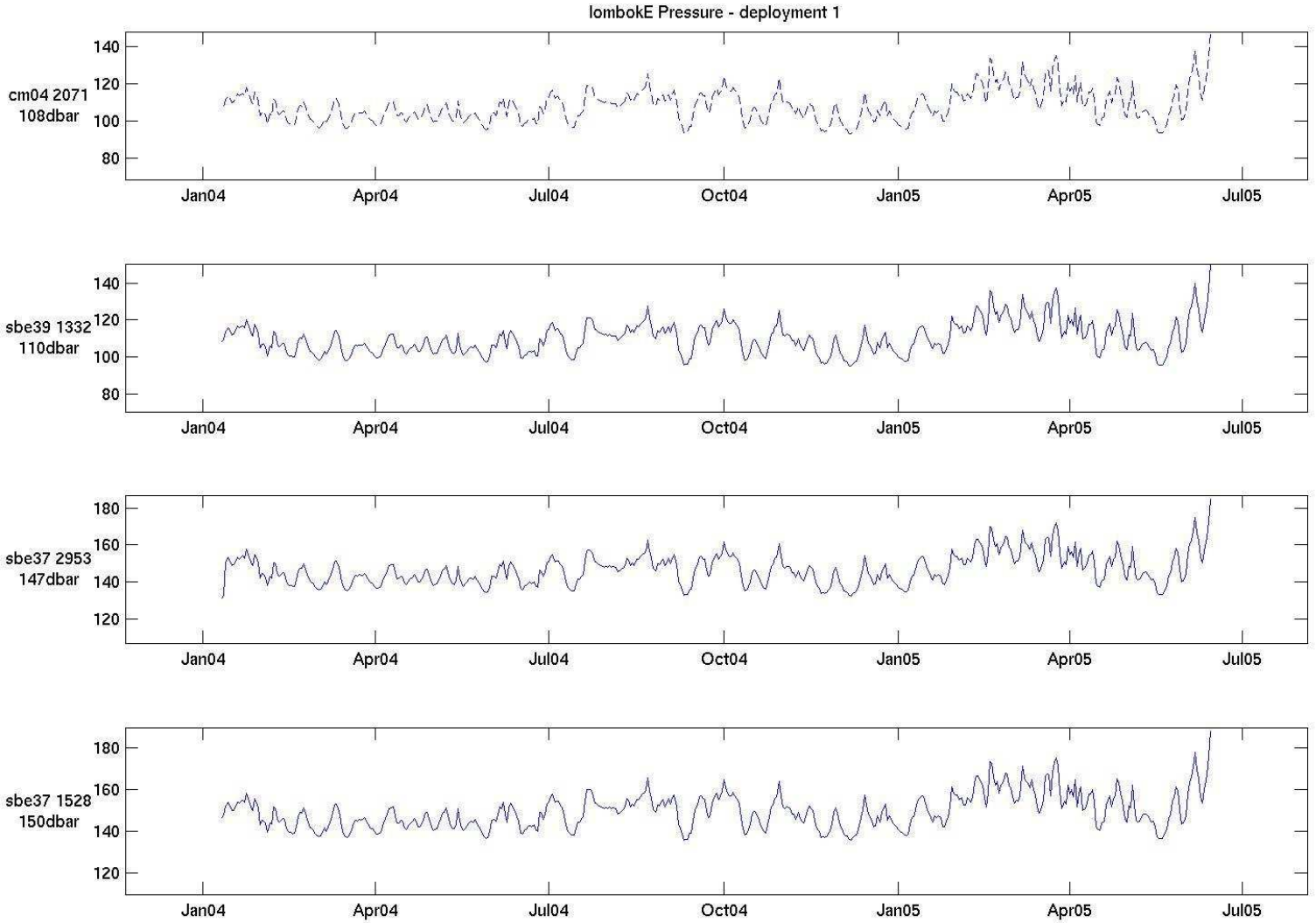
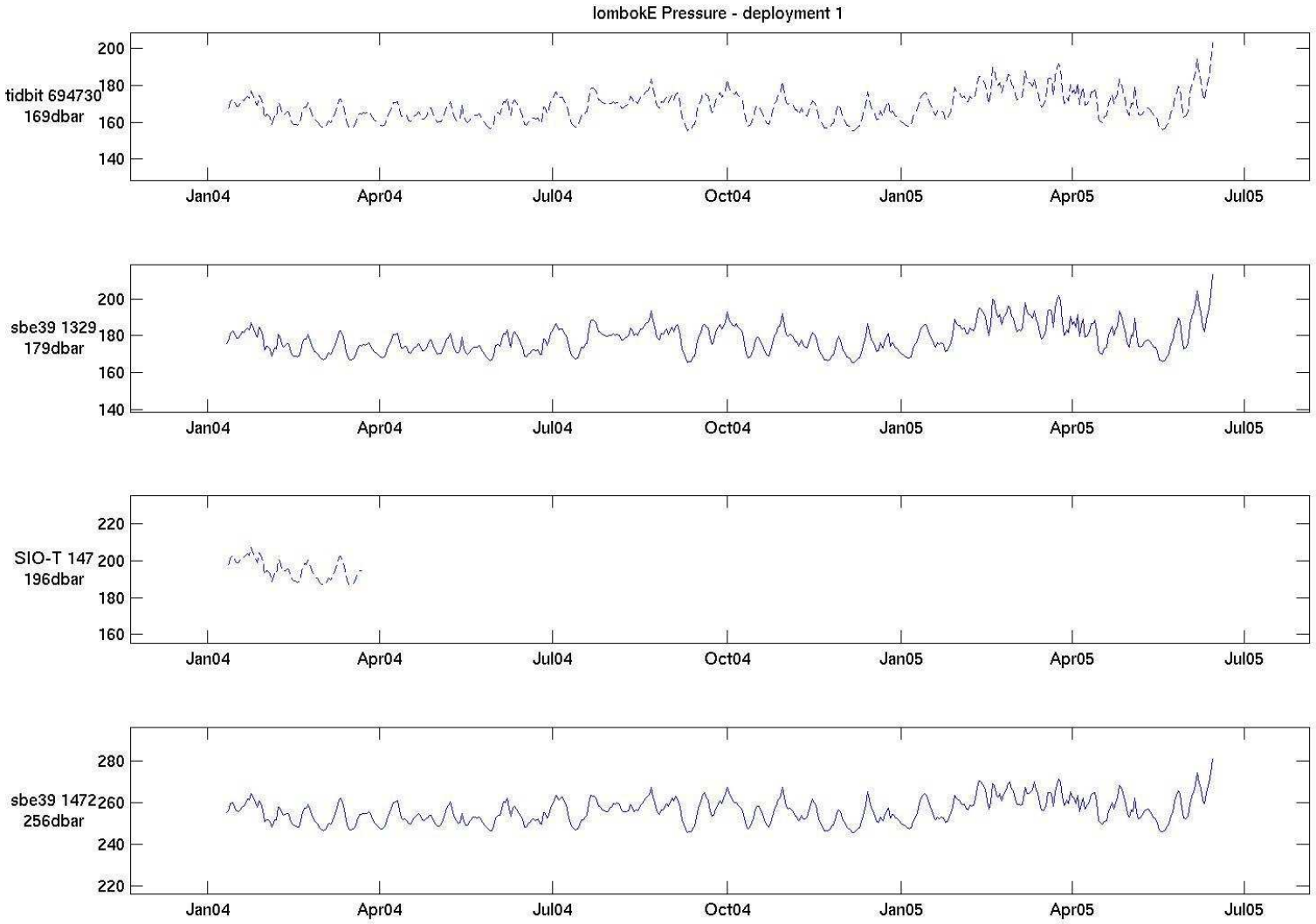
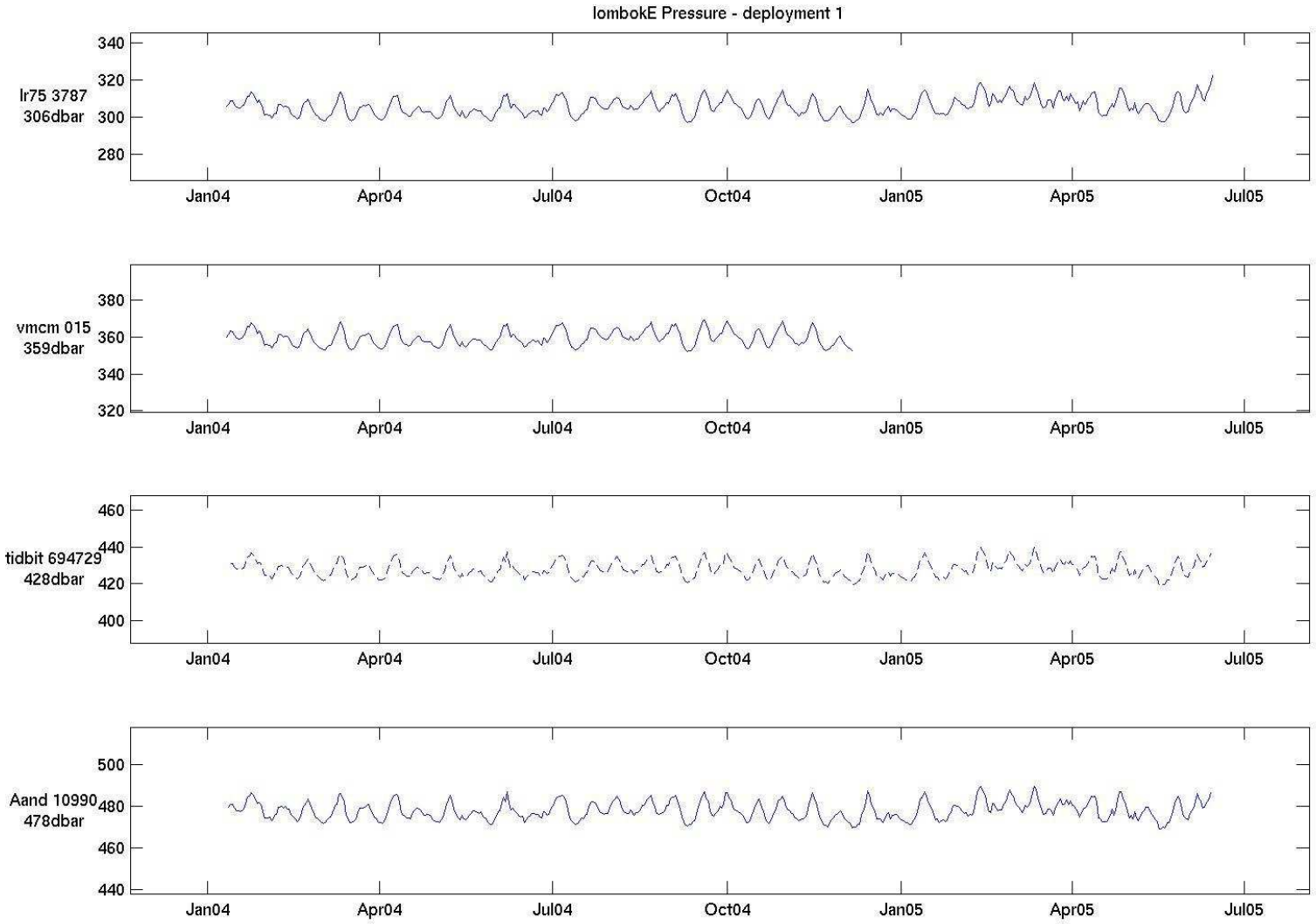
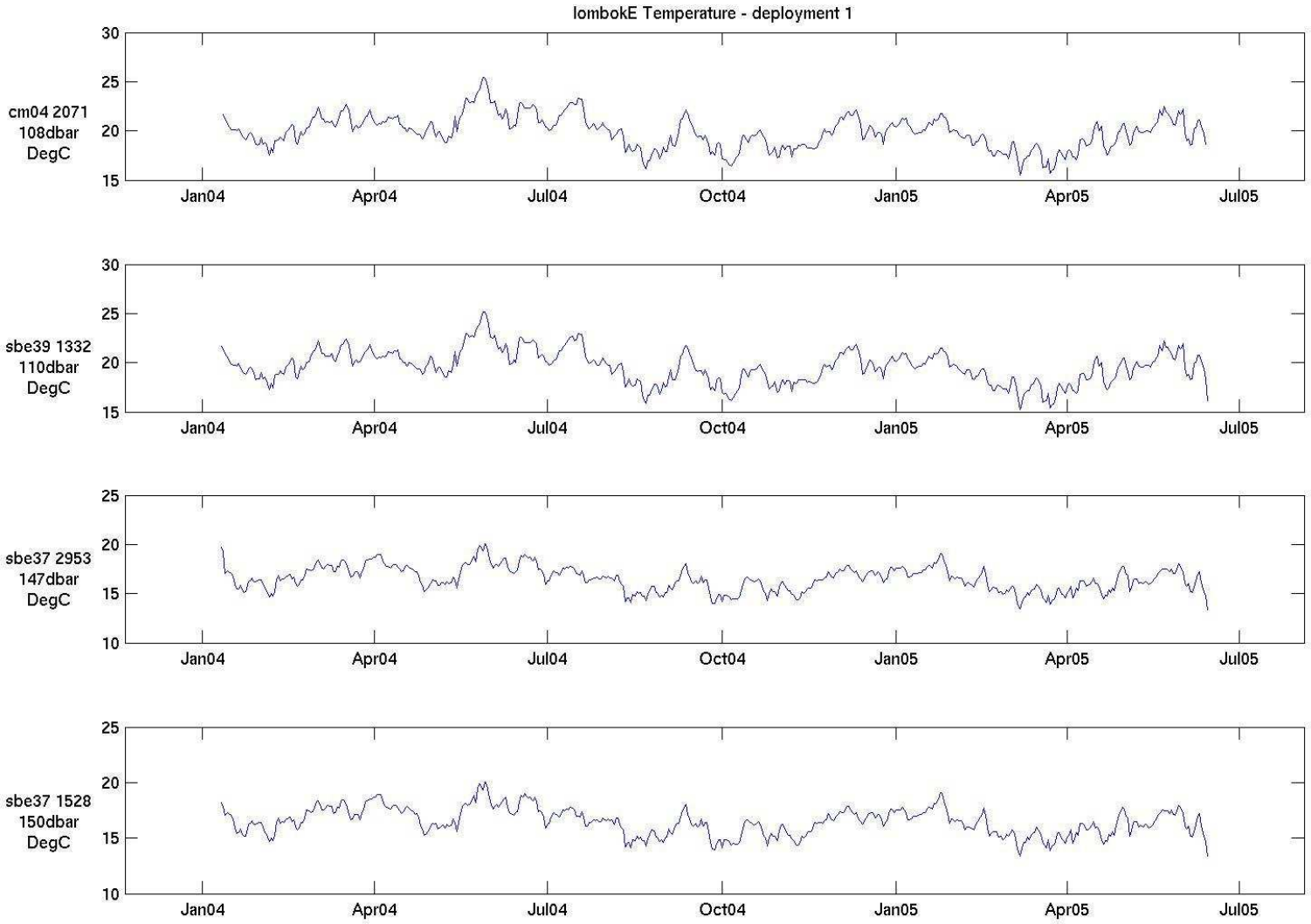

lombokW Vector plot - deployment 1
vmcm 019
310dbar
cm/s
50
0
-50
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
vmcm 004
405dbar
cm/s
50
0
-50
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
vmcm 011
510dbar
cm/s
20
0
-20
-40
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

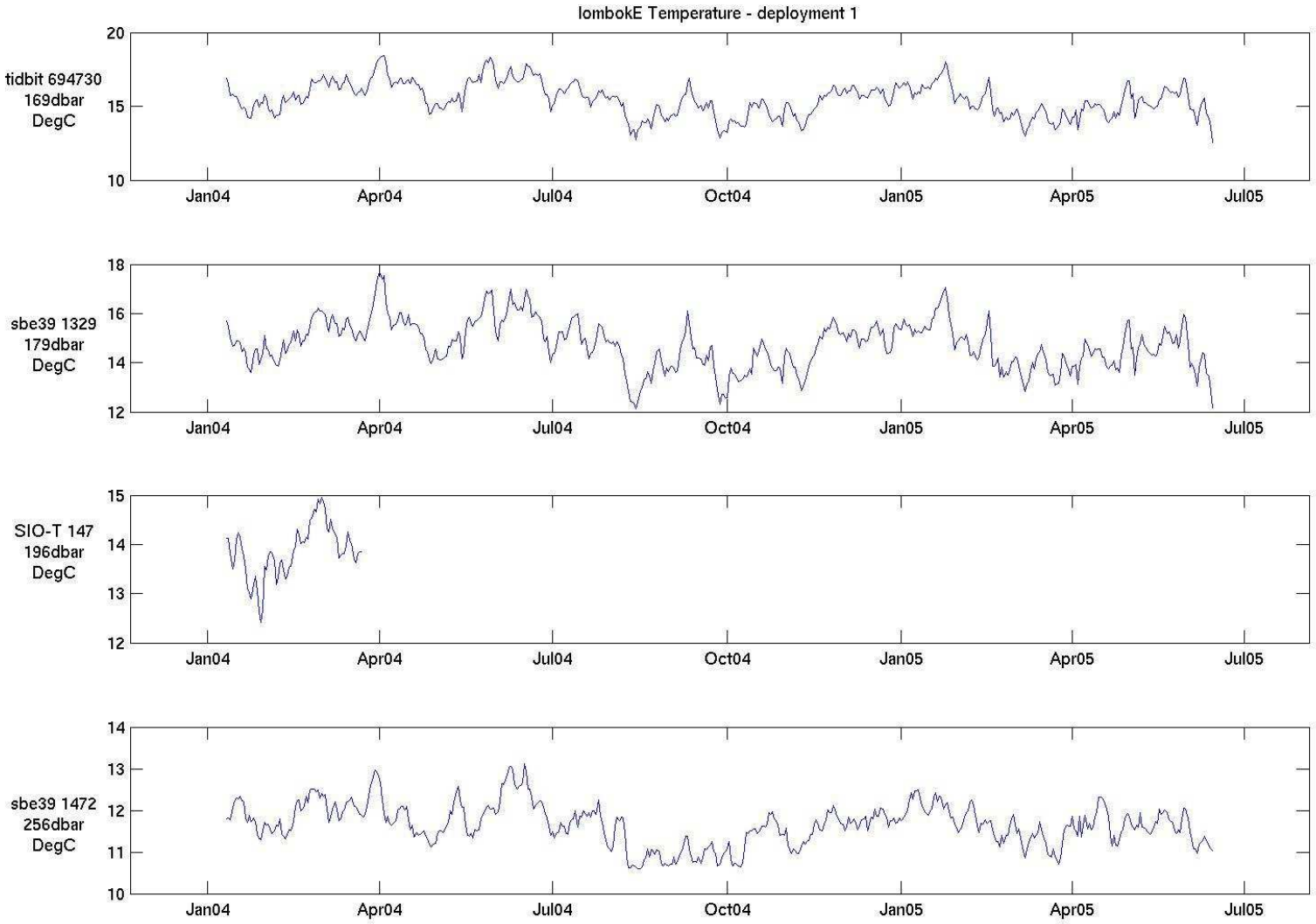
Figure 18. Low pass (1-day) plots of data for Lombok East mooring. **DOTTED LINES INDICATE INFERRED PRESSURE.**

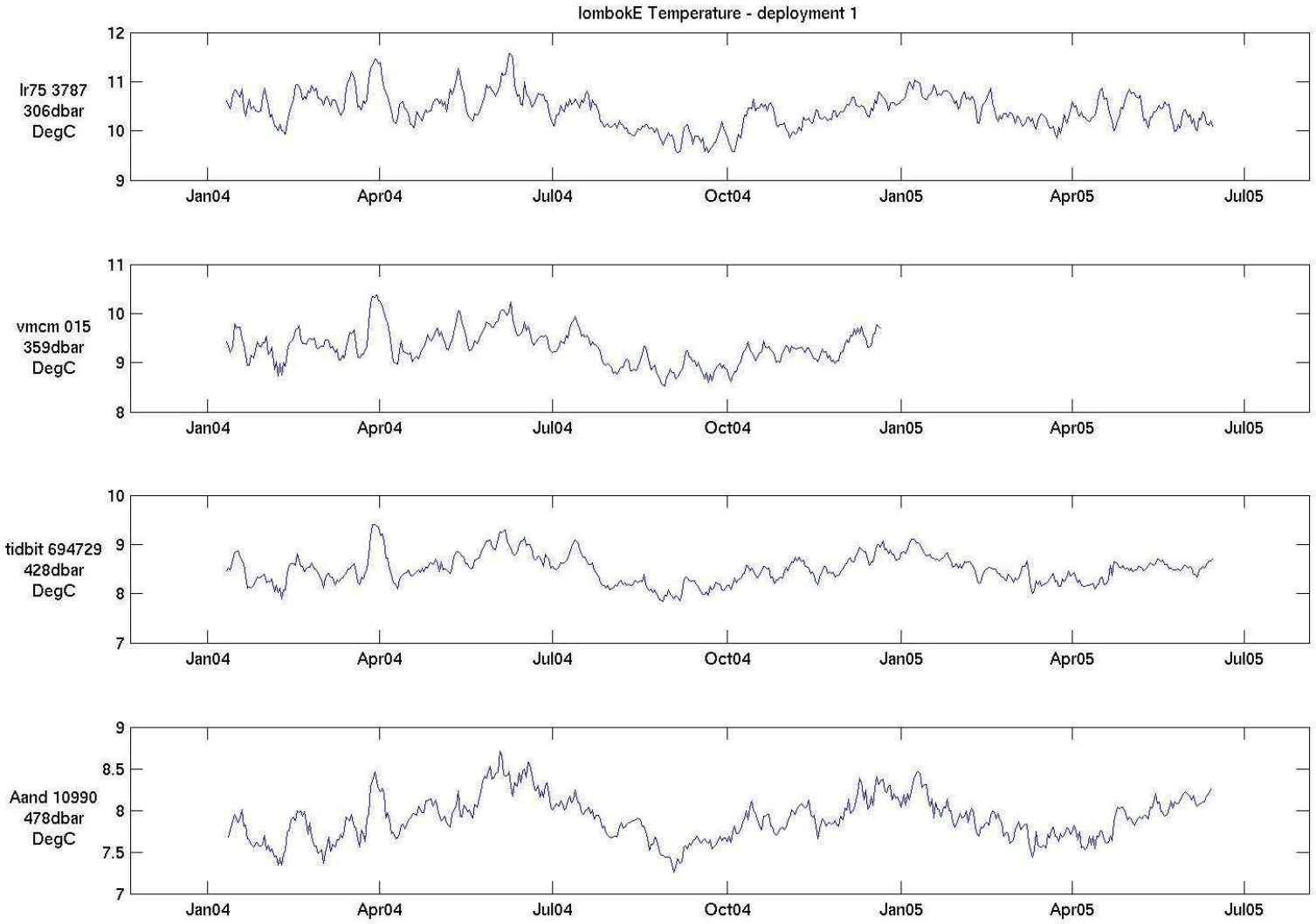


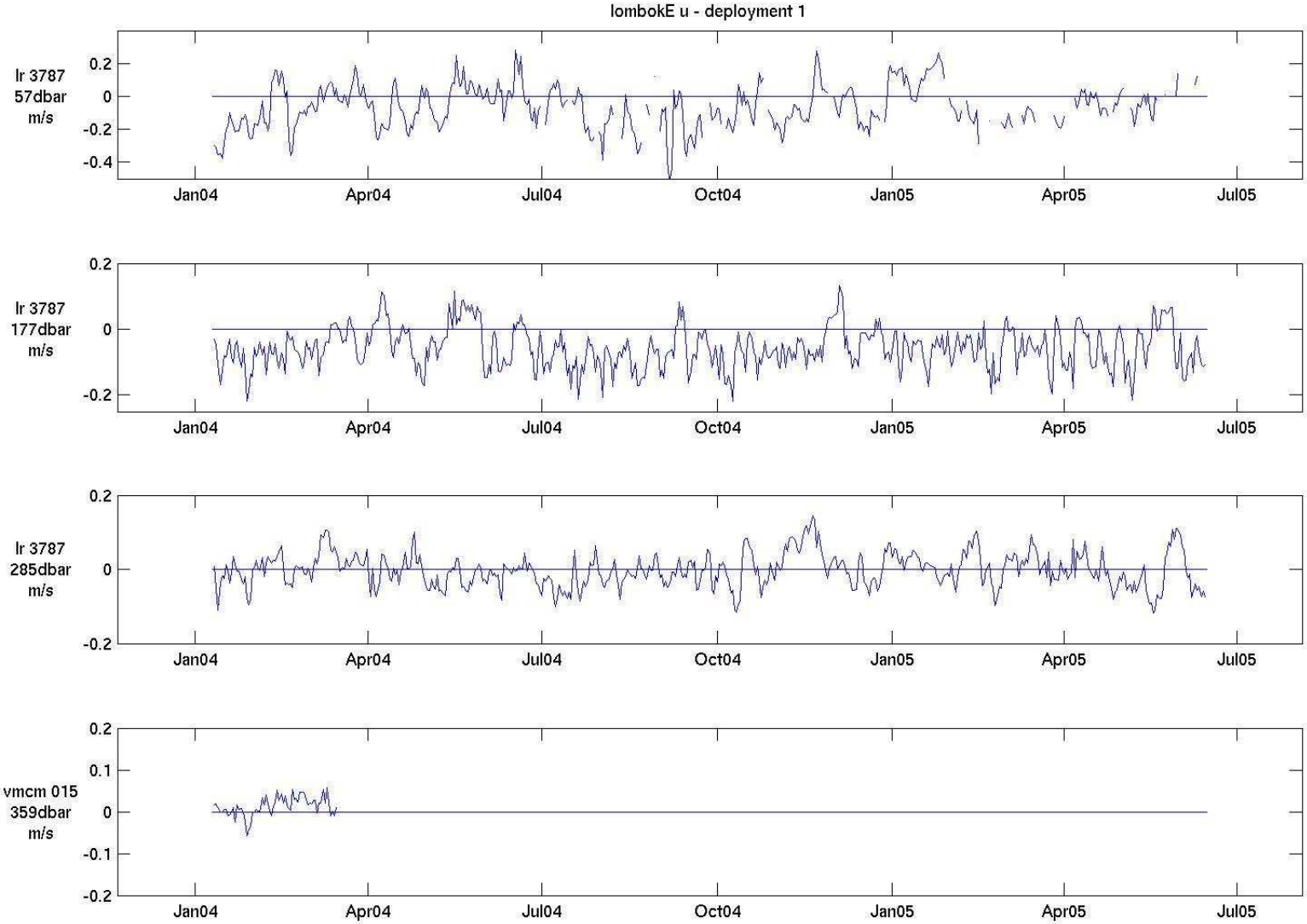

lombokE Pressure - deployment 1
tidbit 694730
169dbar
sbe39 1329
179dbar
SIO-T 147
196dbar
sbe39 1472
256dbar
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

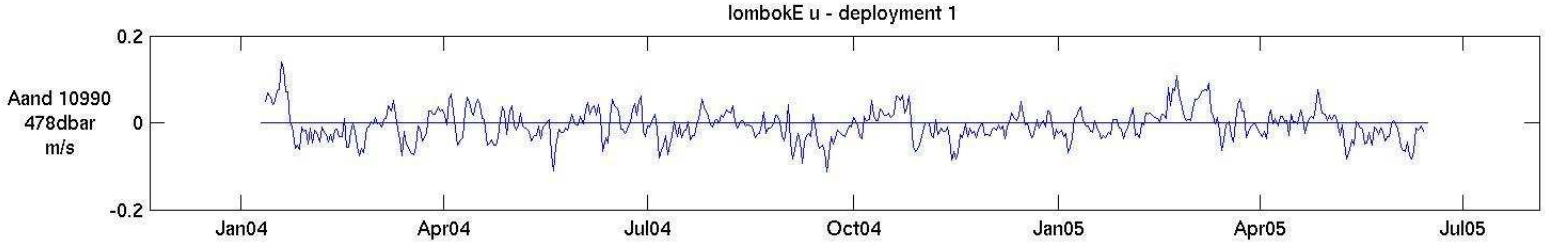

lombokE Pressure - deployment 1
lr75 3787
306dbar
340
320
300
280
vmcm 015
359dbar
380
360
340
320
tidbit 694729
428dbar
460
440
420
400
Aand 10990
478dbar
500
480
460
440
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

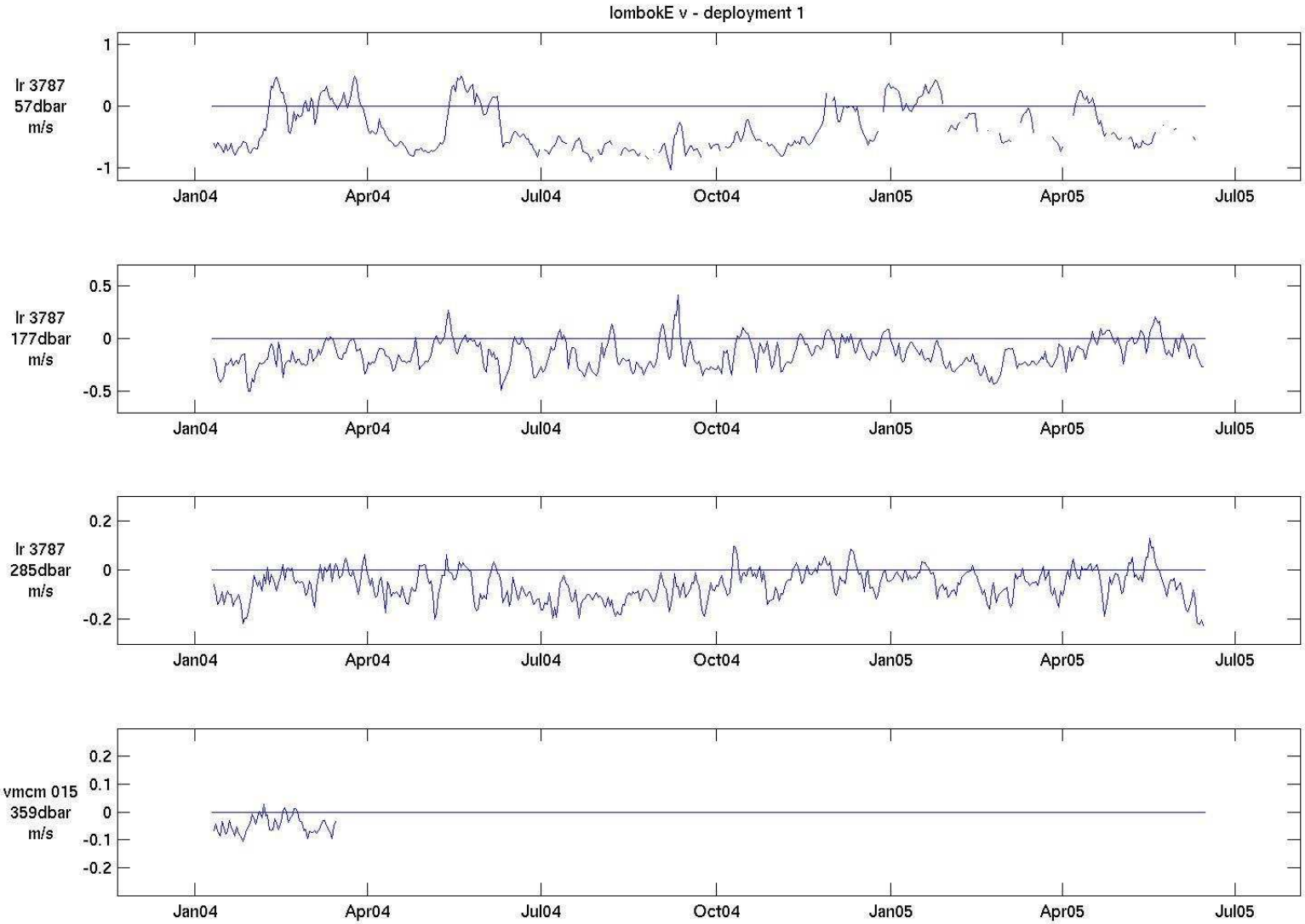

lombokE Temperature - deployment 1
cm04 2071
108dbar
DegC
sbe39 1332
110dbar
DegC
sbe37 2953
147dbar
DegC
sbe37 1528
150dbar
DegC
30
25
20
15
10
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

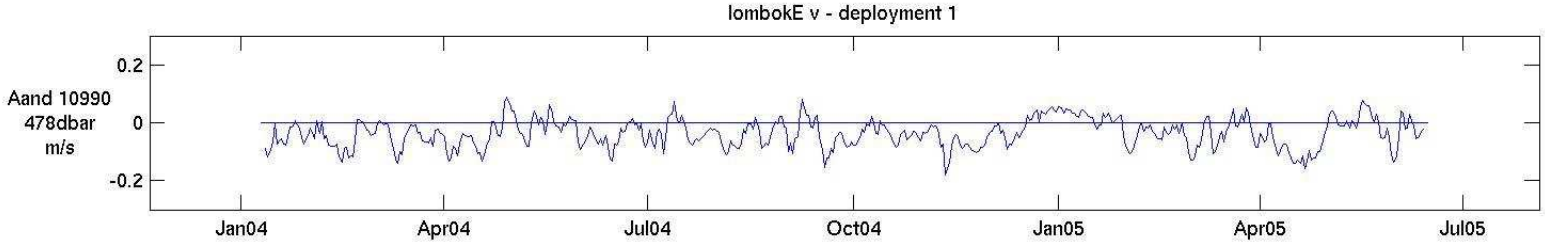

lombokE Temperature - deployment 1
tidbit 694730
169dbar
DegC
sbe39 1329
179dbar
DegC
SIO-T 147
196dbar
DegC
sbe39 1472
256dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

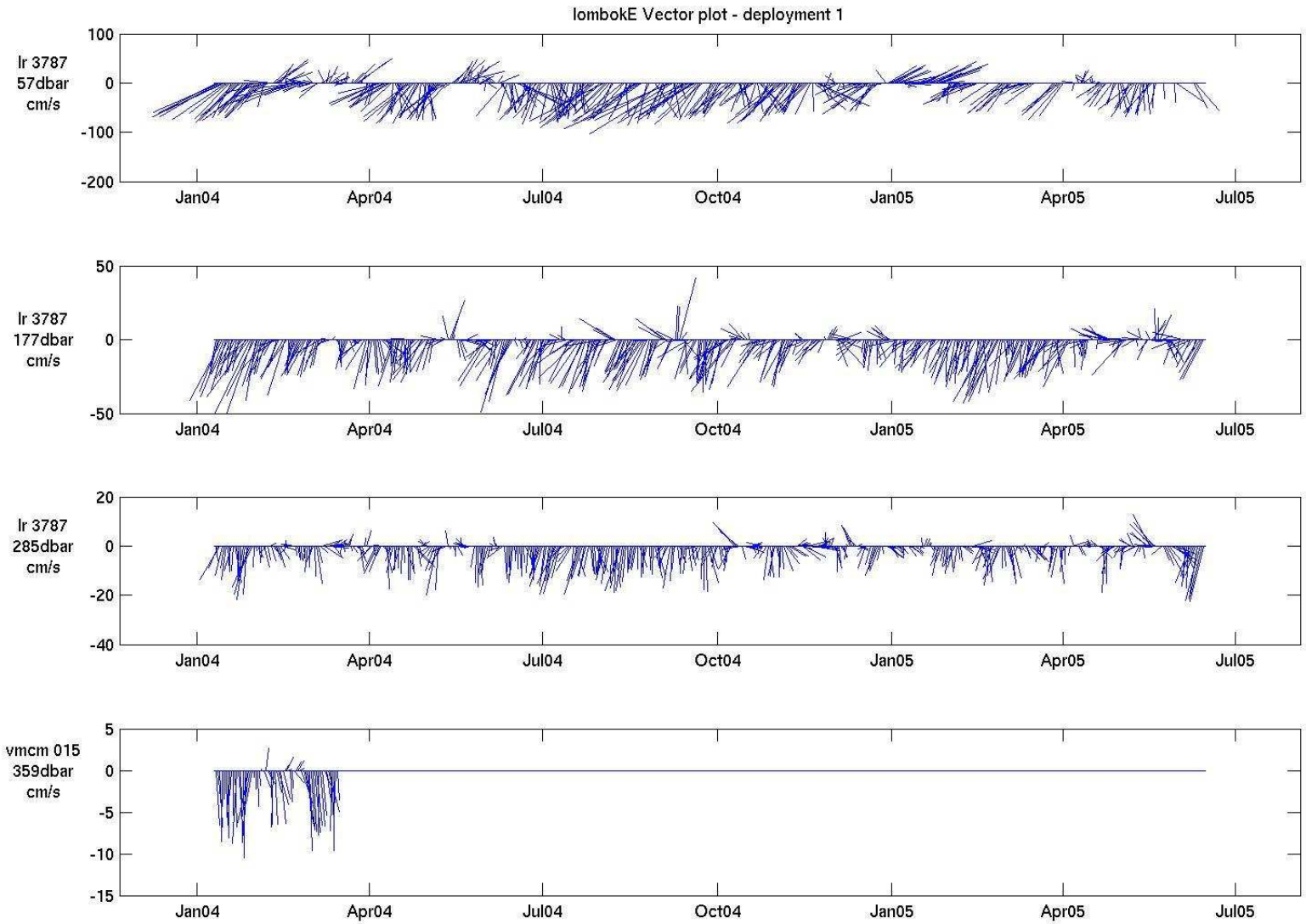

lombokE Temperature - deployment 1
lr75 3787
306dbar
DegC
vmcm 015
359dbar
DegC
tidbit 694729
428dbar
DegC
Aand 10990
478dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

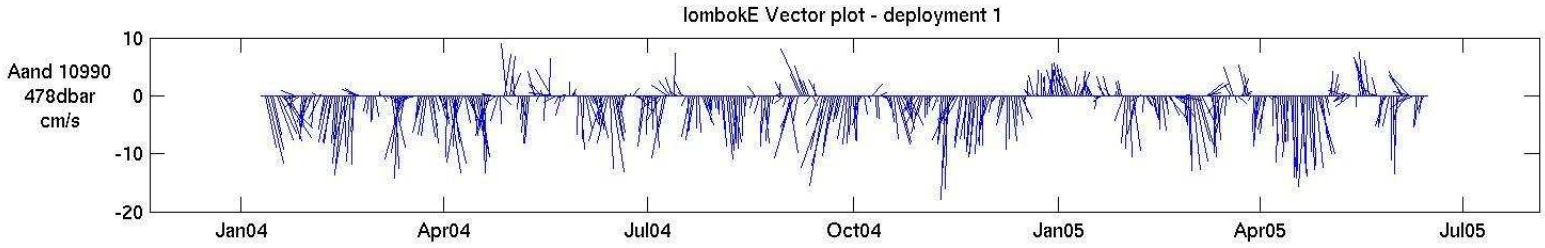

lombokE u - deployment 1
lr 3787
57dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
lr 3787
177dbar
m/s
0.2
0
-0.2
lr 3787
285dbar
m/s
vmcm 015
359dbar
m/s
0.1
-0.1

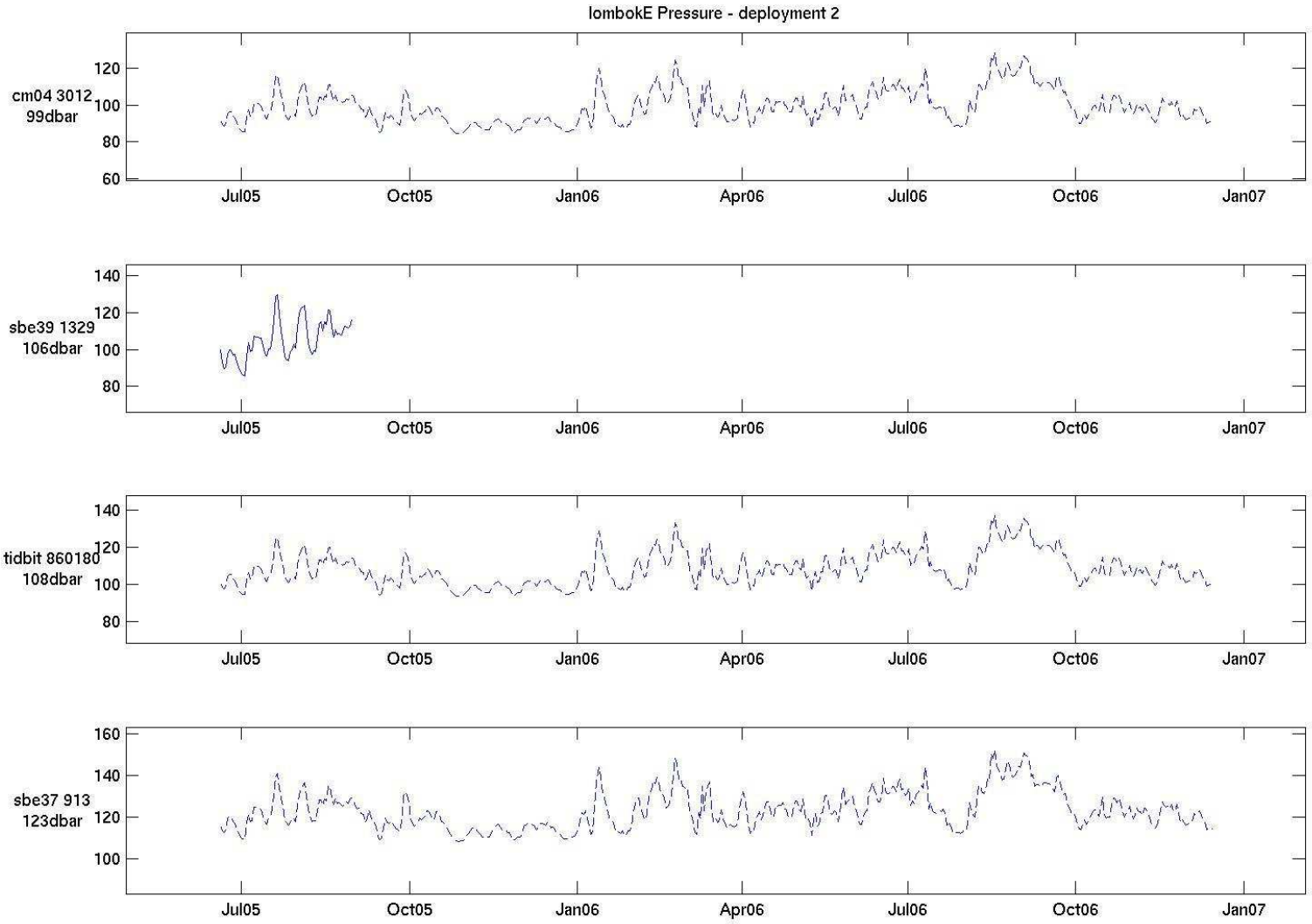

lombokE u - deployment 1
Aand 10990
478dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

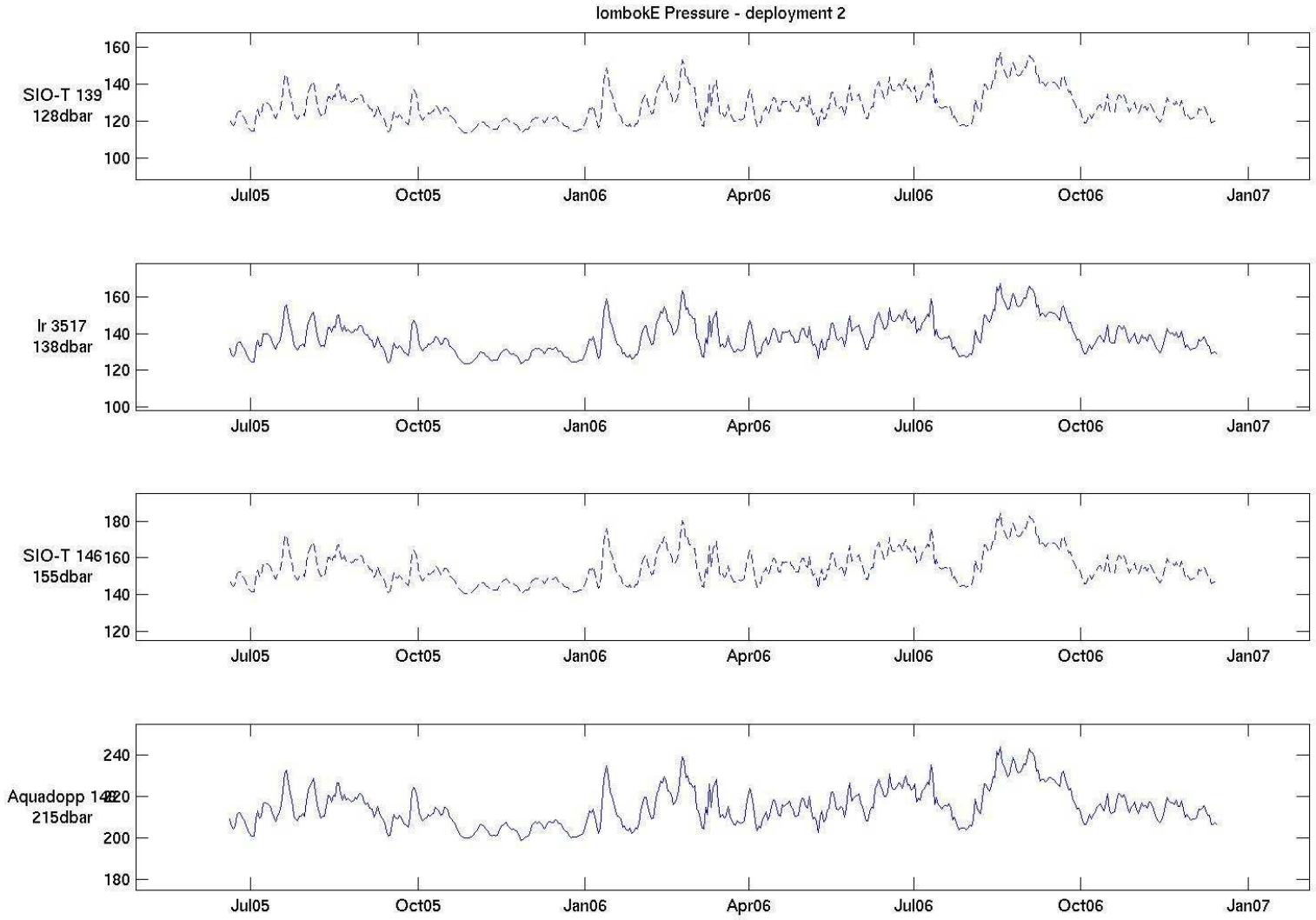

lombokE v - deployment 1
lr 3787
57dbar
m/s
1
0
-1
lr 3787
177dbar
m/s
0.5
0
-0.5
lr 3787
285dbar
m/s
0.2
0
-0.2
vmcm 015
359dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

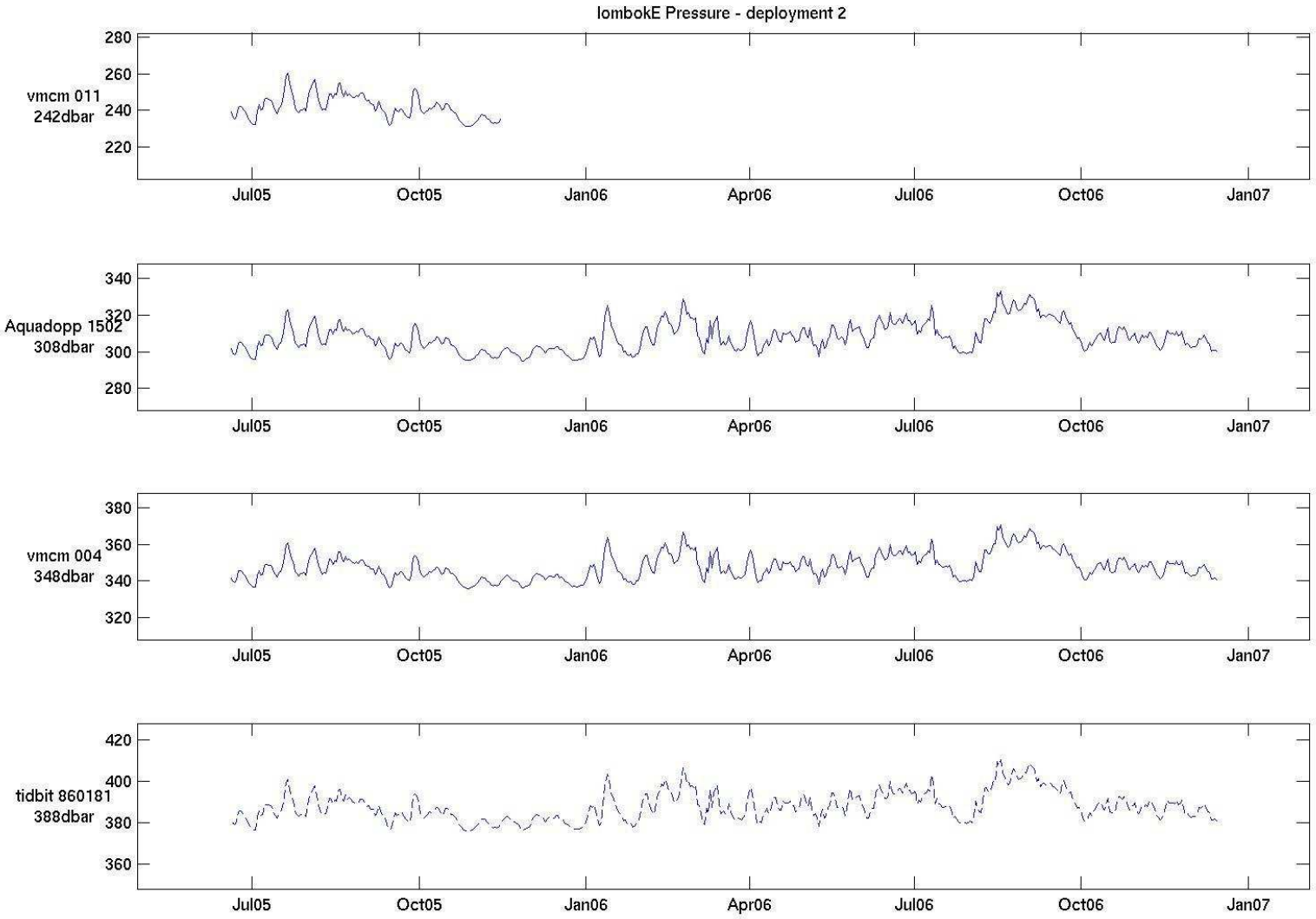

lombokE v - deployment 1
Aand 10990
478dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

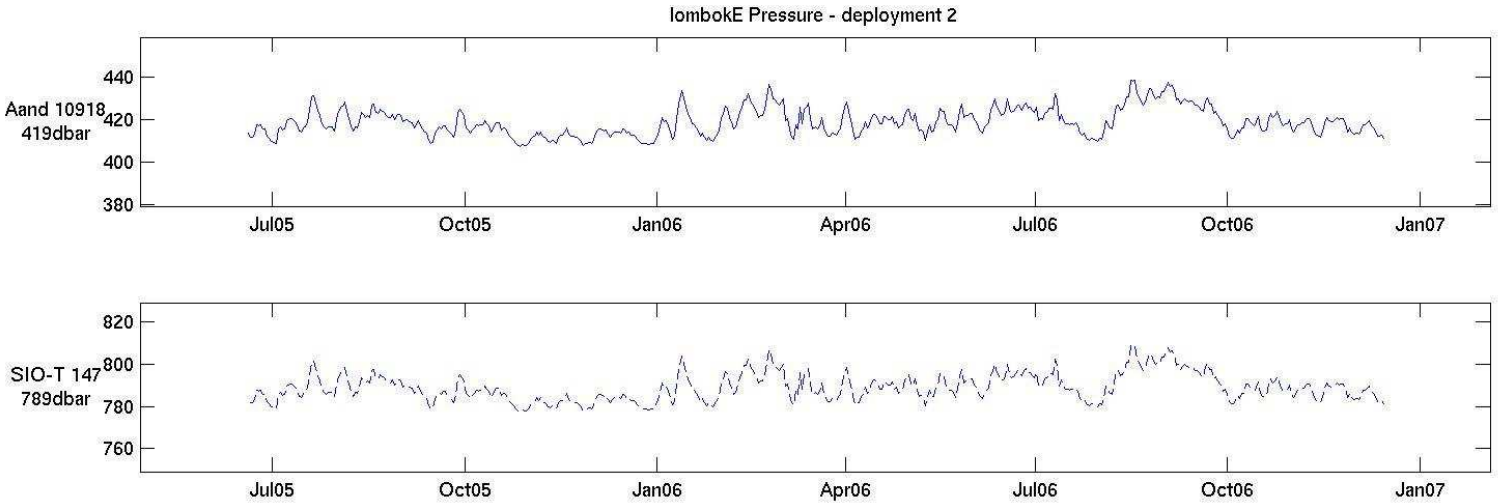

lombokE Vector plot - deployment 1
lr 3787
57dbar
cm/s
100
0
-100
-200
lr 3787
177dbar
cm/s
50
0
-50
lr 3787
285dbar
cm/s
20
0
-20
-40
vmcm 015
359dbar
cm/s
5
0
-5
-10
-15
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

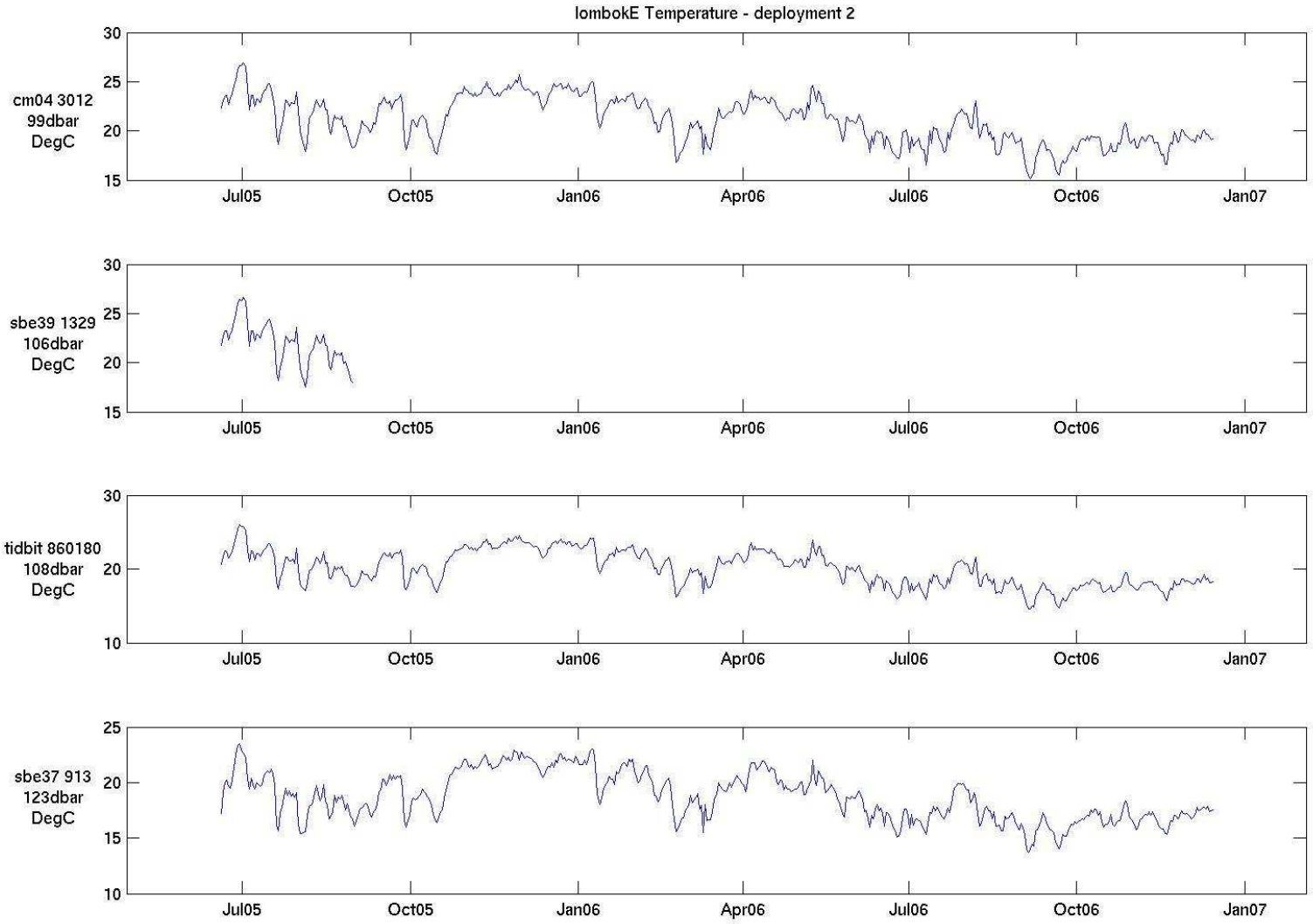

lombokE Vector plot - deployment 1
Aand 10990
478dbar
cm/s
10
0
-10
-20
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

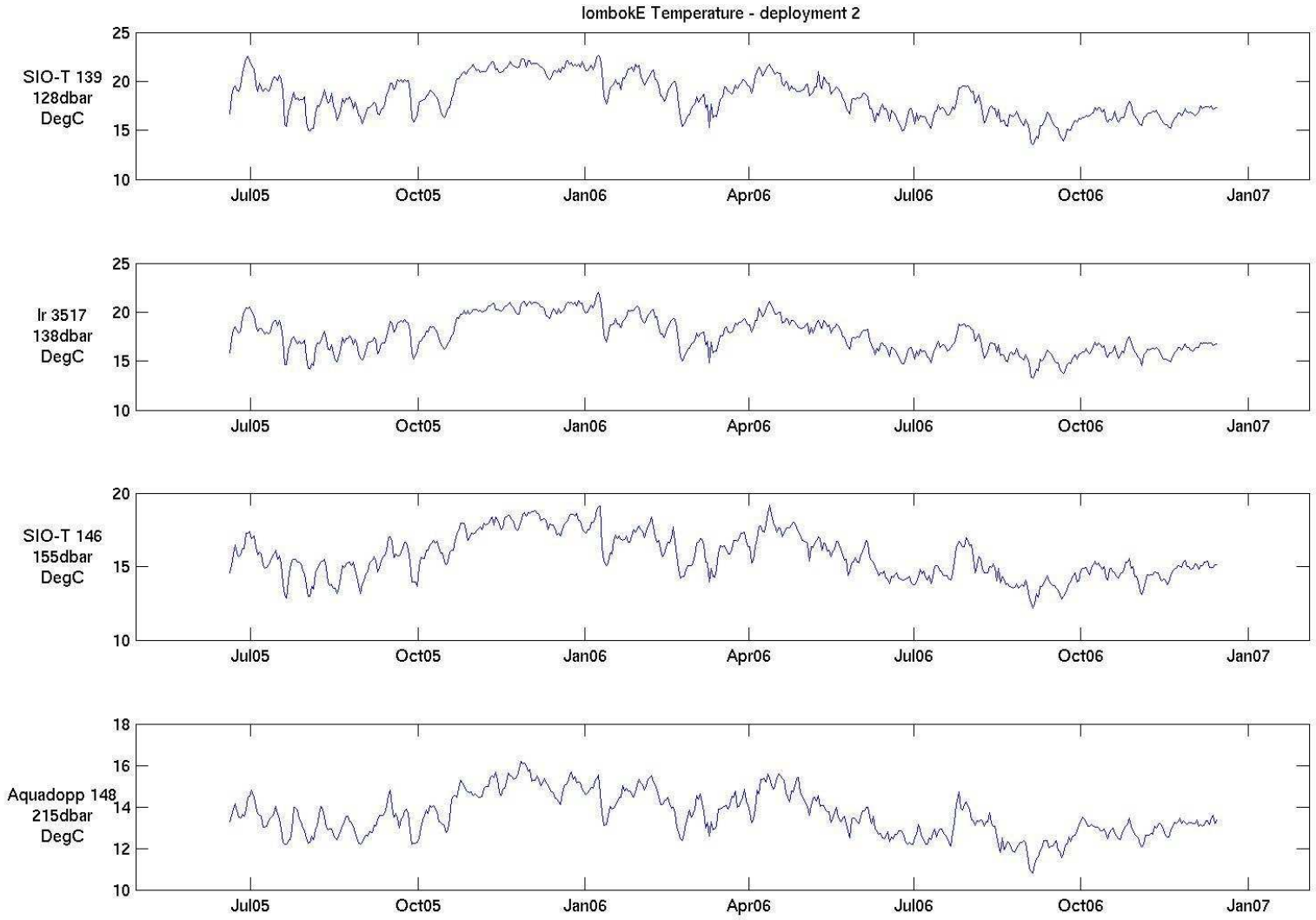

lombokE Pressure - deployment 2
cm04 3012
99dbar
sbe39 1329
106dbar
tidbit 860180
108dbar
sbe37 913
123dbar
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

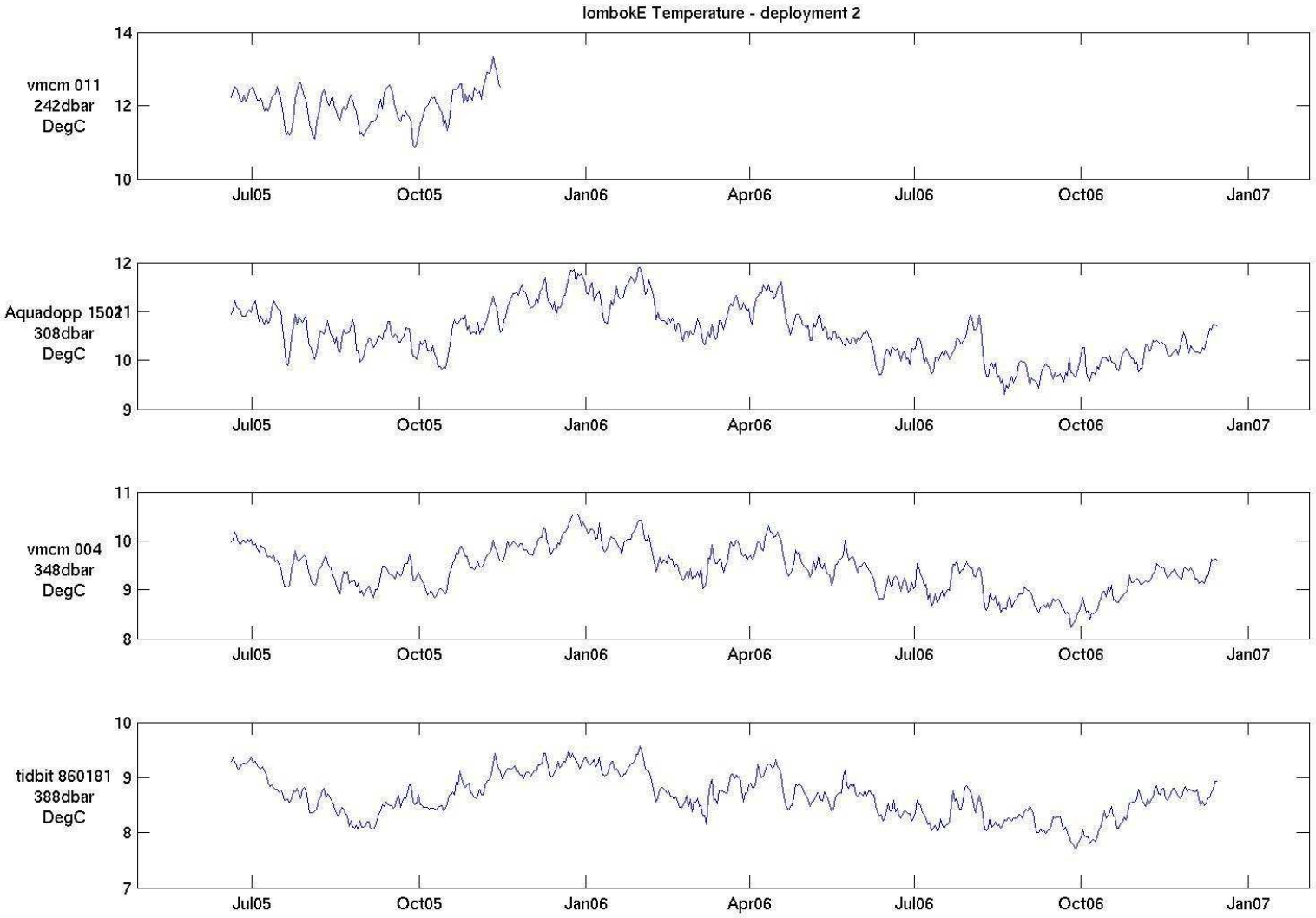

lombokE Pressure - deployment 2
SIO-T 139
128dbar
160
140
120
100
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Ir 3517
138dbar
160
140
120
100
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
SIO-T 146
155dbar
180
160
140
120
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aquadopp 14
215dbar
240
220
200
180
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

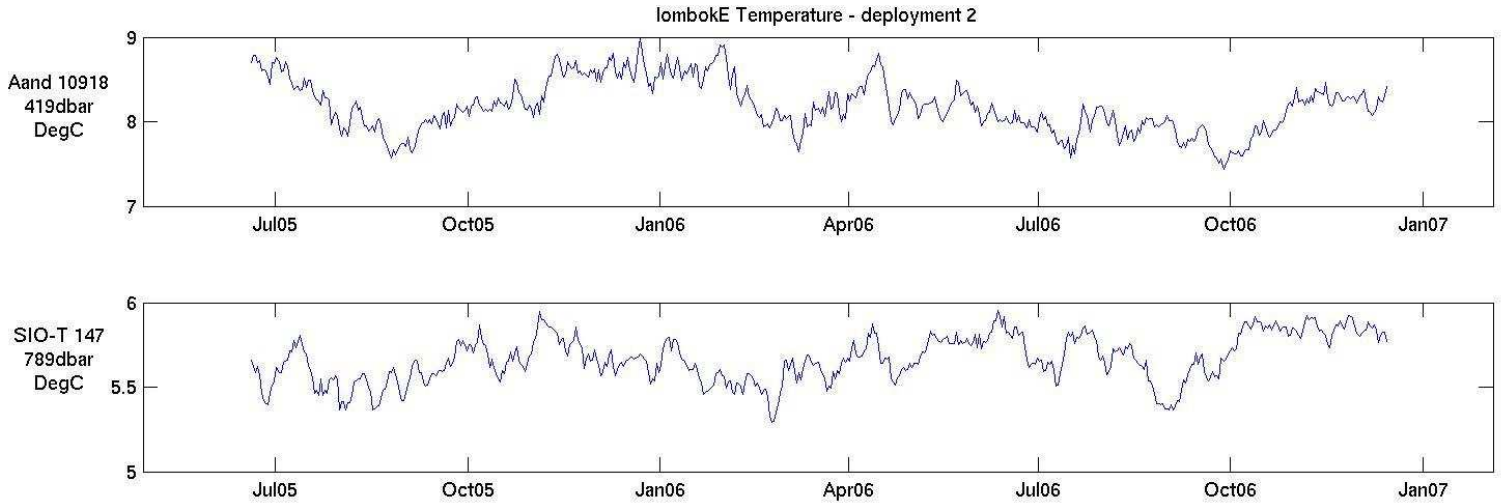

lombokE Pressure - deployment 2
vmcm 011
242dbar
280
260
240
220
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aquadopp 1502
308dbar
340
320
300
280
vmcm 004
348dbar
380
360
340
320
tidbit 860181
388dbar
420
400
380
360

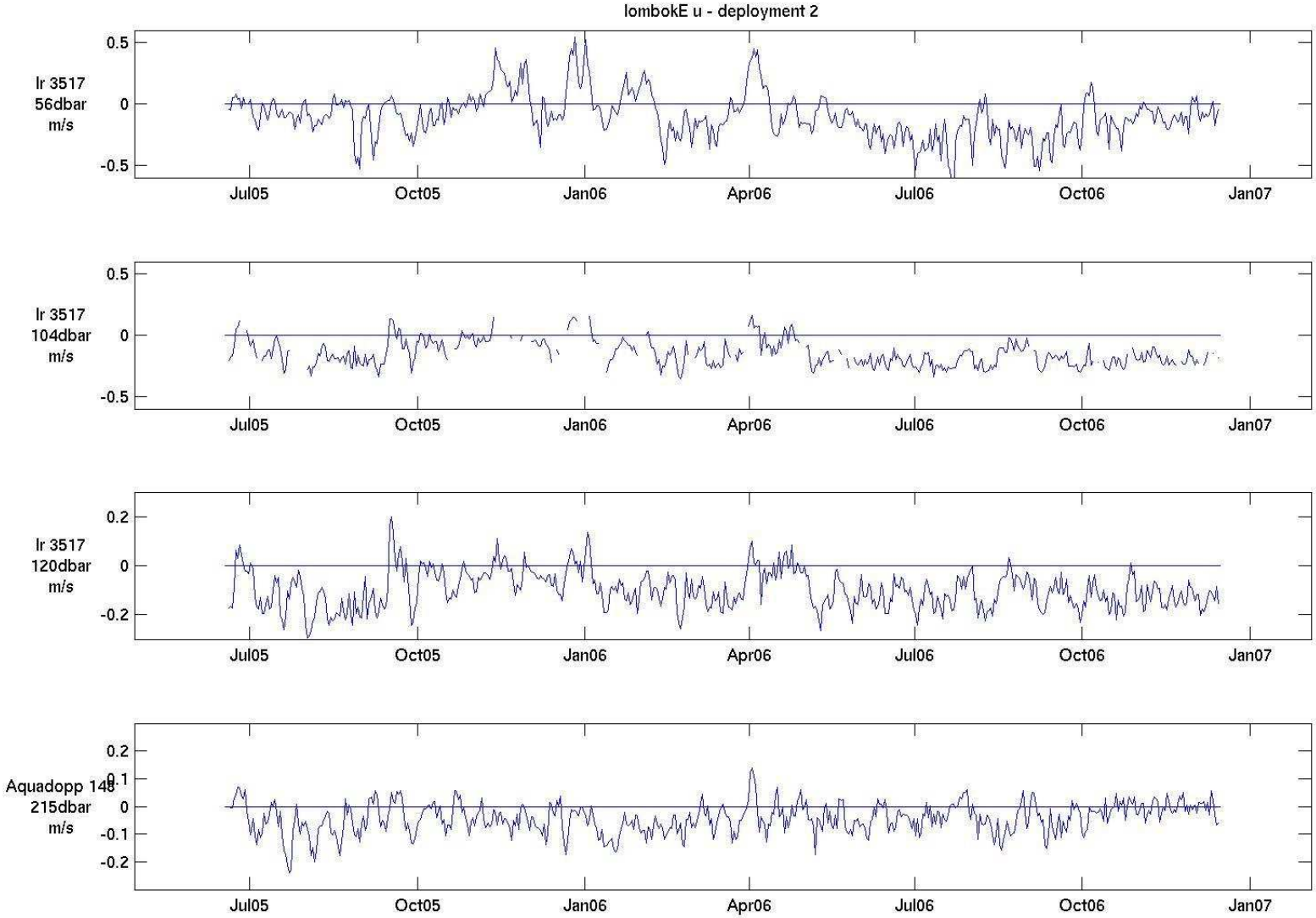

lombokE Pressure - deployment 2
Aand 10918
419dbar
440
420
400
380
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
SIO-T 147
789dbar
820
800
780
760
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

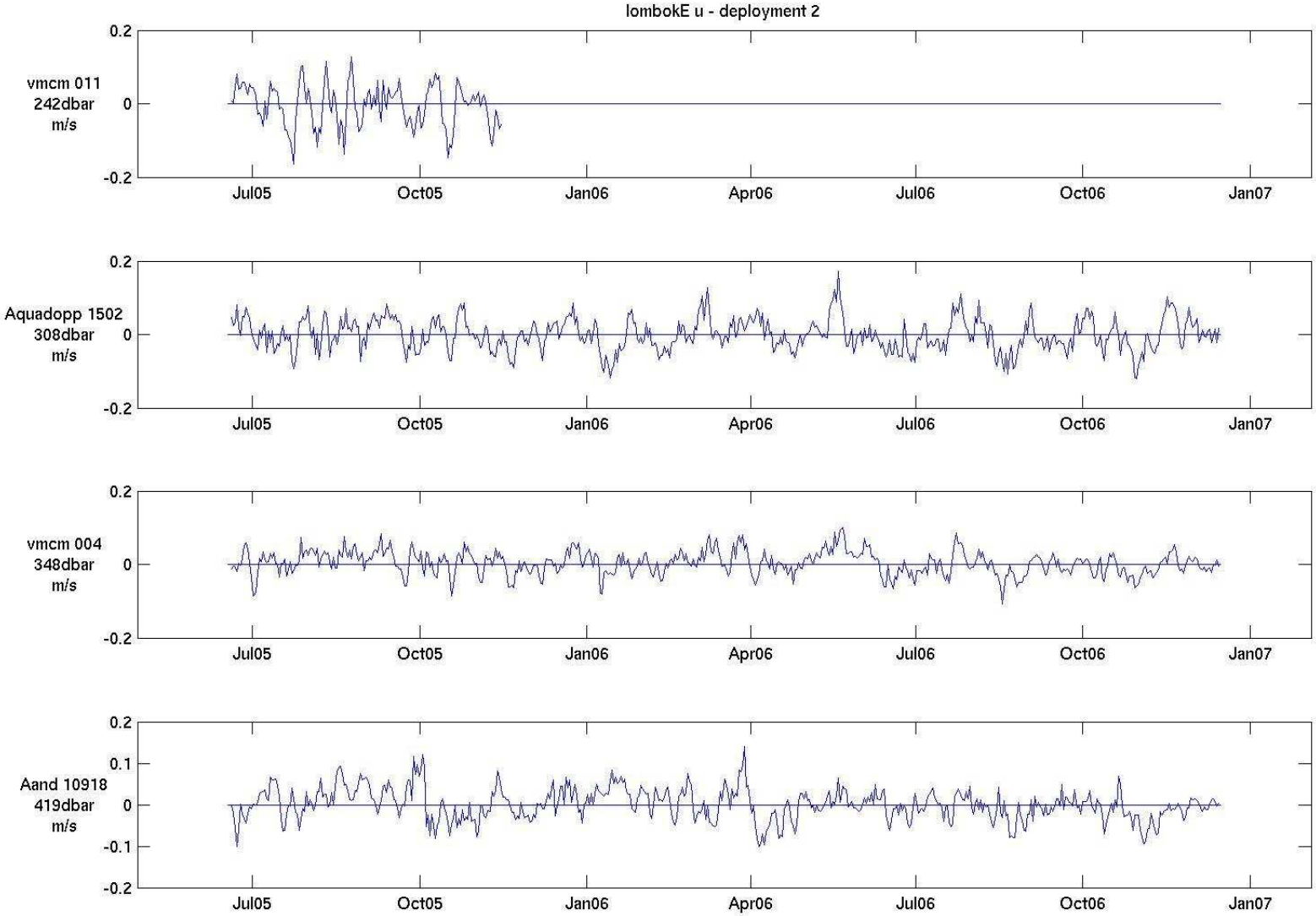

lombokE Temperature - deployment 2
cm04 3012
99dbar
DegC
sbe39 1329
106dbar
DegC
tidbit 860180
108dbar
DegC
sbe37 913
123dbar
DegC
30
25
20
15
10
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

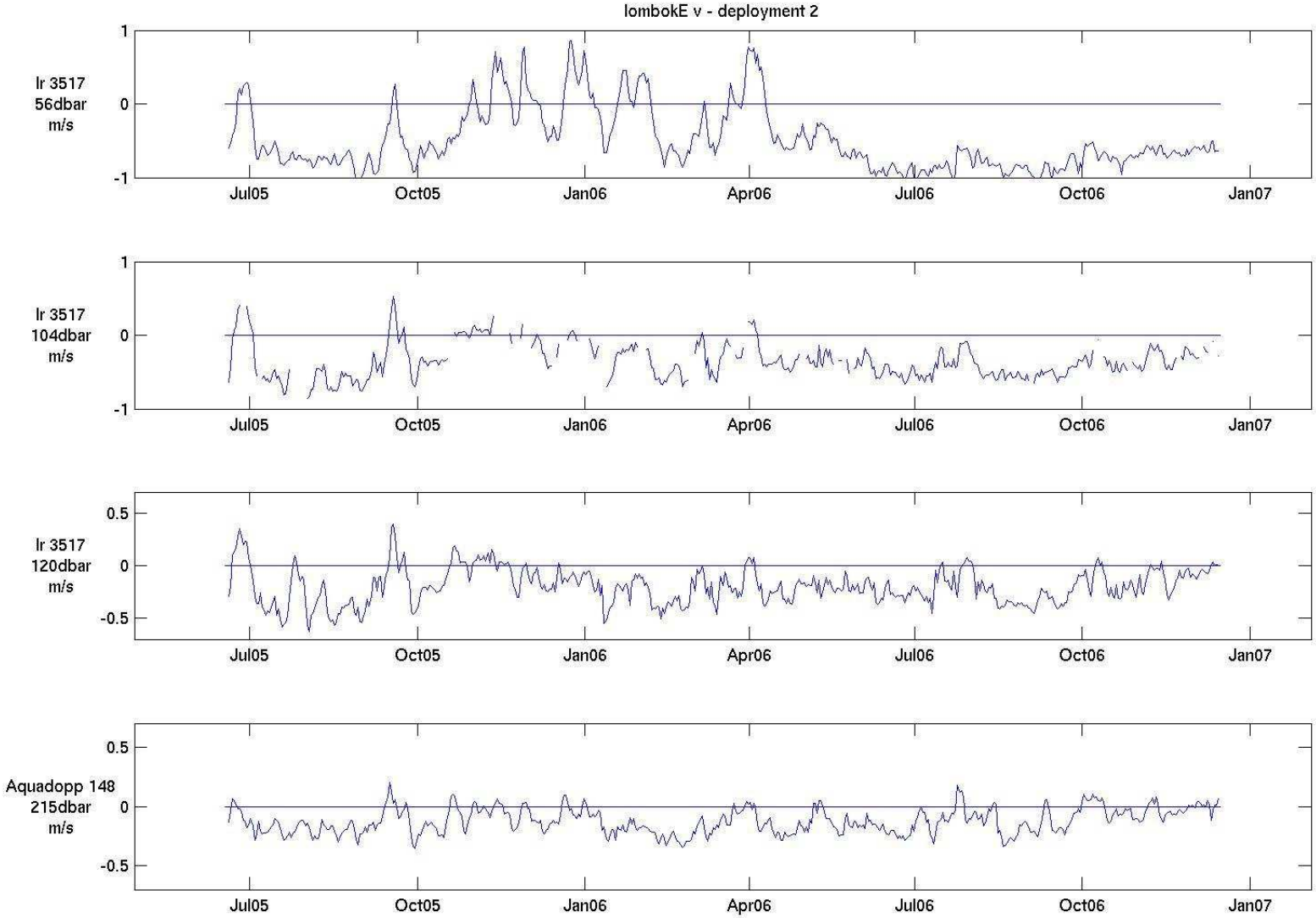

lombokE Temperature - deployment 2
SIO-T 139
128dbar
DegC
Ir 3517
138dbar
DegC
SIO-T 146
155dbar
DegC
Aquadopp 148
215dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

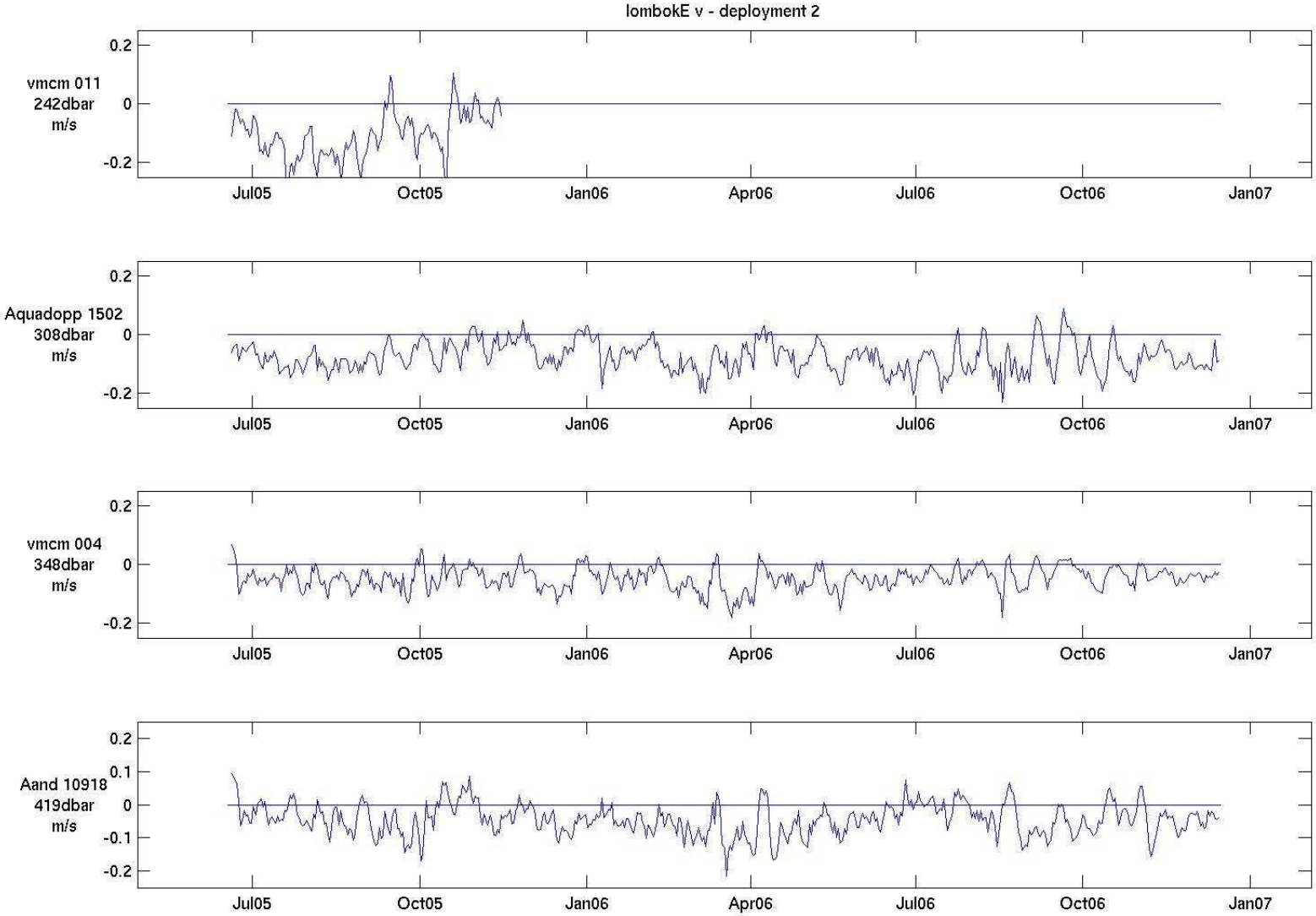

lombokE Temperature - deployment 2
vmcm 011
242dbar
DegC
Aquadopp 15021
308dbar
DegC
vmcm 004
348dbar
DegC
tidbit 860181
388dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

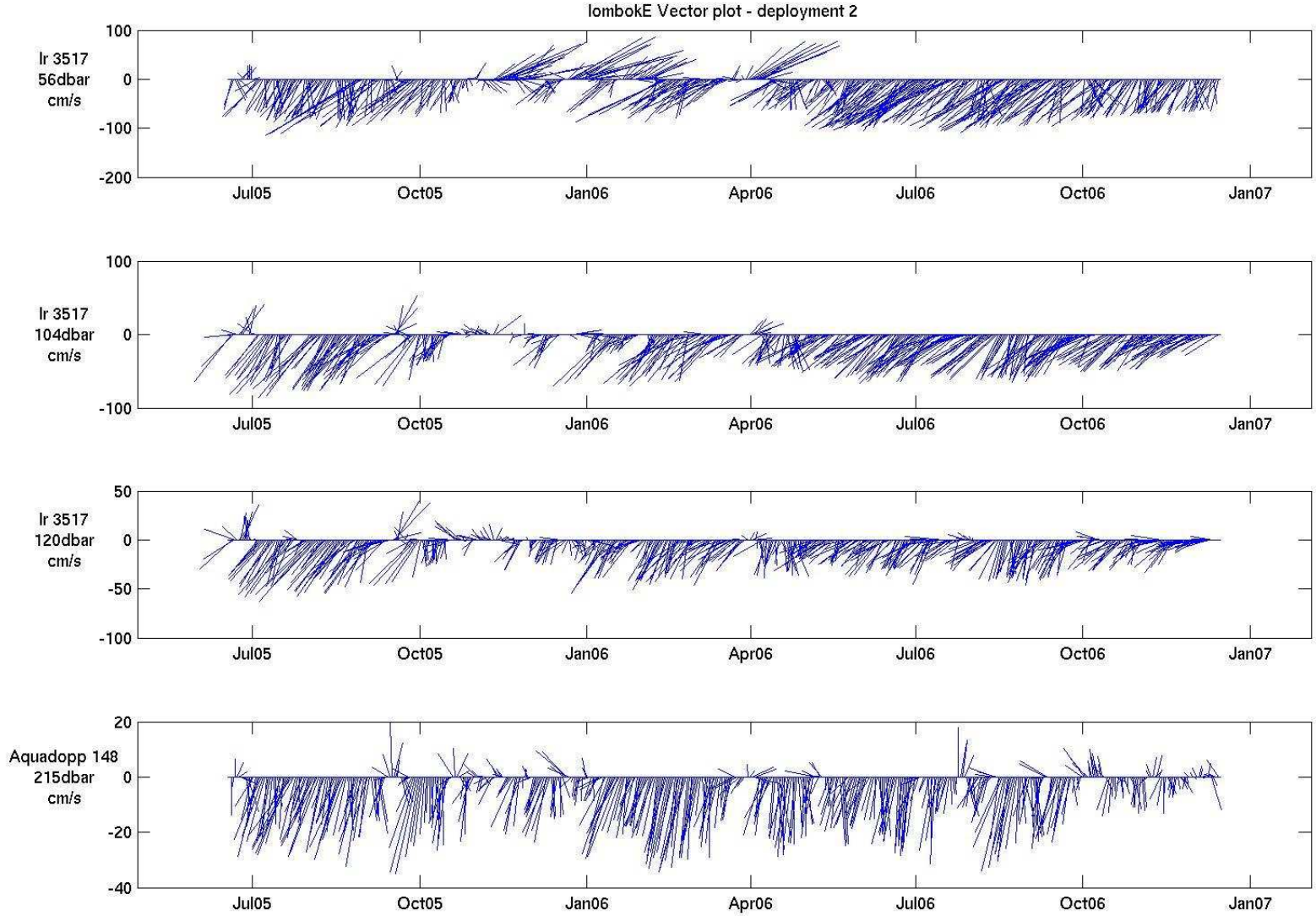

lombokE Temperature - deployment 2
Aand 10918
419dbar
DegC
9
8
7
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
SIO-T 147
789dbar
DegC
6
5.5
5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


lombokE u - deployment 2
Ir 3517
56dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Ir 3517
104dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Ir 3517
120dbar
m/s
0.2
0
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aquadopp 148
215dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


lombokE u - deployment 2
vmcm 011
242dbar
m/s
Aquadopp 1502
308dbar
m/s
vmcm 004
348dbar
m/s
Aand 10918
419dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


lombokE v - deployment 2
Ir 3517
56dbar
m/s
1
0
-1
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Ir 3517
104dbar
m/s
1
0
-1
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Ir 3517
120dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aquadopp 148
215dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


lombokE v - deployment 2
vmcm 011
242dbar
m/s
Aquadopp 1502
308dbar
m/s
vmcm 004
348dbar
m/s
Aand 10918
419dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


lombokE Vector plot - deployment 2
Ir 3517
56dbar
cm/s
100
0
-100
-200
Ir 3517
104dbar
cm/s
100
0
-100
Ir 3517
120dbar
cm/s
50
0
-50
-100
Aquadopp 148
215dbar
cm/s
20
0
-20
-40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

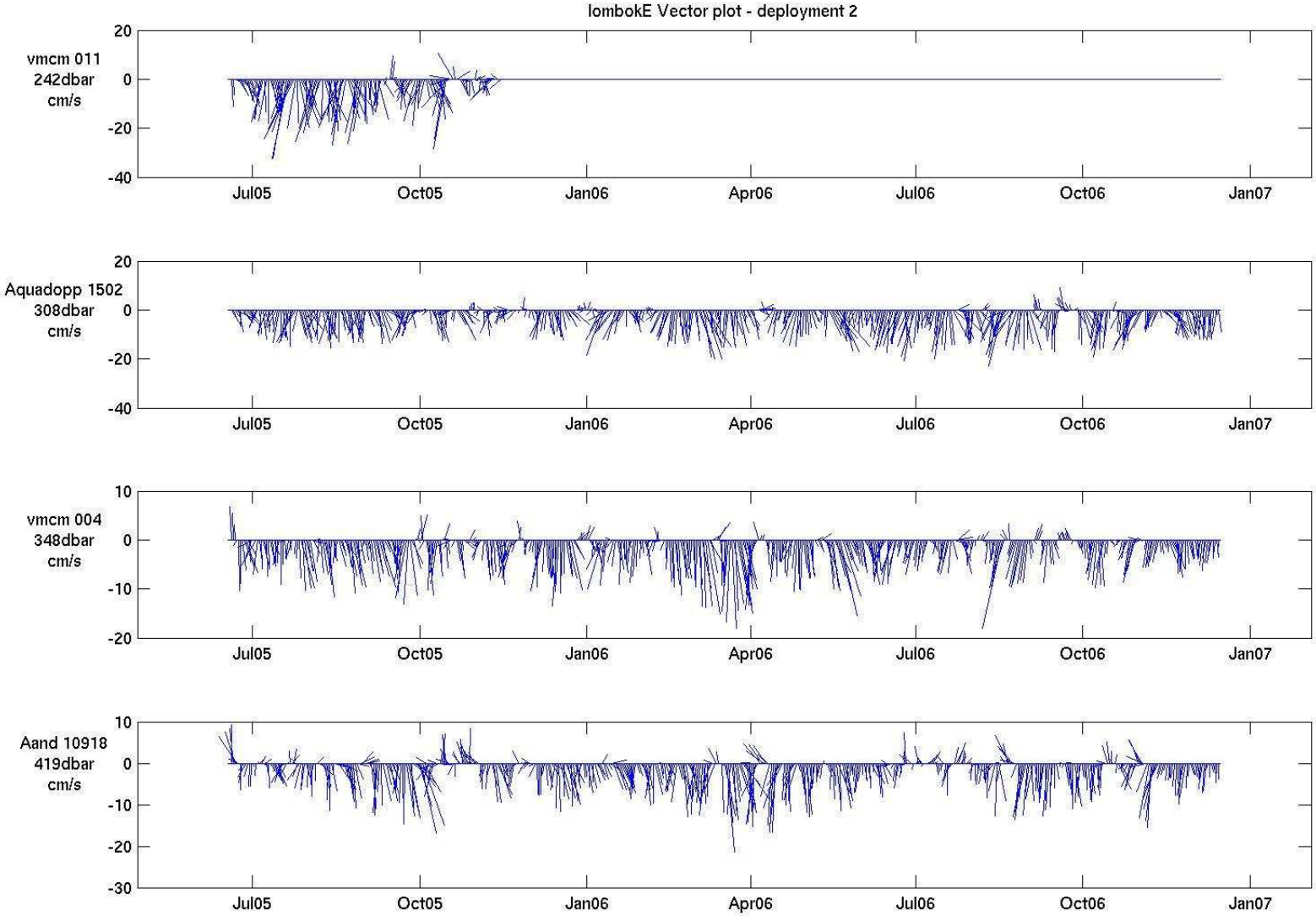
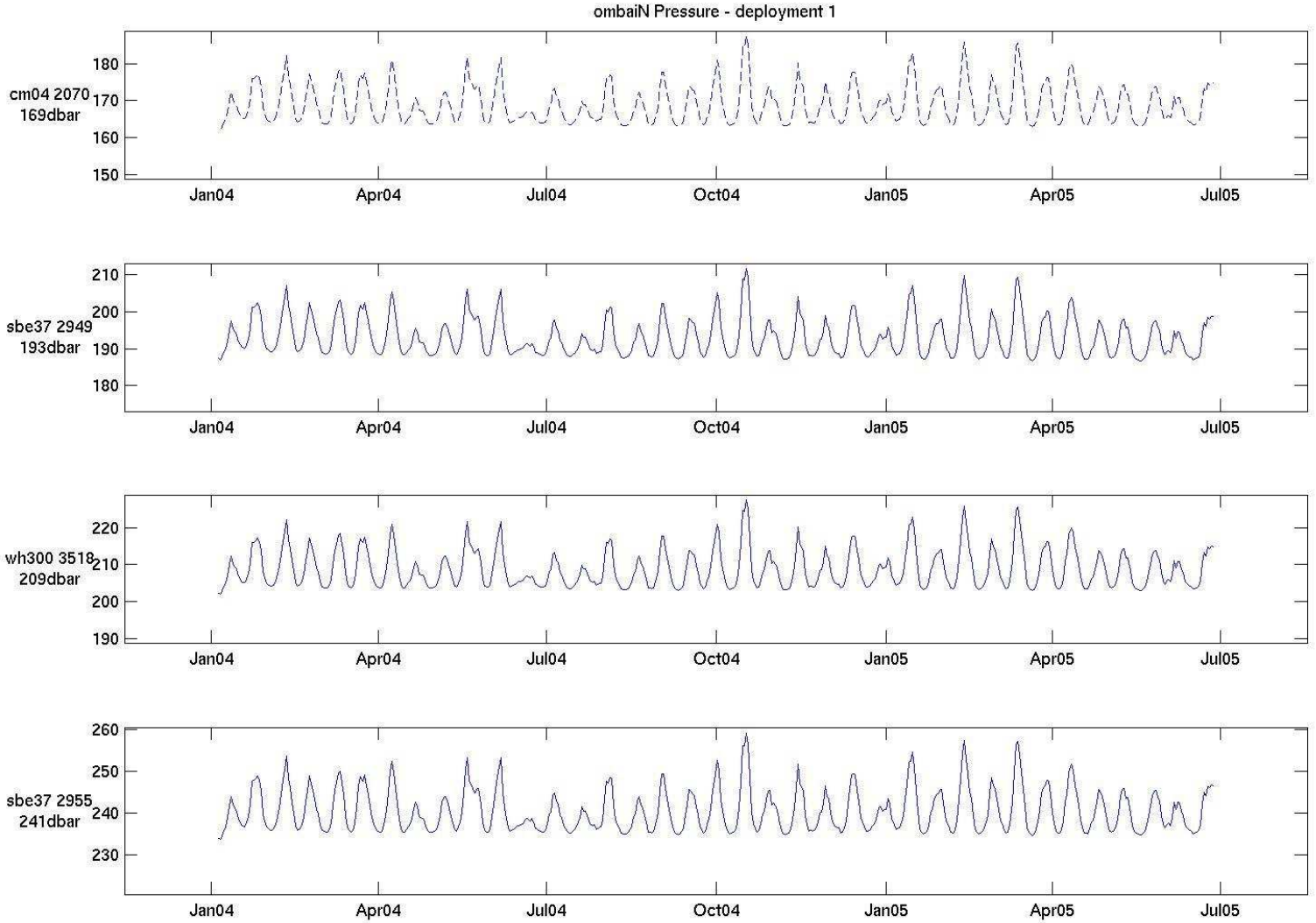
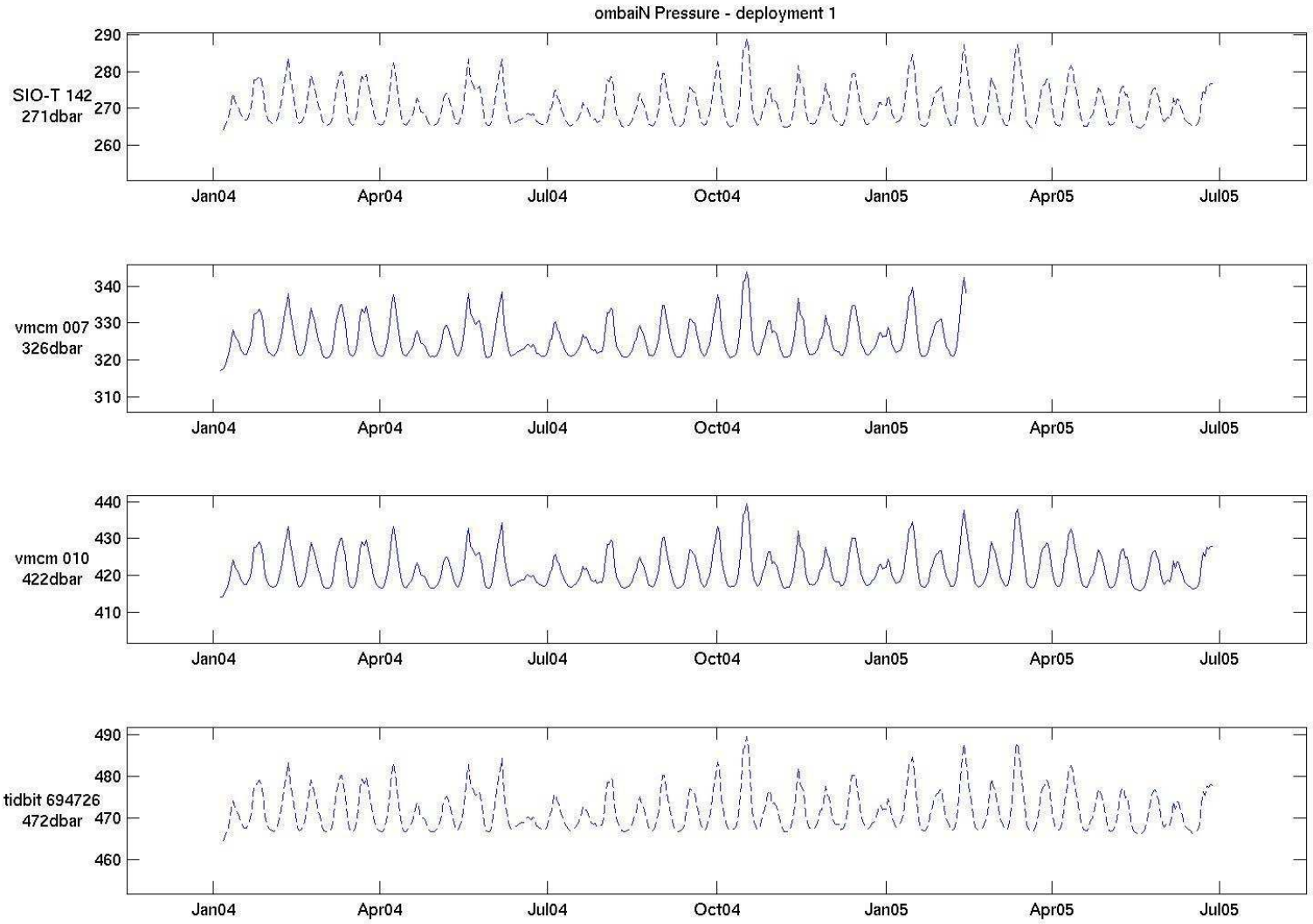
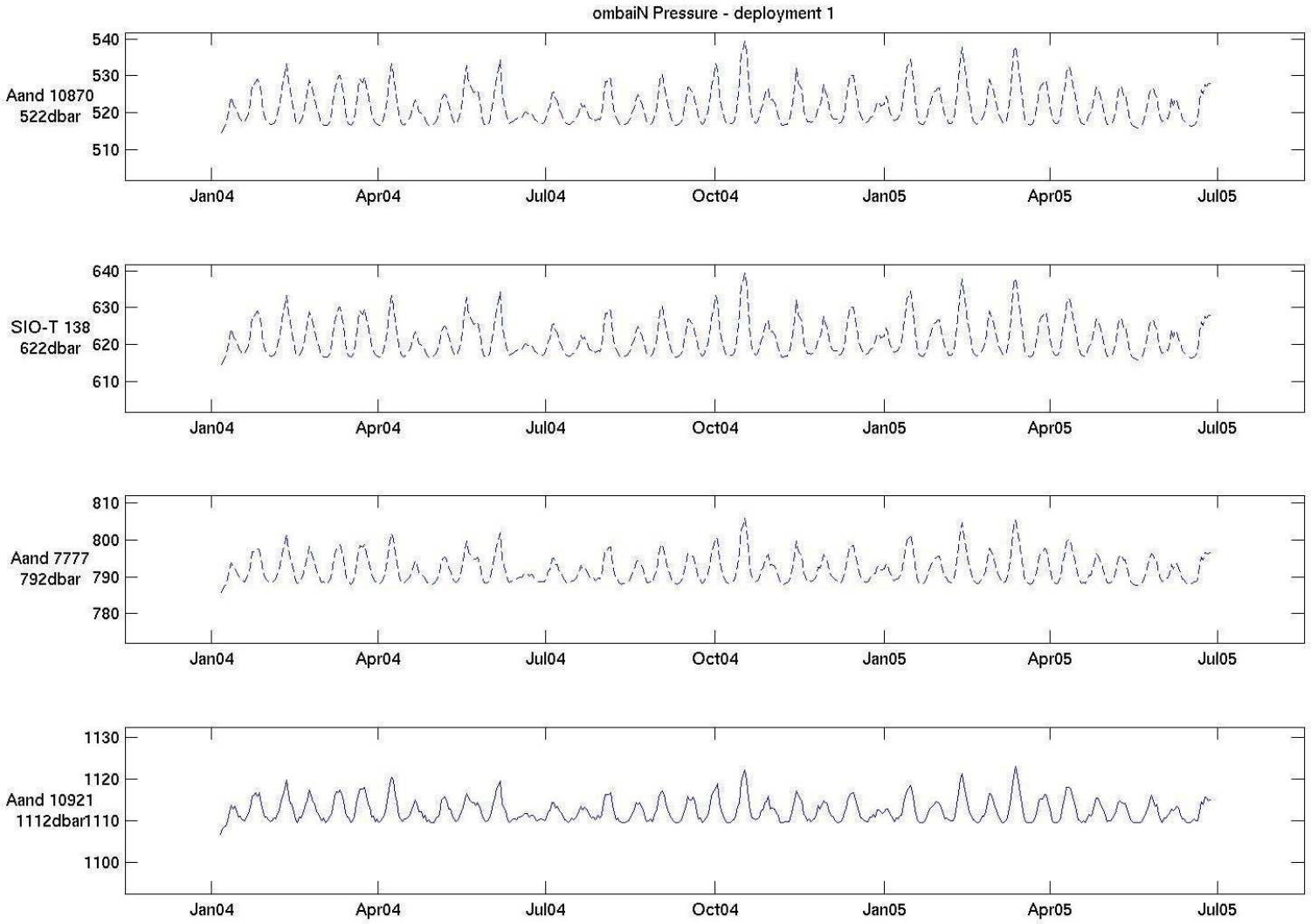
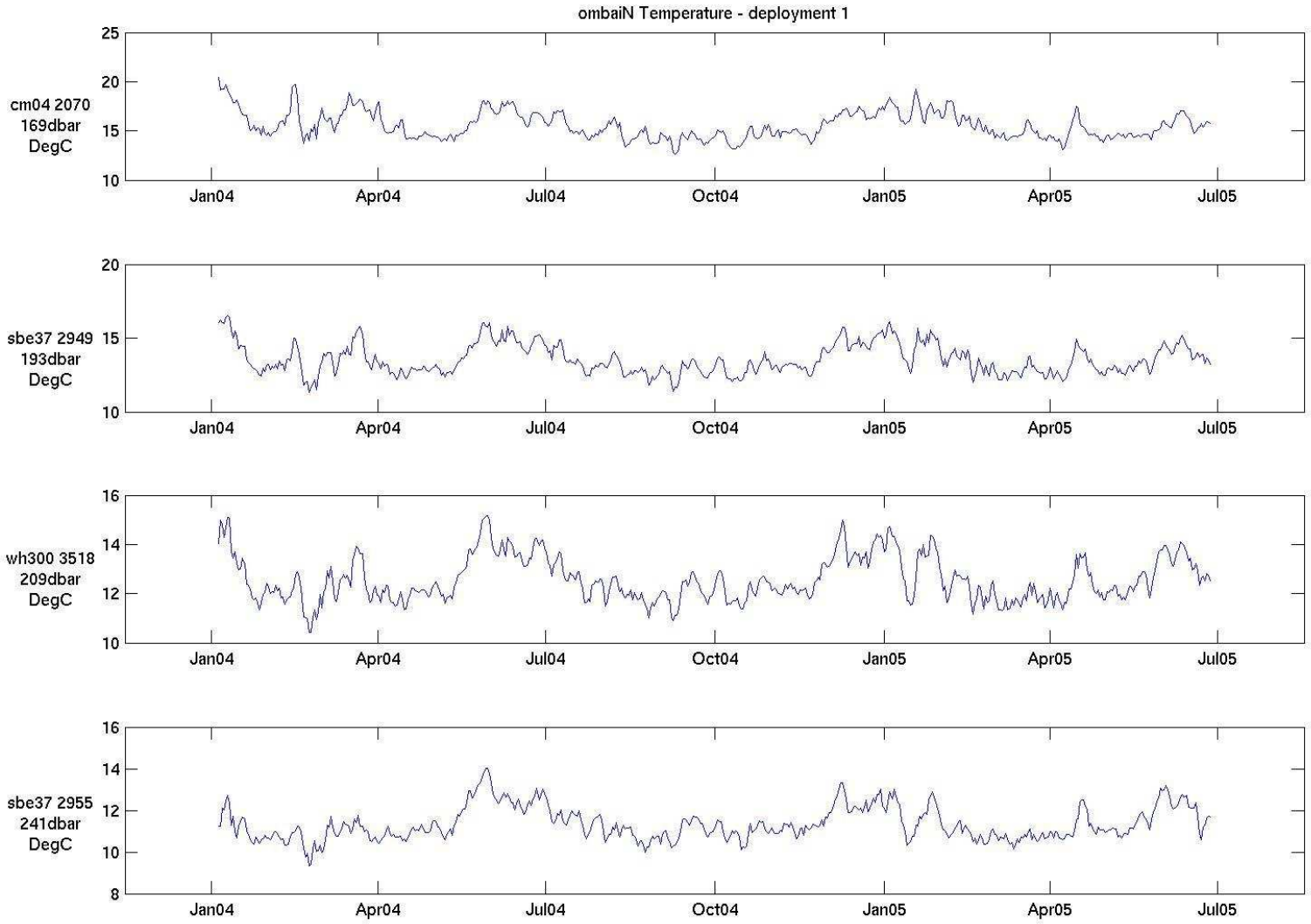

lombokE Vector plot - deployment 2
vmcm 011
242dbar
cm/s
Aquadopp 1502
308dbar
cm/s
vmcm 004
348dbar
cm/s
Aand 10918
419dbar
cm/s
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

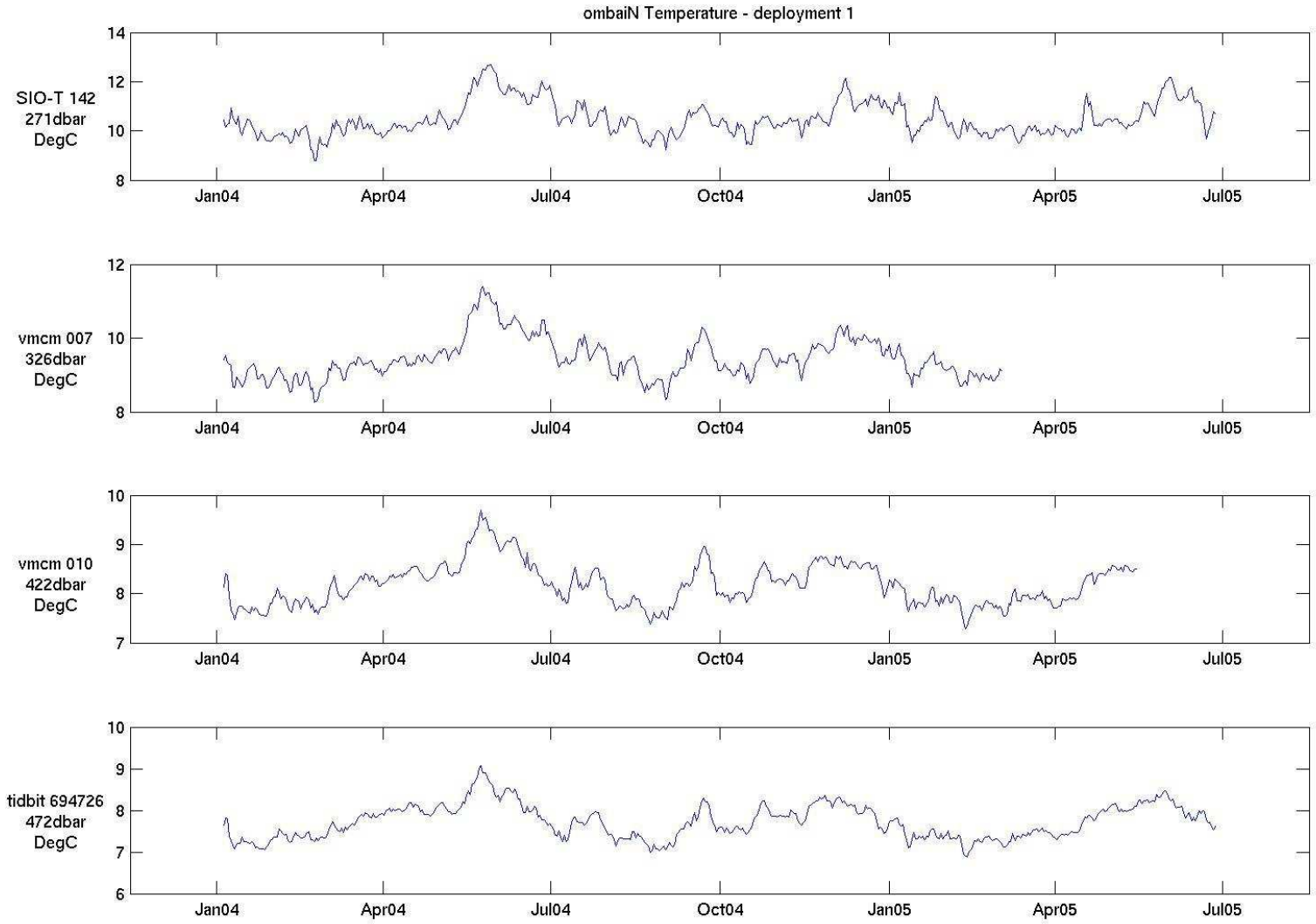
Figure 19. Low pass (1-day) plots of data for Ombai North mooring. **DOTTED LINES INDICATE INFERRED PRESSURE.**

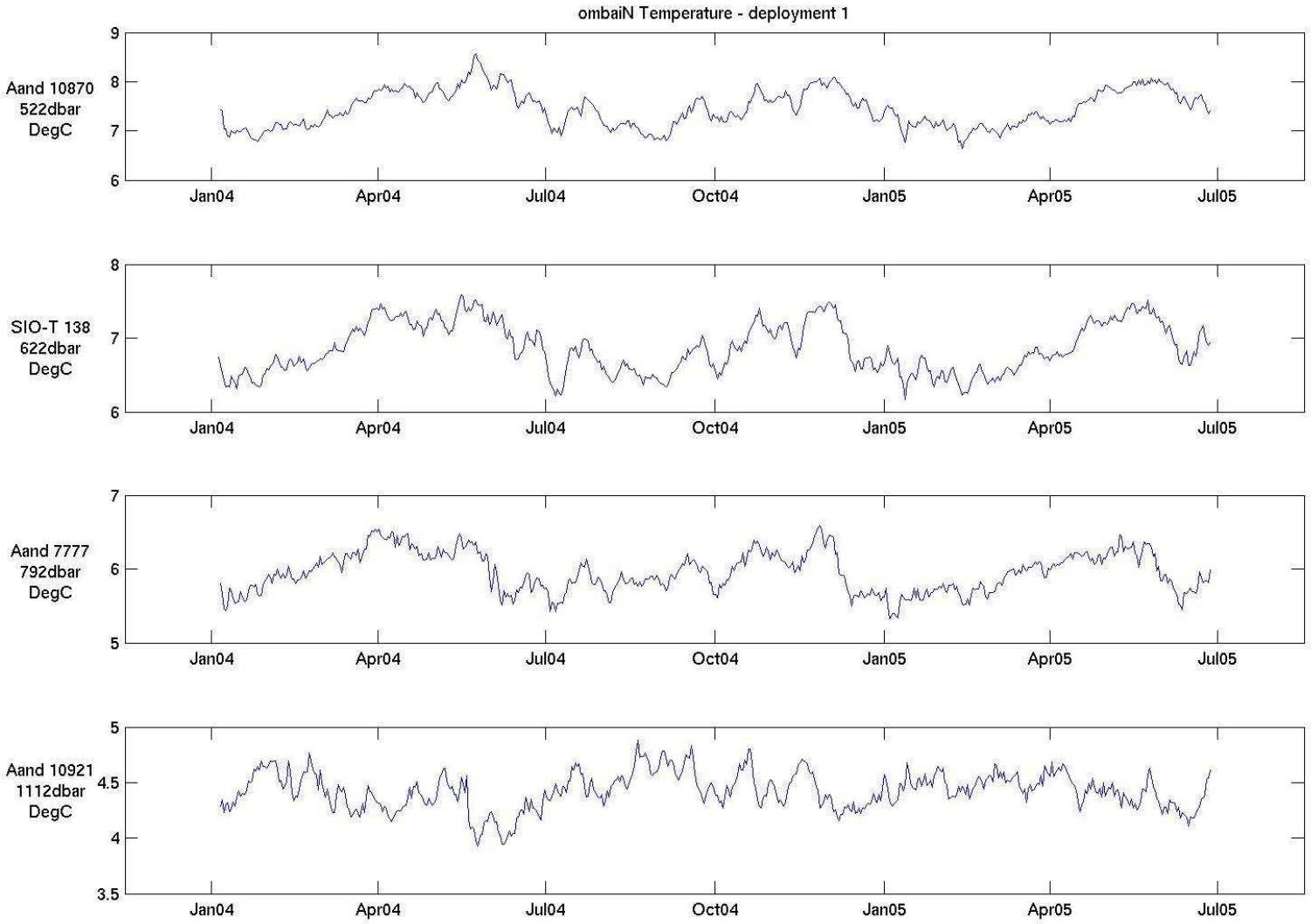


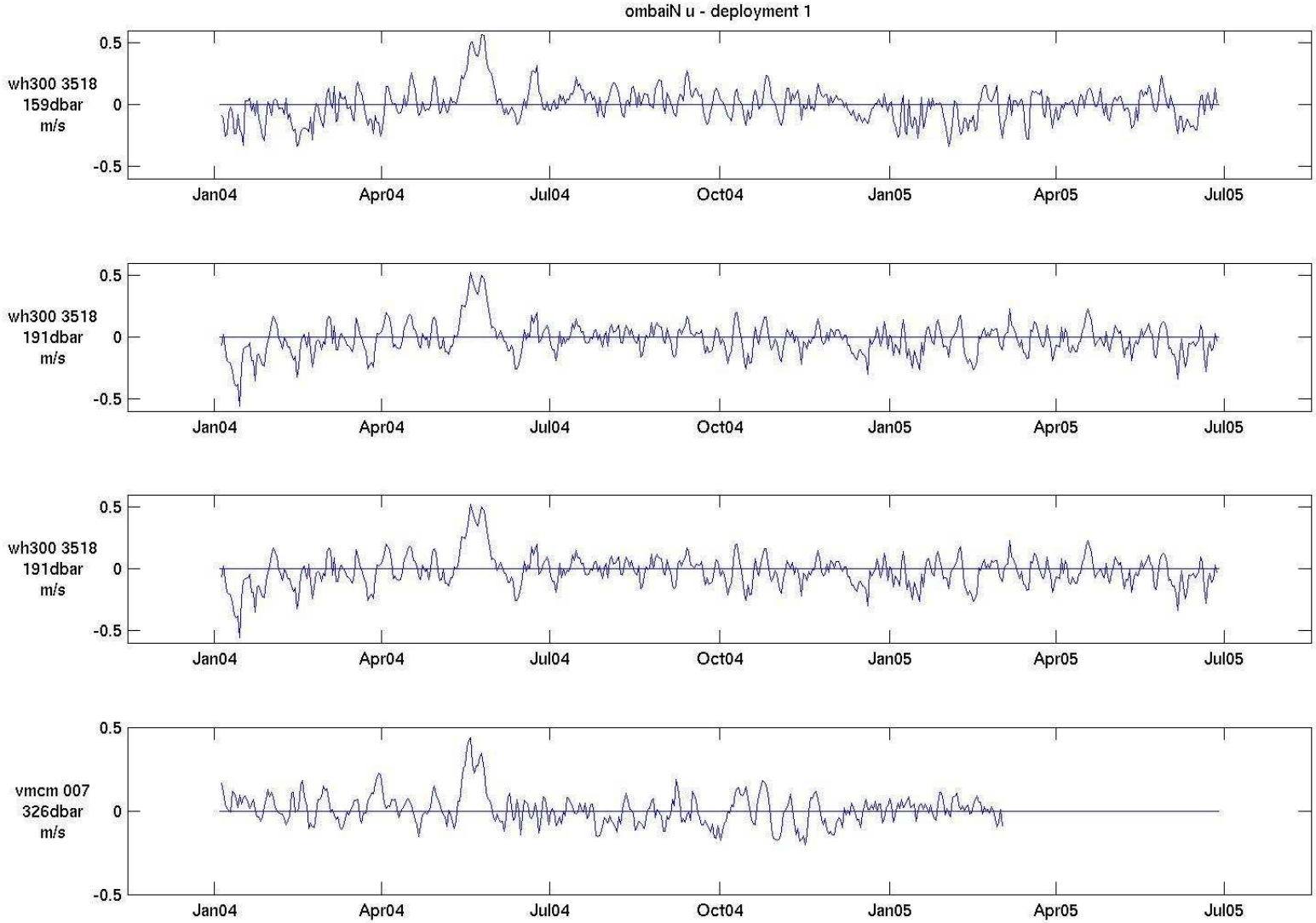

ombaiN Pressure - deployment 1
SIO-T 142
271dbar
290
280
270
260
vmcm 007
326dbar
340
330
320
310
vmcm 010
422dbar
440
430
420
410
tidbit 694726
472dbar
490
480
470
460
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

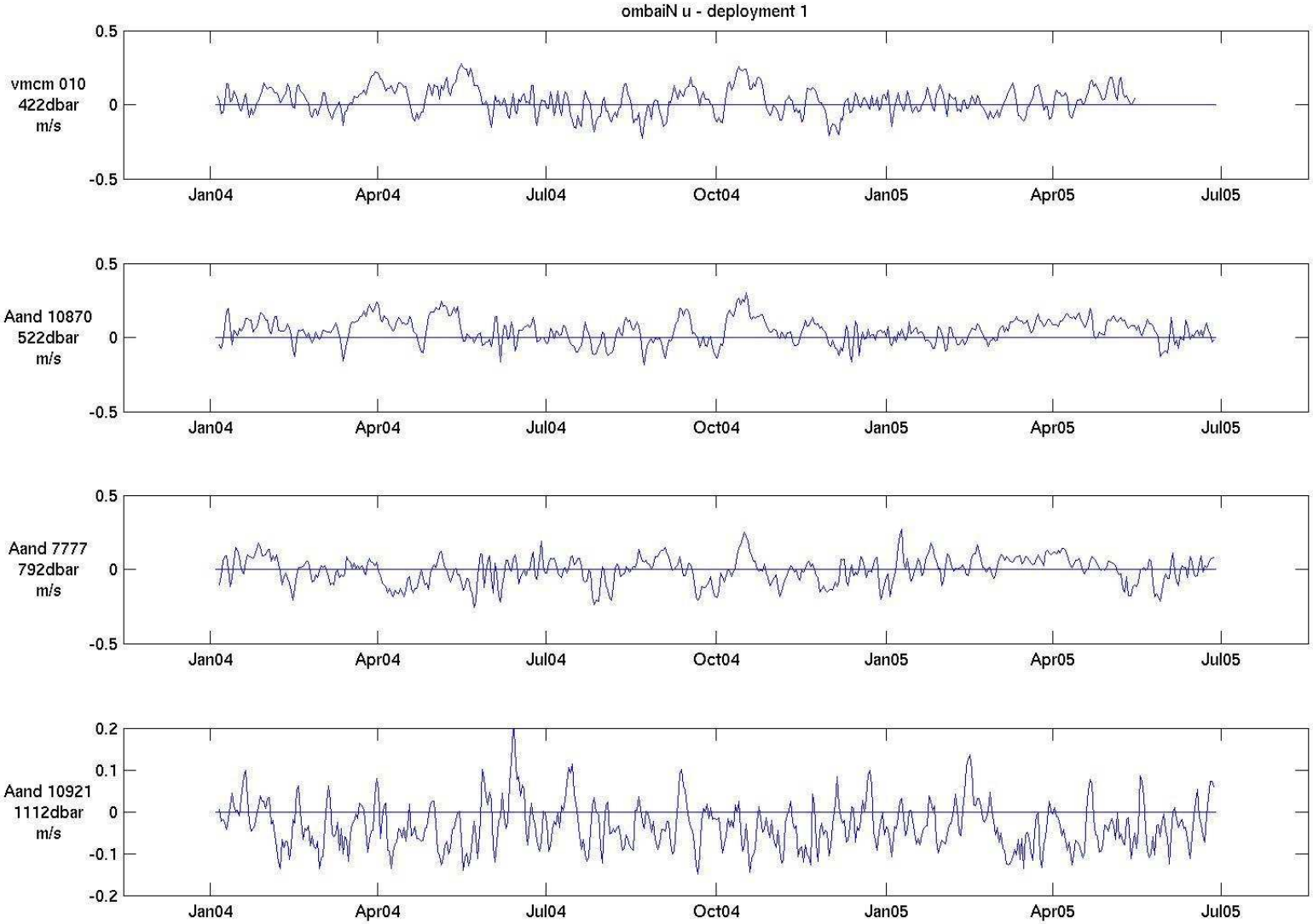

ombaiN Pressure - deployment 1
Aand 10870
522dbar
540
530
520
510
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
SIO-T 138
622dbar
640
630
620
610
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 7777
792dbar
810
800
790
780
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 10921
1112dbar
1130
1120
1110
1100
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

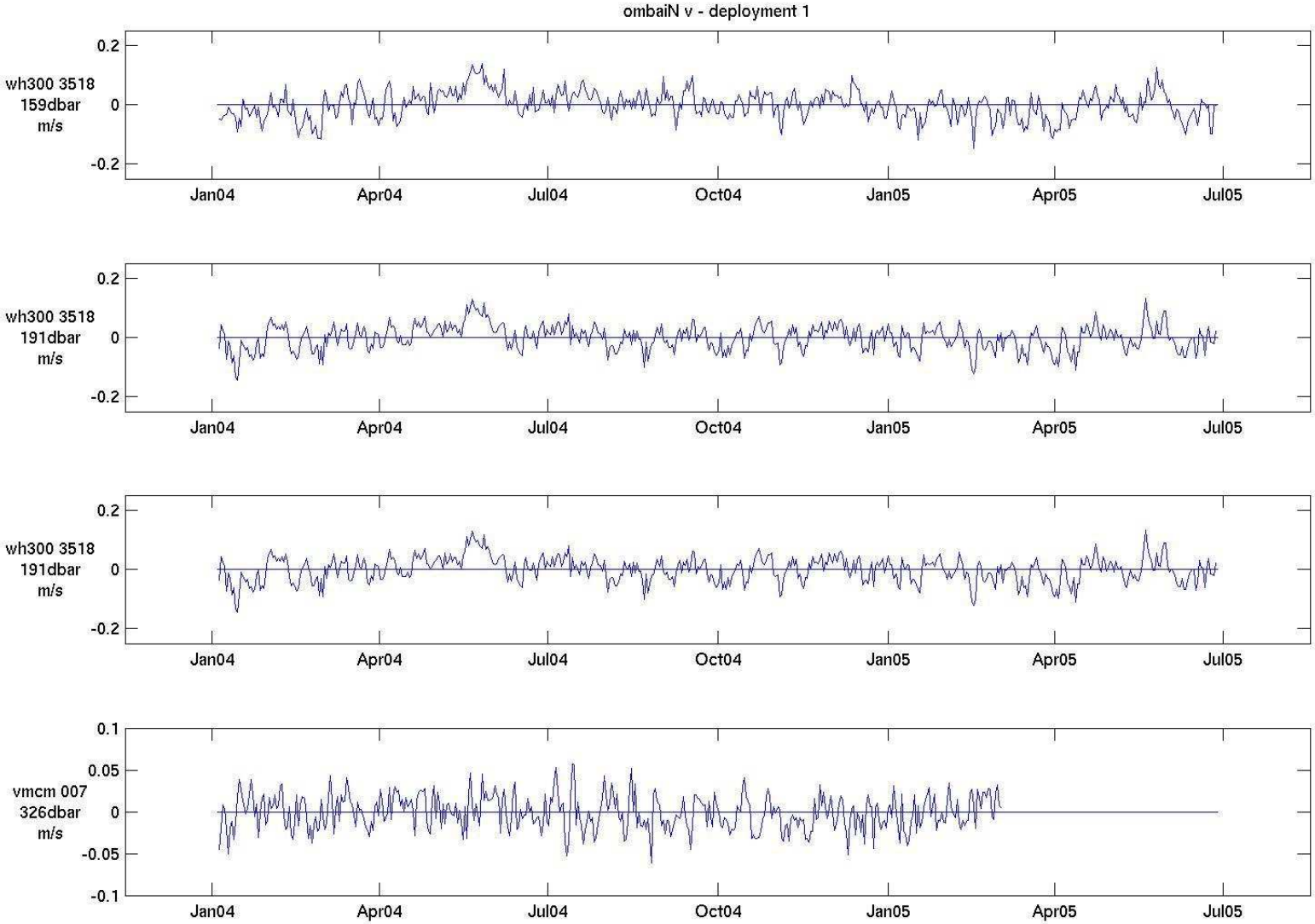

ombaiN Temperature - deployment 1
cm04 2070
169dbar
DegC
sbe37 2949
193dbar
DegC
wh300 3518
209dbar
DegC
sbe37 2955
241dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

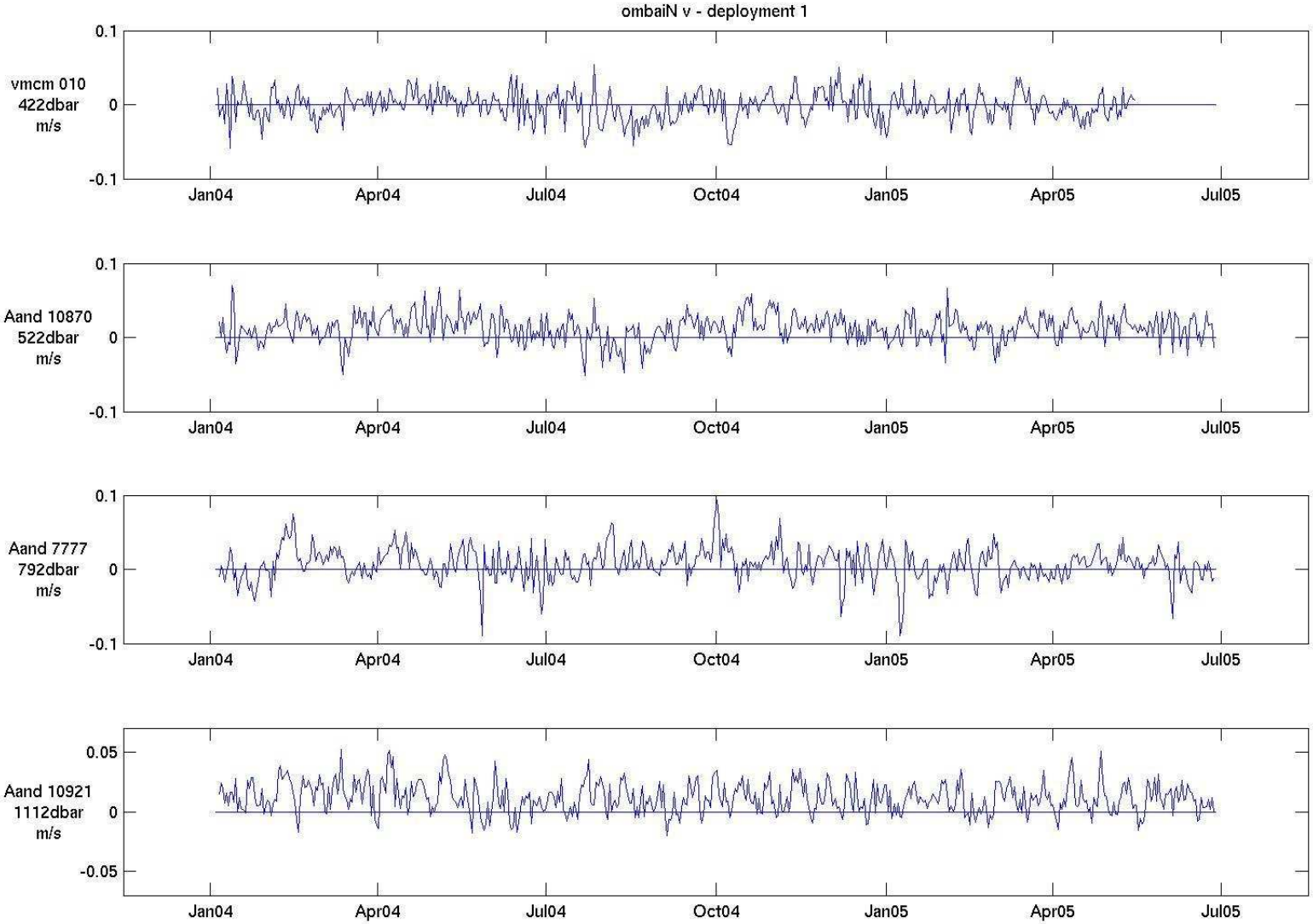

ombaiN Temperature - deployment 1
SIO-T 142
271dbar
DegC
vmcm 007
326dbar
DegC
vmcm 010
422dbar
DegC
tidbit 694726
472dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

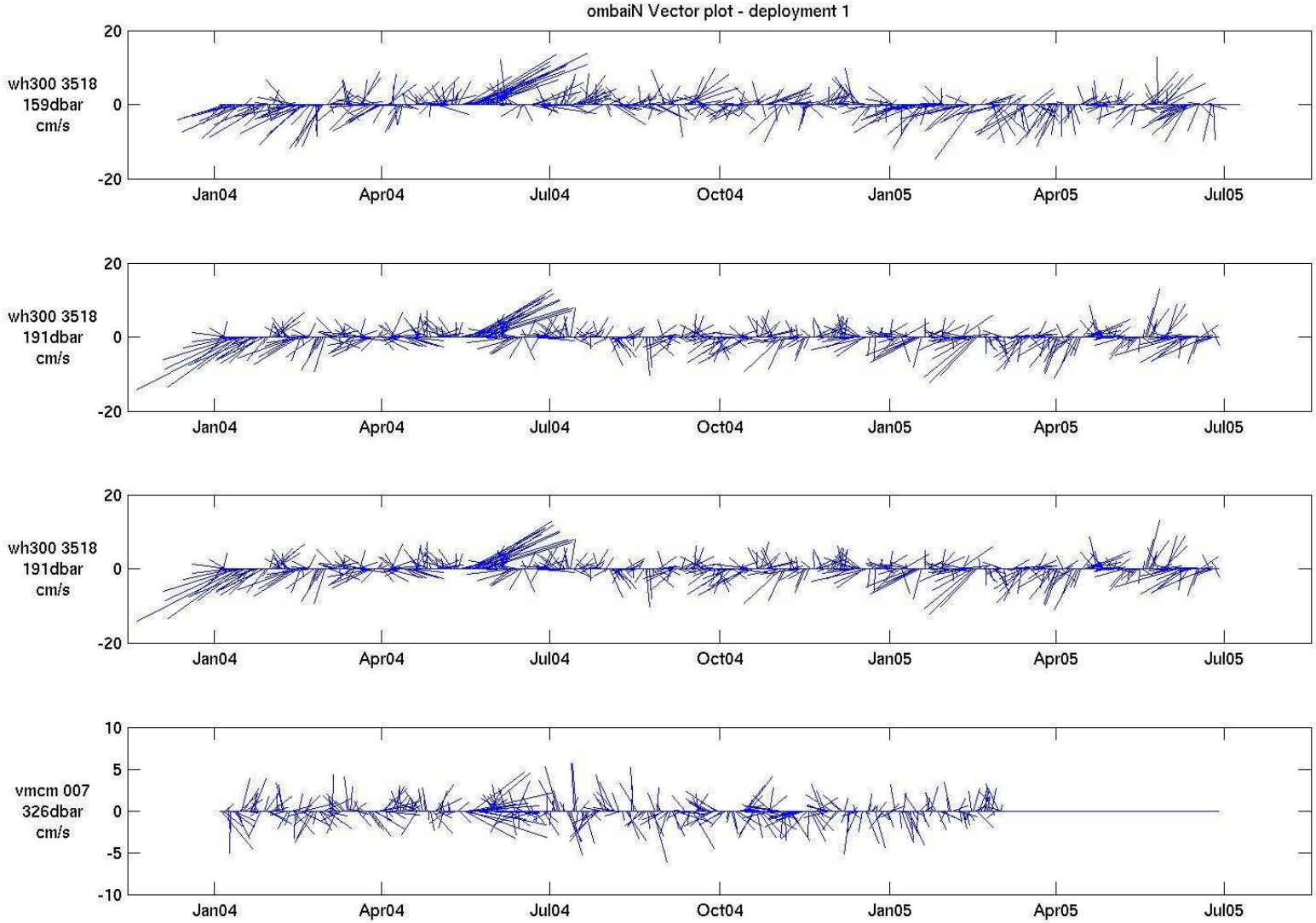

ombaiN Temperature - deployment 1
Aand 10870
522dbar
DegC
SIO-T 138
622dbar
DegC
Aand 7777
792dbar
DegC
Aand 10921
1112dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

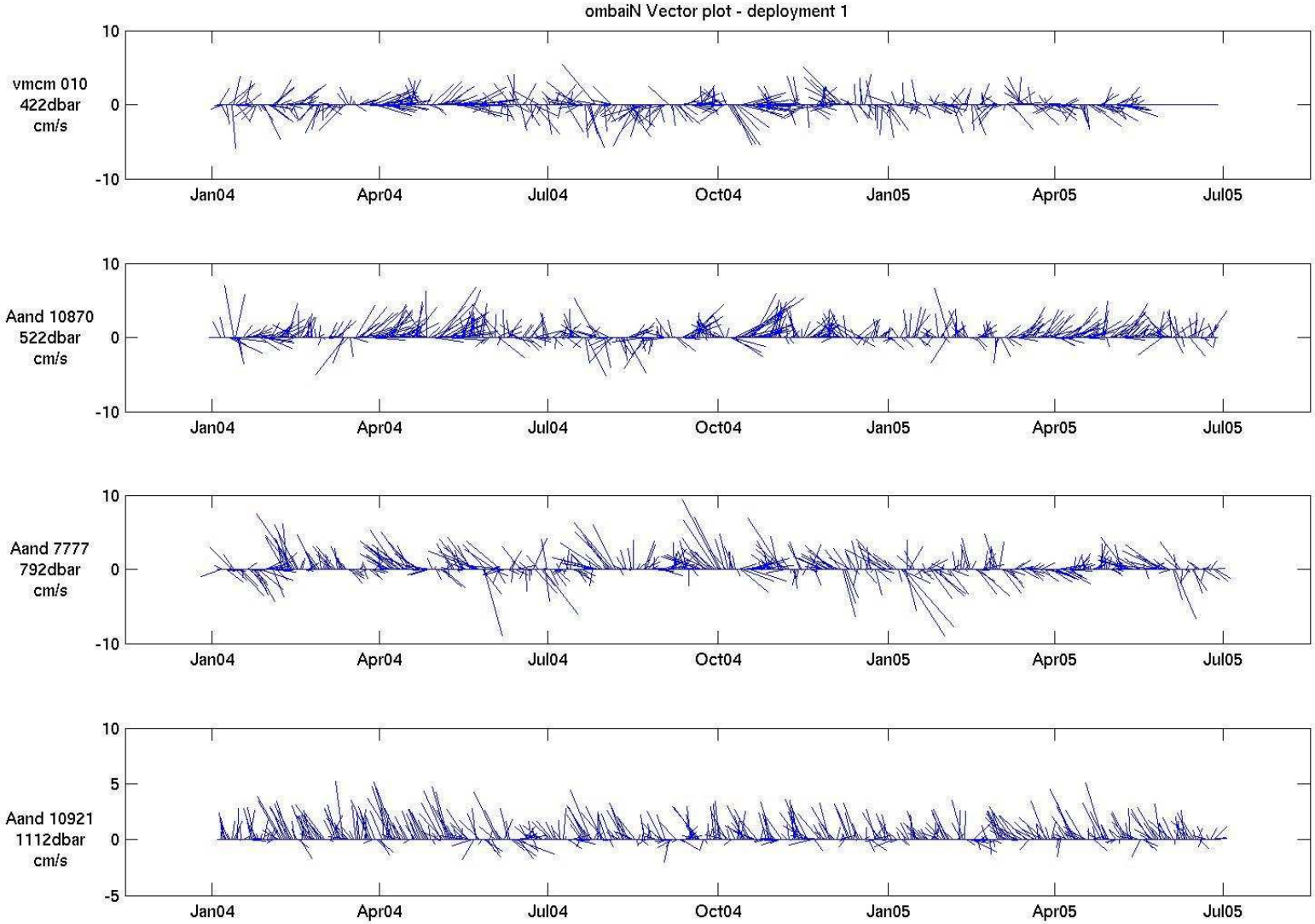

ombaiN u - deployment 1
wh300 3518
159dbar
m/s
wh300 3518
191dbar
m/s
wh300 3518
191dbar
m/s
vmcm 007
326dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

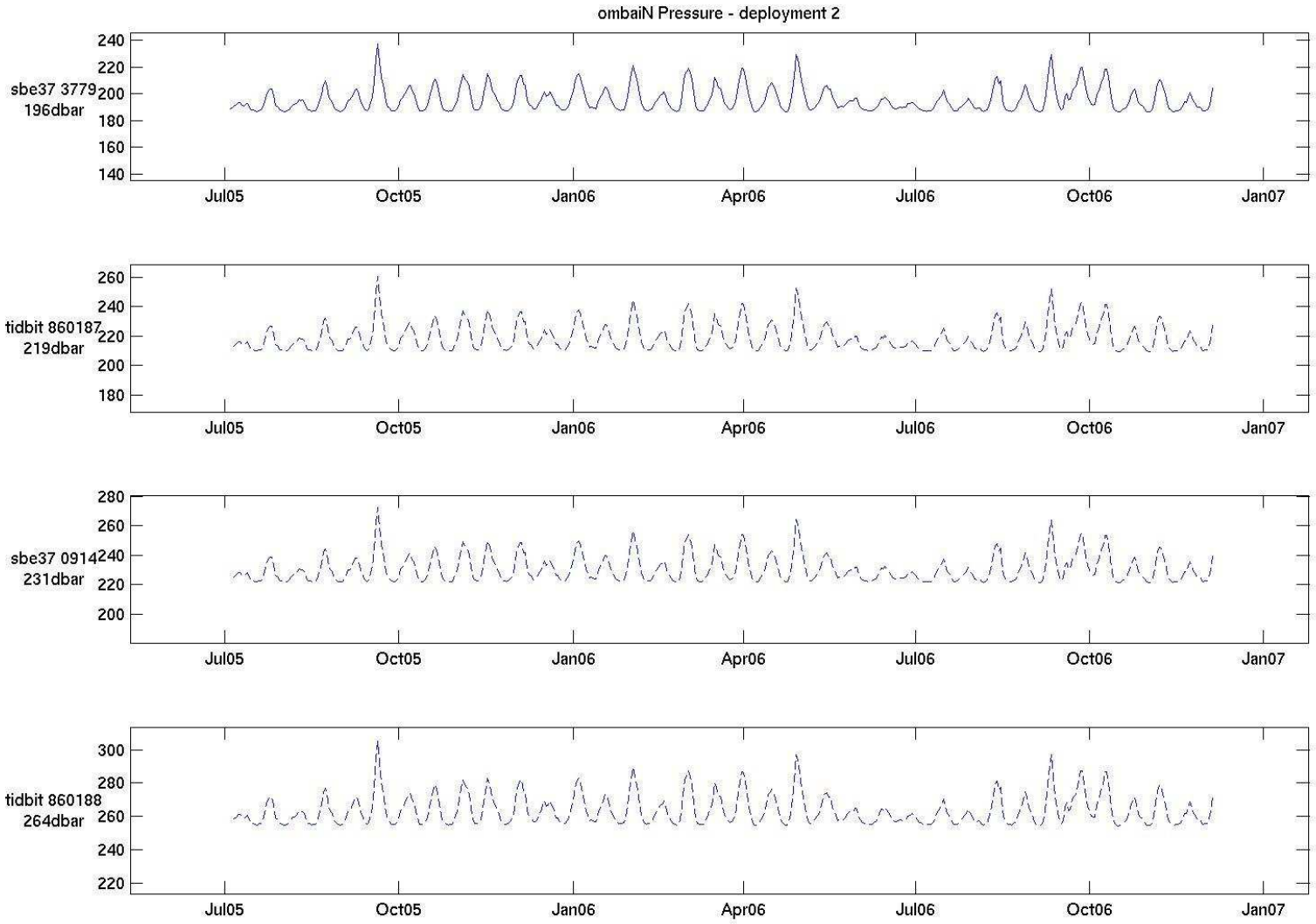

ombaiN u - deployment 1
vmcm 010
422dbar
m/s
Aand 10870
522dbar
m/s
Aand 7777
792dbar
m/s
Aand 10921
1112dbar
m/s
0.5
0
-0.5
0.2
0.1
-0.1
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

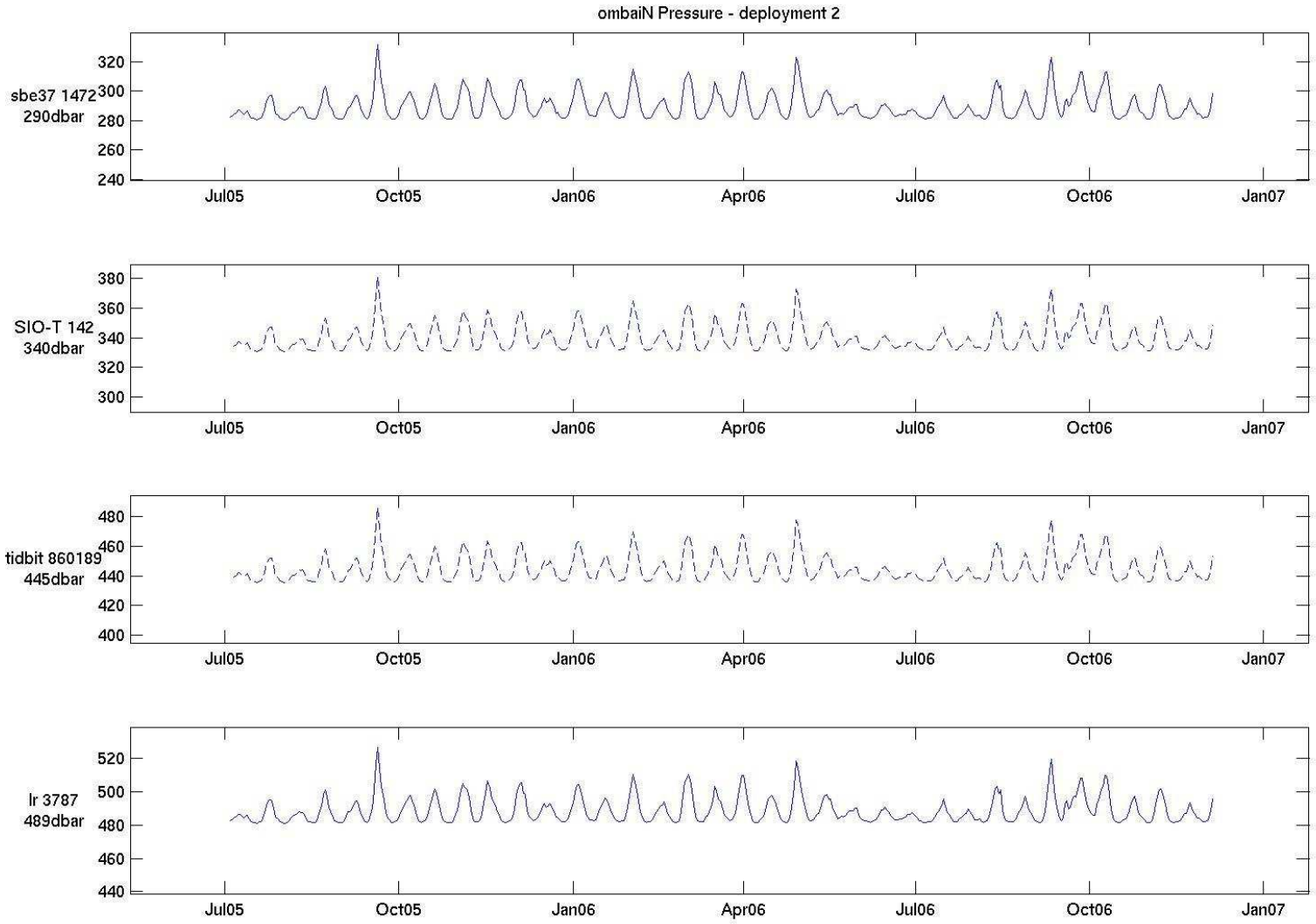

ombaiN v - deployment 1
wh300 3518
159dbar
m/s
0.2
0
-0.2
wh300 3518
191dbar
m/s
0.2
0
-0.2
wh300 3518
191dbar
m/s
0.2
0
-0.2
vmcm 007
326dbar
m/s
0.1
0.05
0
-0.05
-0.1
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

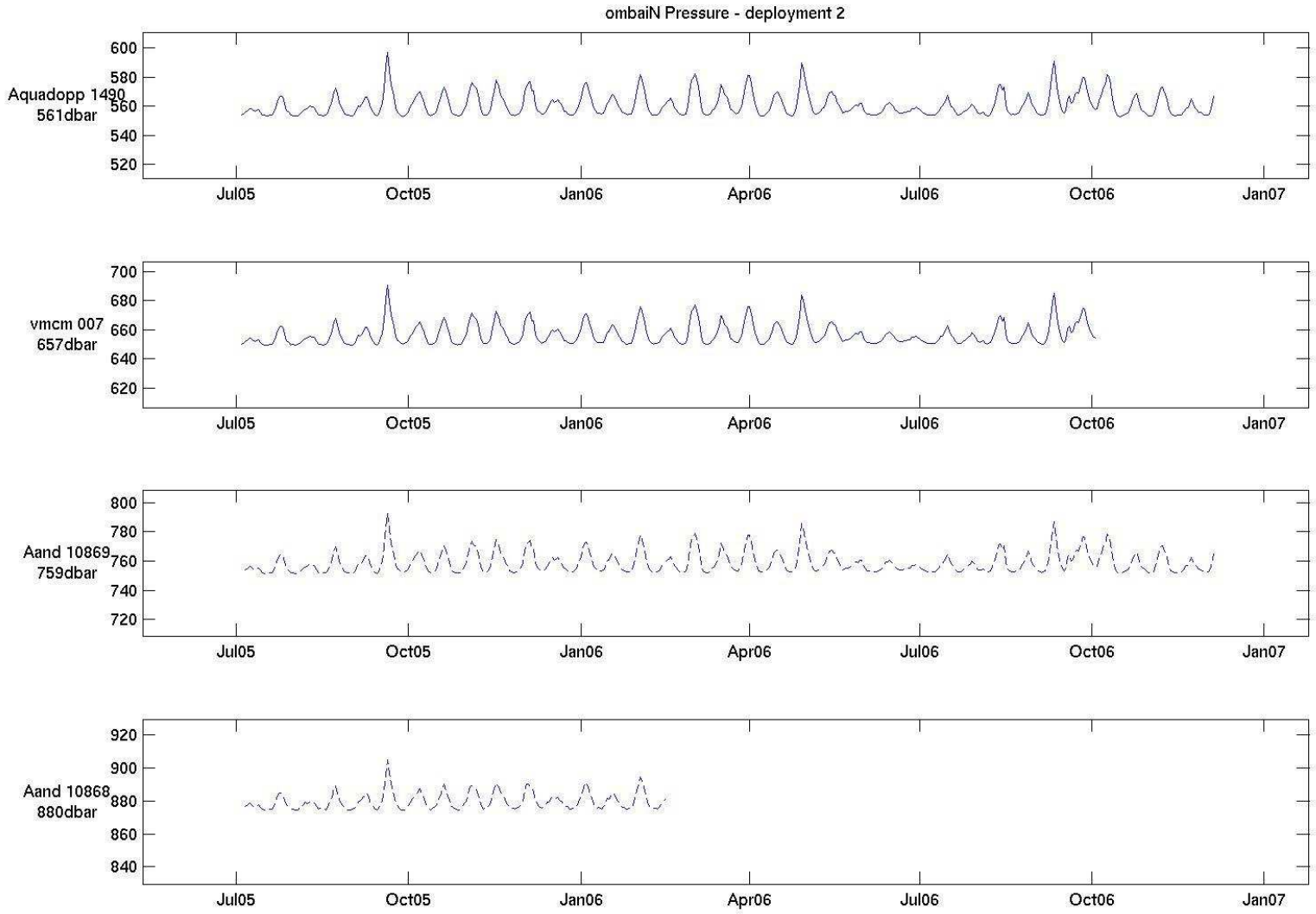

ombaiN v - deployment 1
vmcm 010
422dbar
m/s
Aand 10870
522dbar
m/s
Aand 7777
792dbar
m/s
Aand 10921
1112dbar
m/s
0.1
0
-0.1
0.05
-0.05
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

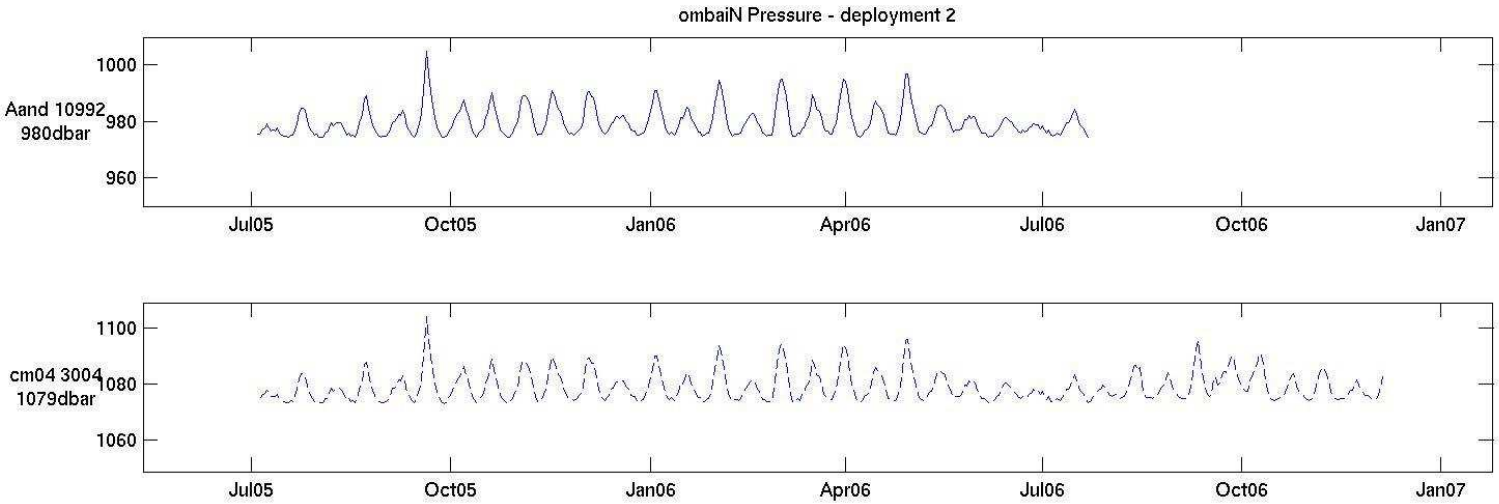

ombaiN Vector plot - deployment 1
wh300 3518
159dbar
cm/s
wh300 3518
191dbar
cm/s
wh300 3518
191dbar
cm/s
vmcm 007
326dbar
cm/s
20
0
-20
10
5
-5
-10
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

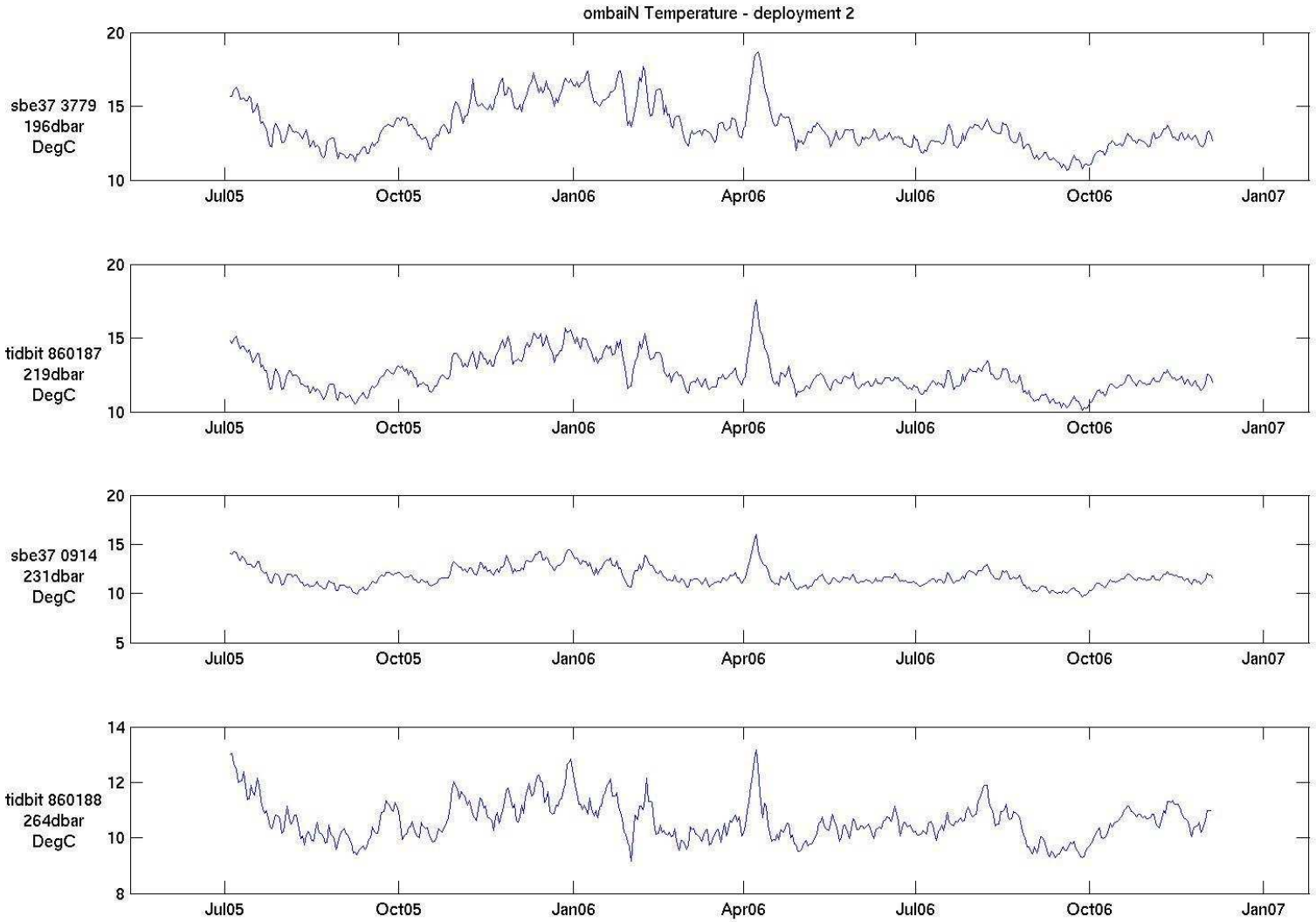

ombaiN Vector plot - deployment 1
vmcm 010
422dbar
cm/s
Aand 10870
522dbar
cm/s
Aand 7777
792dbar
cm/s
Aand 10921
1112dbar
cm/s
10
0
-10
5
-5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

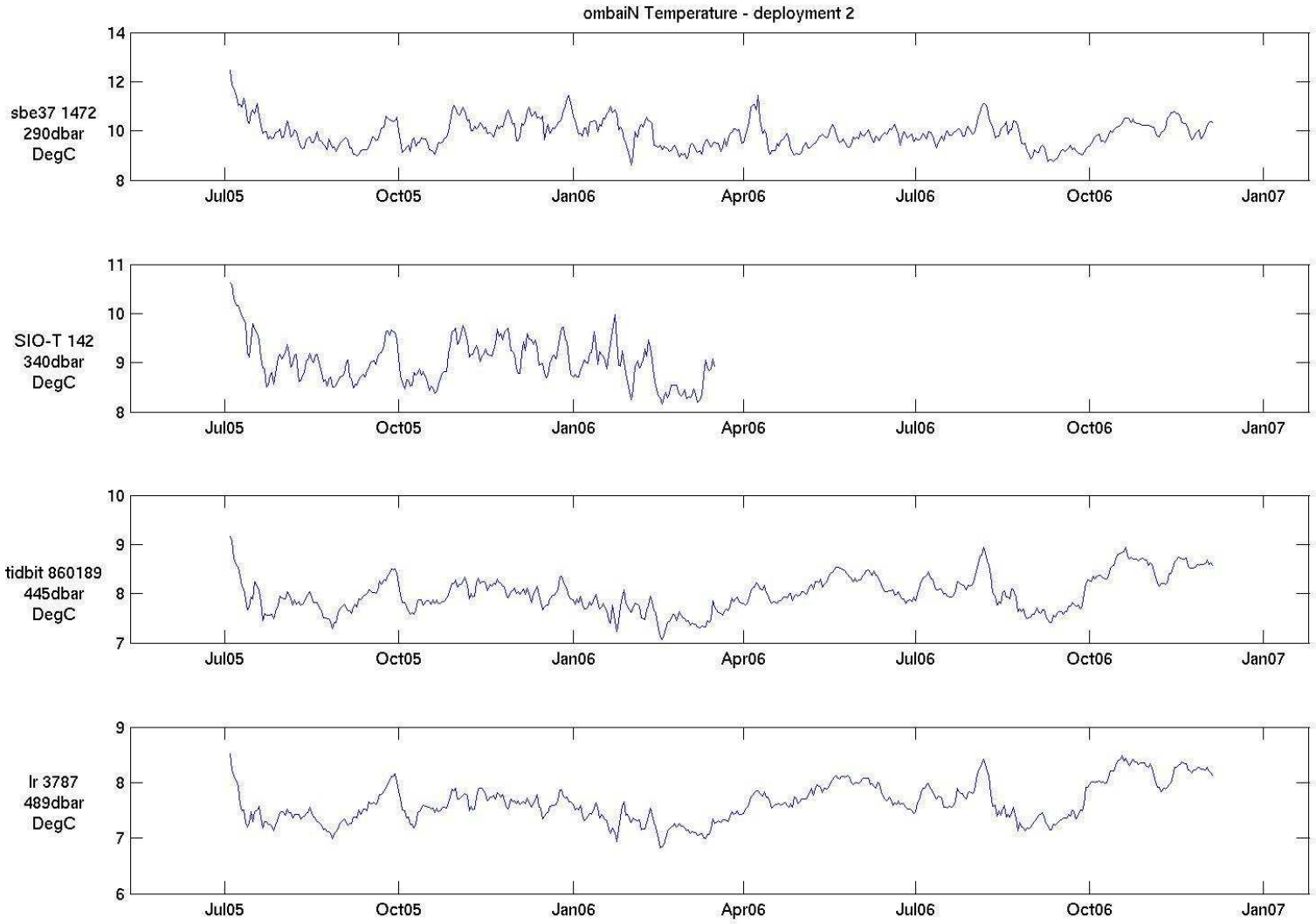

ombaiN Pressure - deployment 2
sbe37 3779
196dbar
240
220
200
180
160
140
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
tidbit 860187
219dbar
260
240
220
200
180
sbe37 0914
231dbar
280
260
240
220
200
tidbit 860188
264dbar
300
280
260
240
220

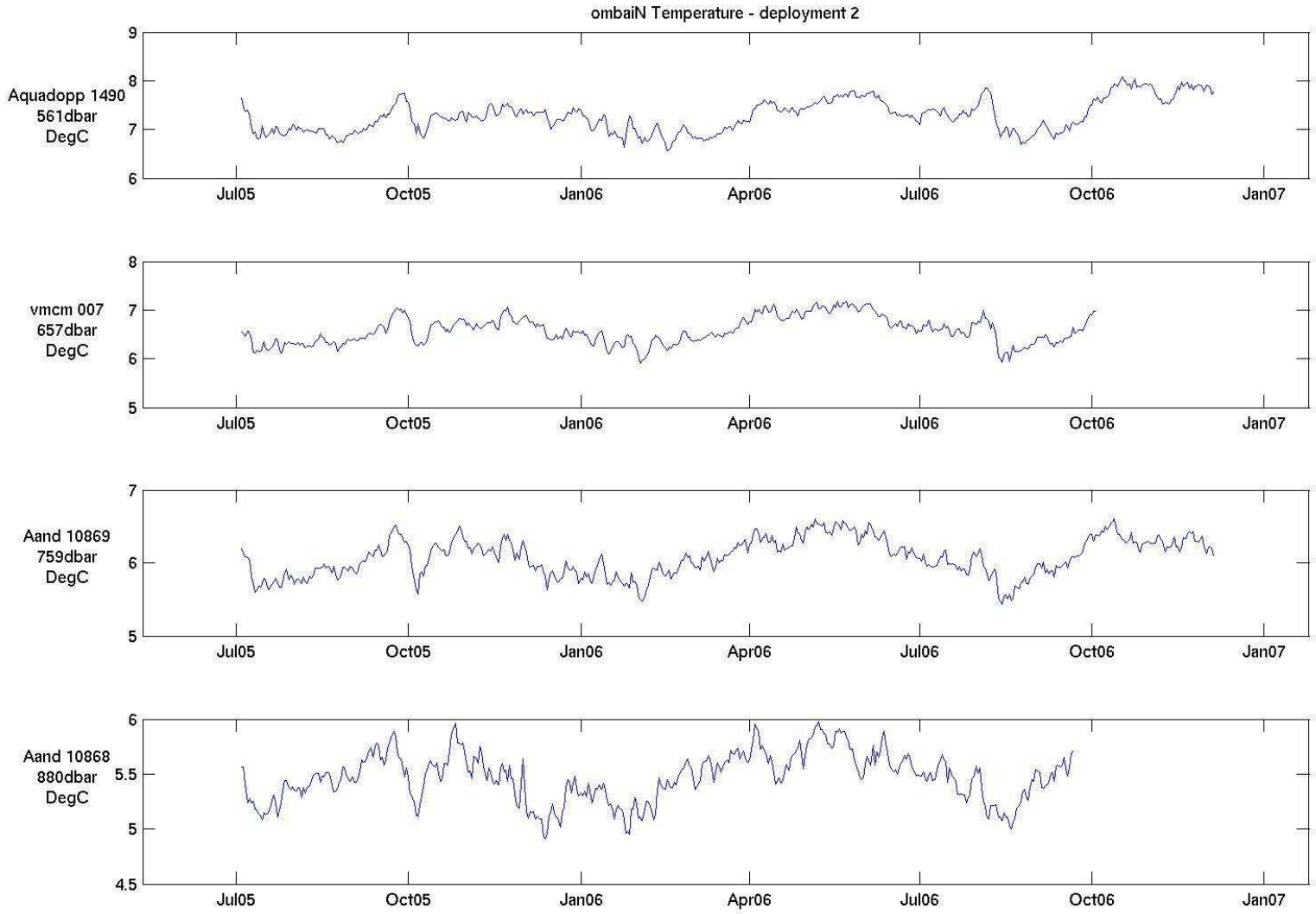

ombaiN Pressure - deployment 2
sbe37 1472
290dbar
320
300
280
260
240
SIO-T 142
340dbar
380
360
340
320
300
tidbit 860189
445dbar
480
460
440
420
400
lr 3787
489dbar
520
500
480
460
440
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

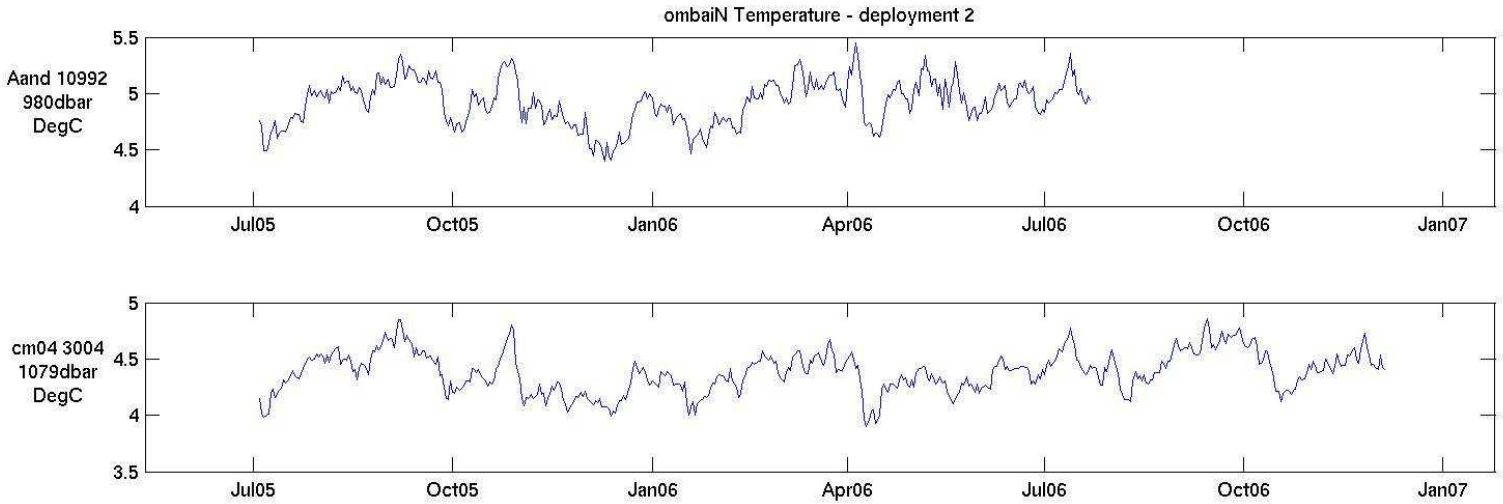

ombaiN Pressure - deployment 2
Aquadopp 1490
561dbar
600
580
560
540
520
vmcm 007
657dbar
700
680
660
640
620
Aand 10869
759dbar
800
780
760
740
720
Aand 10868
880dbar
920
900
880
860
840
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

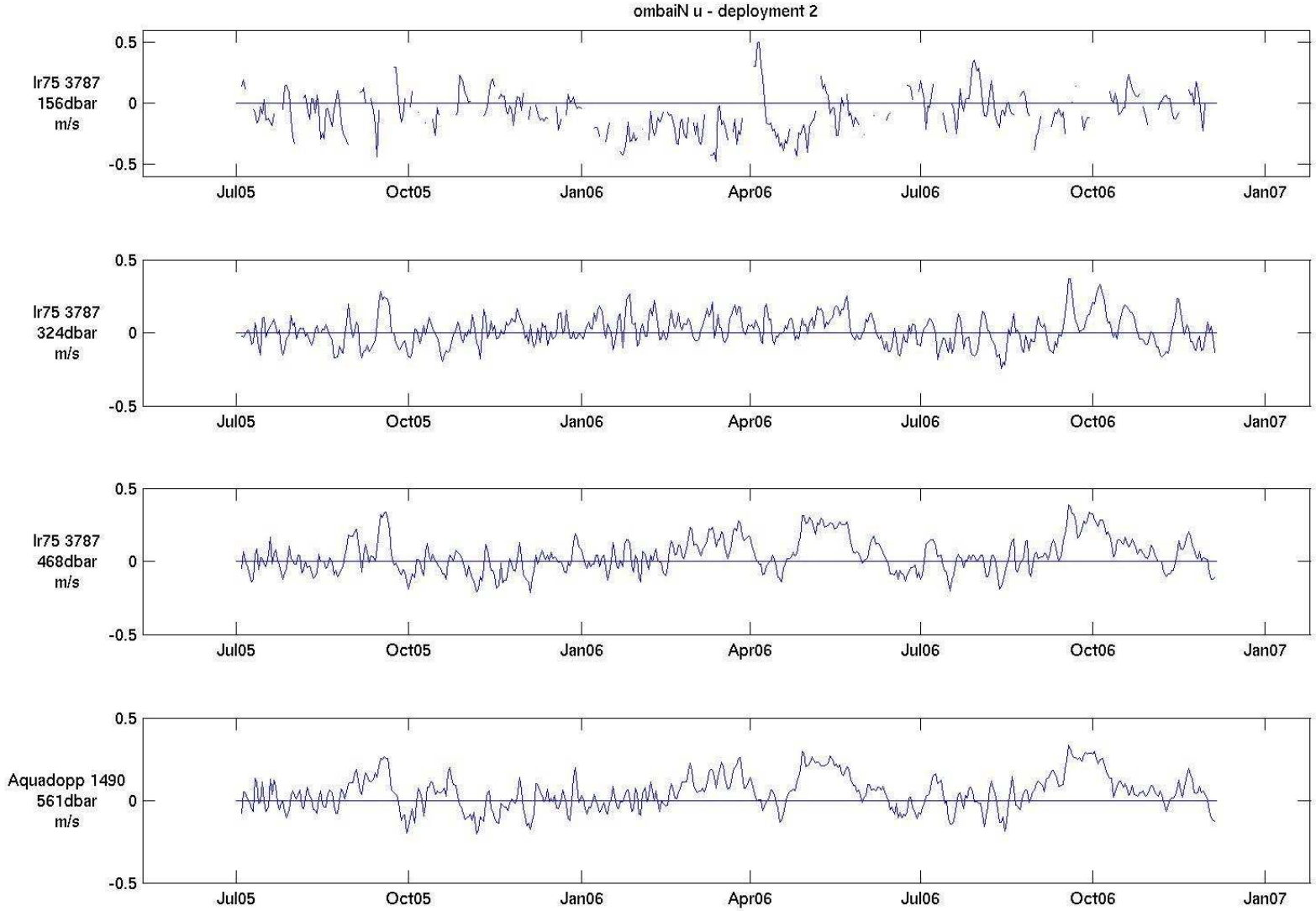

ombaiN Pressure - deployment 2
Aand 10992
980dbar
1000
980
960
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
cm04 3004
1079dbar
1100
1080
1060
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

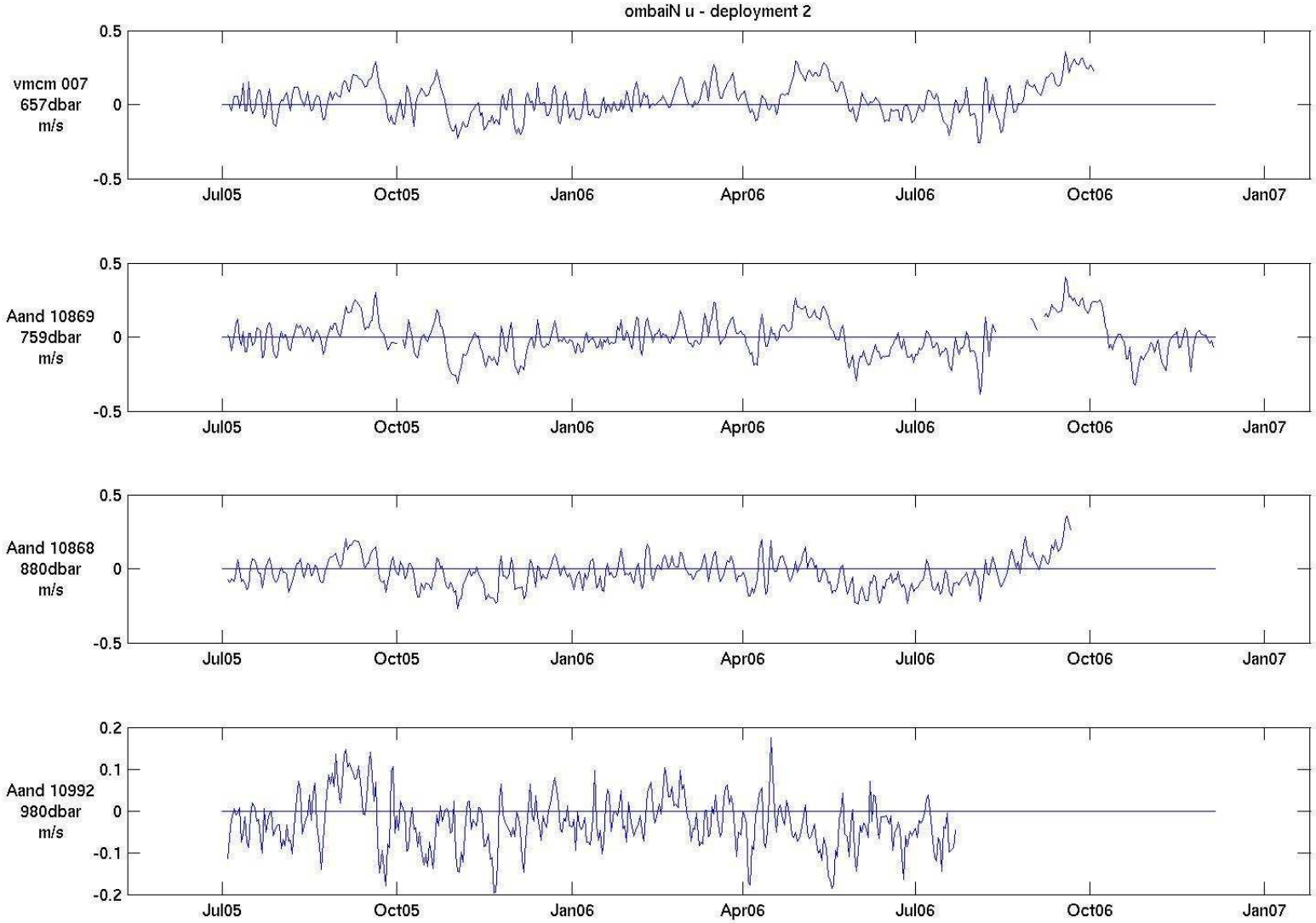

ombaiN Temperature - deployment 2
sbe37 3779
196dbar
DegC
tidbit 860187
219dbar
DegC
sbe37 0914
231dbar
DegC
tidbit 860188
264dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

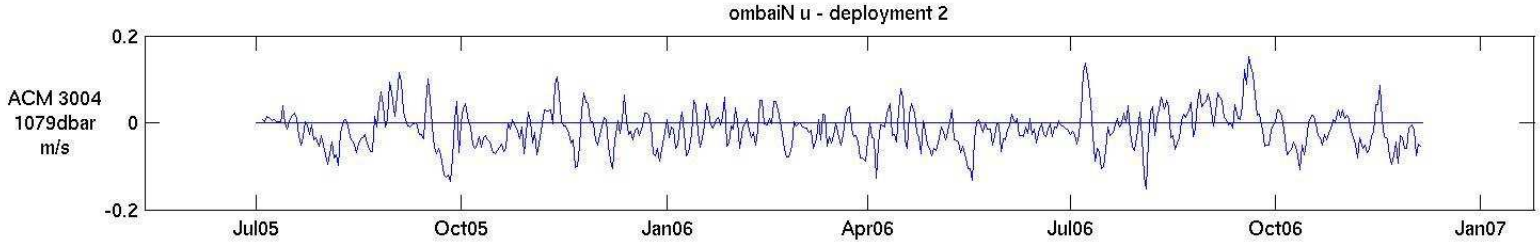

ombaiN Temperature - deployment 2
sbe37 1472
290dbar
DegC
SIO-T 142
340dbar
DegC
tidbit 860189
445dbar
DegC
lr 3787
489dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

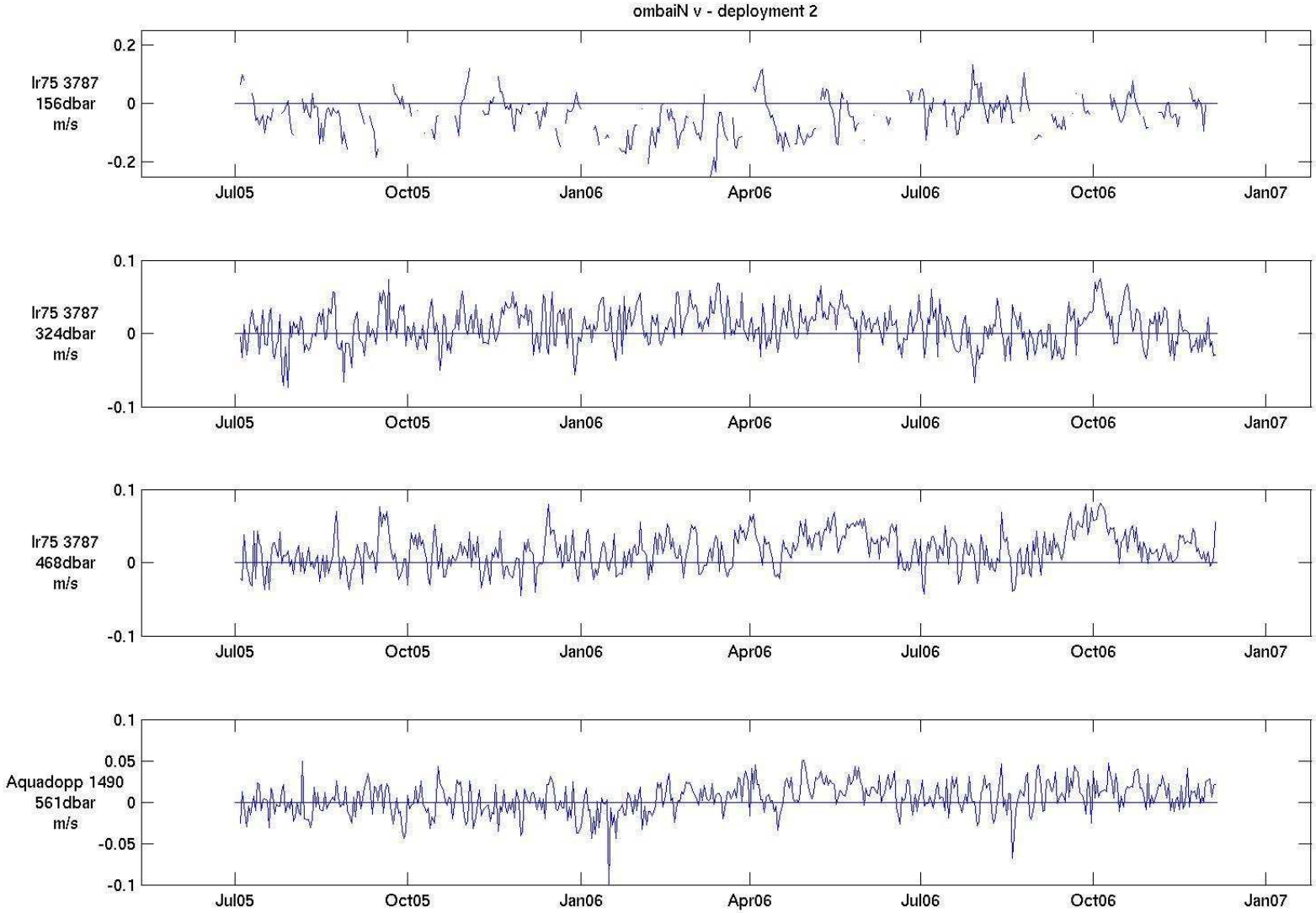

ombaiN Temperature - deployment 2
Aquadopp 1490
561dbar
DegC
vmcm 007
657dbar
DegC
Aand 10869
759dbar
DegC
Aand 10868
880dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

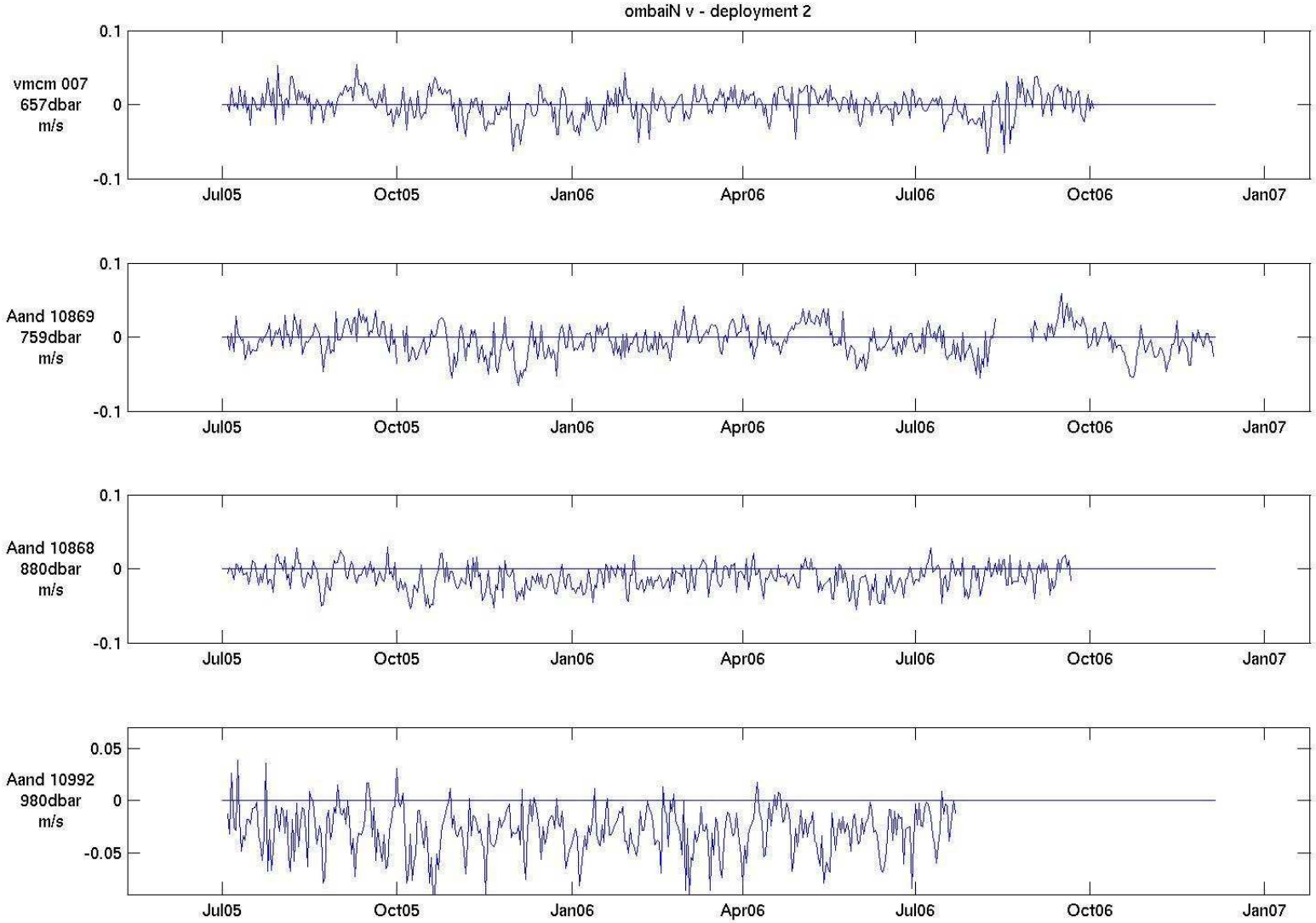

ombaiN Temperature - deployment 2
Aand 10992
980dbar
DegC
5.5
5
4.5
4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
cm04 3004
1079dbar
DegC
5
4.5
4
3.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

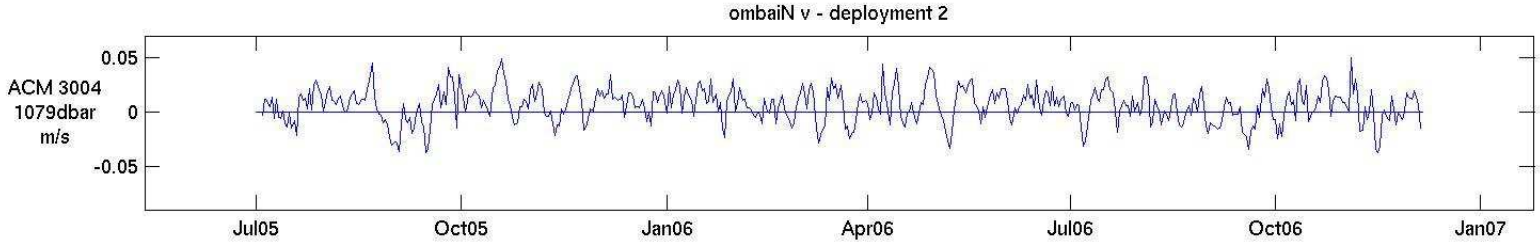

ombaiN u - deployment 2
lr75 3787
156dbar
m/s
lr75 3787
324dbar
m/s
lr75 3787
468dbar
m/s
Aquadopp 1490
561dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

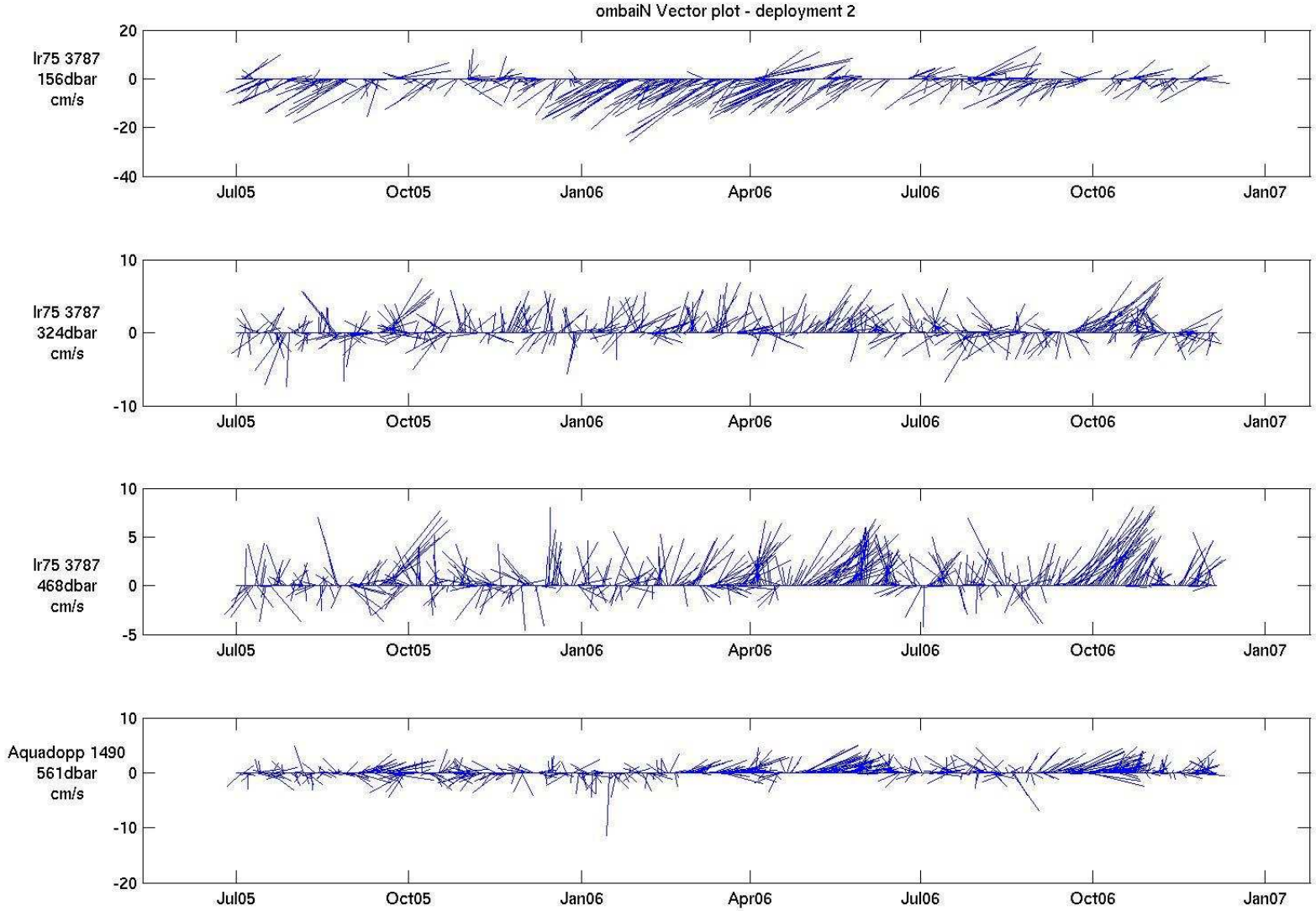

ombaiN u - deployment 2
vmcm 007
657dbar
m/s
Aand 10869
759dbar
m/s
Aand 10868
880dbar
m/s
Aand 10992
980dbar
m/s
0.5
0
-0.5
0.2
0.1
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

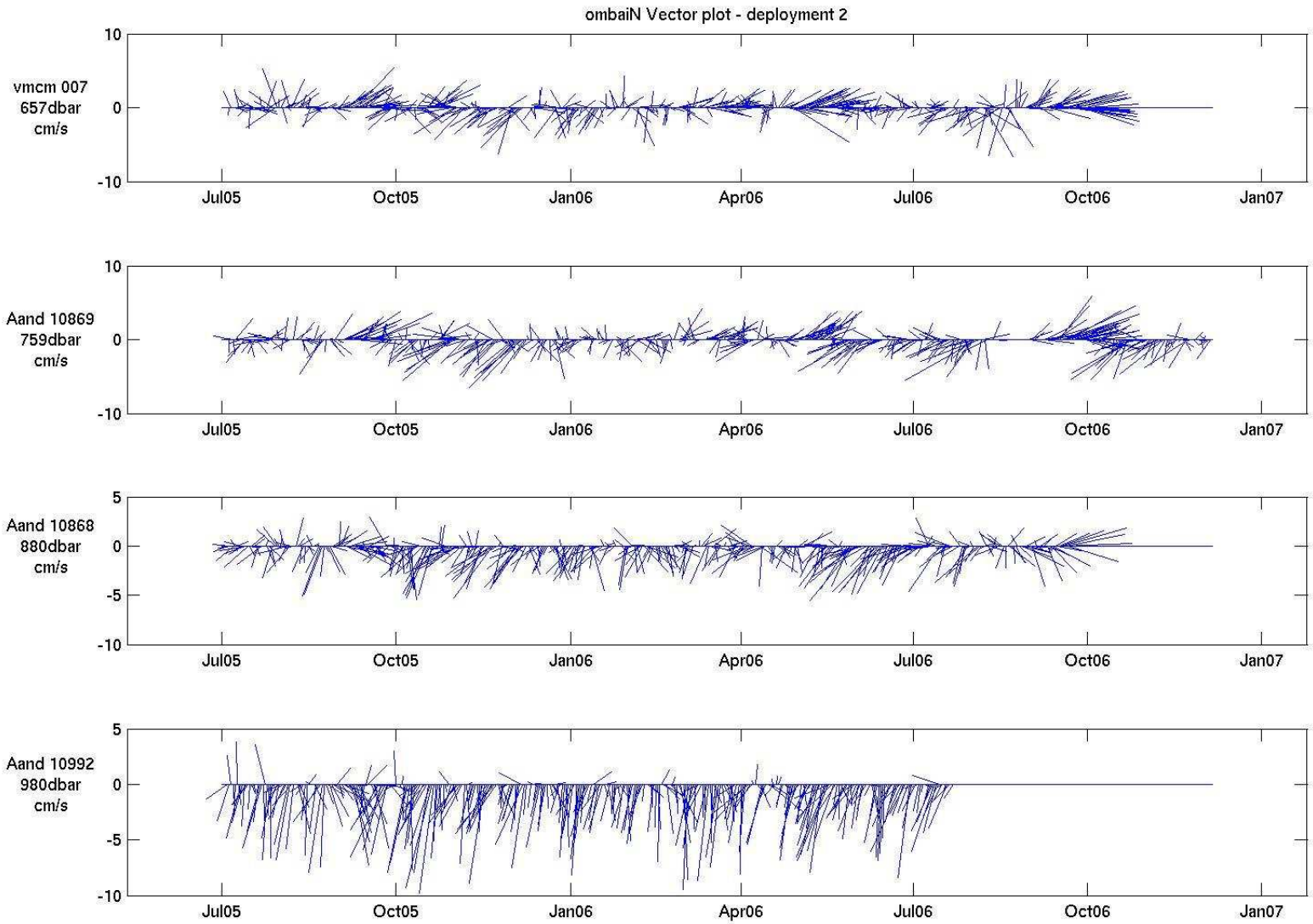

ombaiN u - deployment 2
ACM 3004
1079dbar
m/s
0.2
0
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiN v - deployment 2
lr75 3787
156dbar
m/s
0.2
0
-0.2
lr75 3787
324dbar
m/s
0.1
0
-0.1
lr75 3787
468dbar
m/s
0.1
0
-0.1
Aquadopp 1490
561dbar
m/s
0.1
0.05
0
-0.05
-0.1
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiN v - deployment 2
vmcm 007
657dbar
m/s
Aand 10869
759dbar
m/s
Aand 10868
880dbar
m/s
Aand 10992
980dbar
m/s
0.1
0
-0.1
0.05
-0.05
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiN v - deployment 2
ACM 3004
1079dbar
m/s
0.05
0
-0.05
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiN Vector plot - deployment 2
lr75 3787
156dbar
cm/s
20
0
-20
-40
lr75 3787
324dbar
cm/s
10
0
-10
lr75 3787
468dbar
cm/s
10
5
0
-5
Aquadopp 1490
561dbar
cm/s
10
0
-10
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiN Vector plot - deployment 2
vmcm 007
657dbar
cm/s
Aand 10869
759dbar
cm/s
Aand 10868
880dbar
cm/s
Aand 10992
980dbar
cm/s
10
0
-10
5
-5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

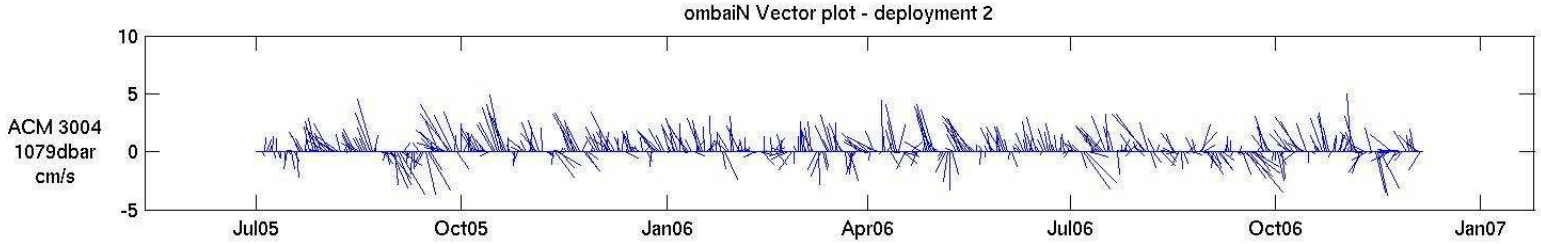
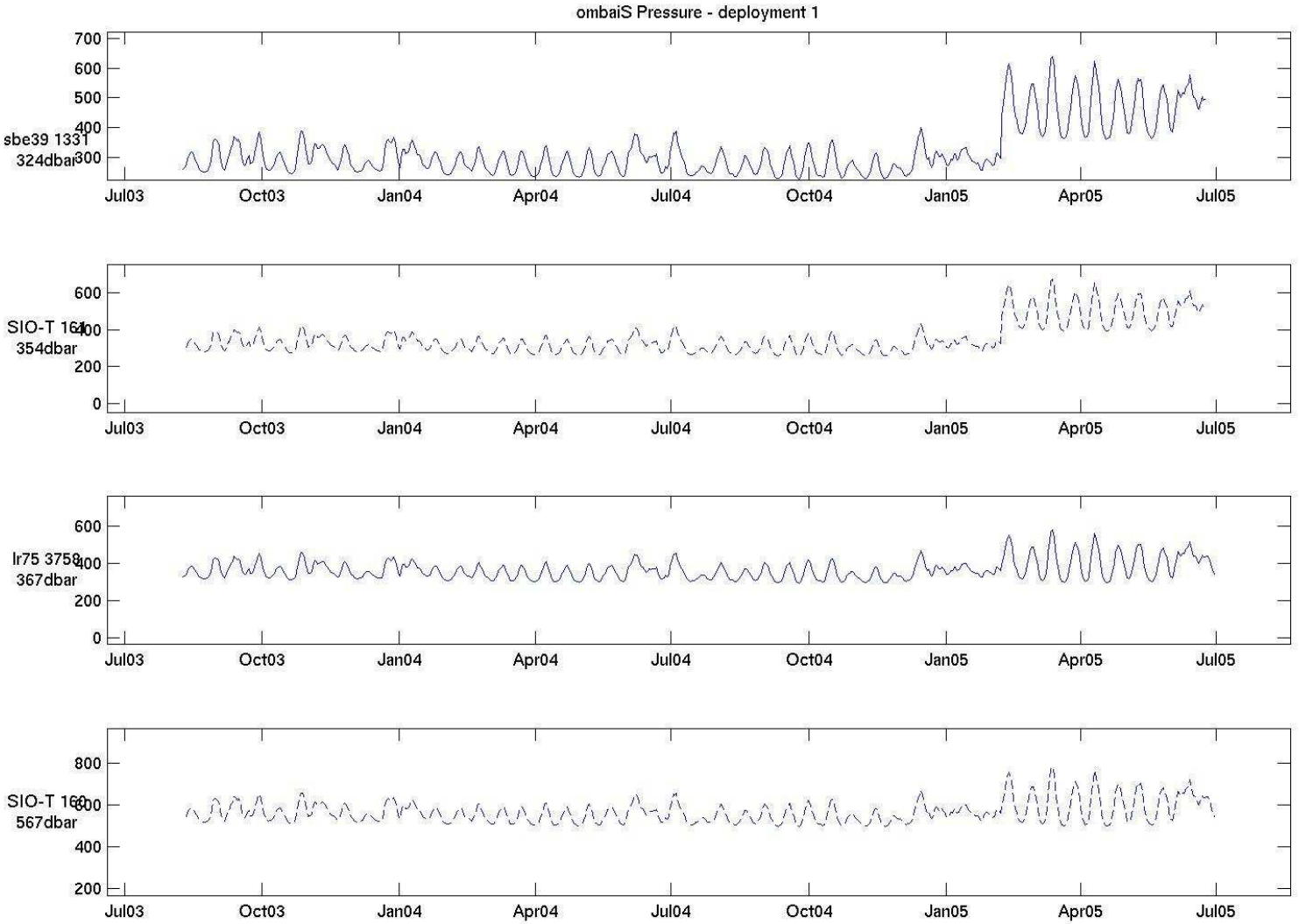
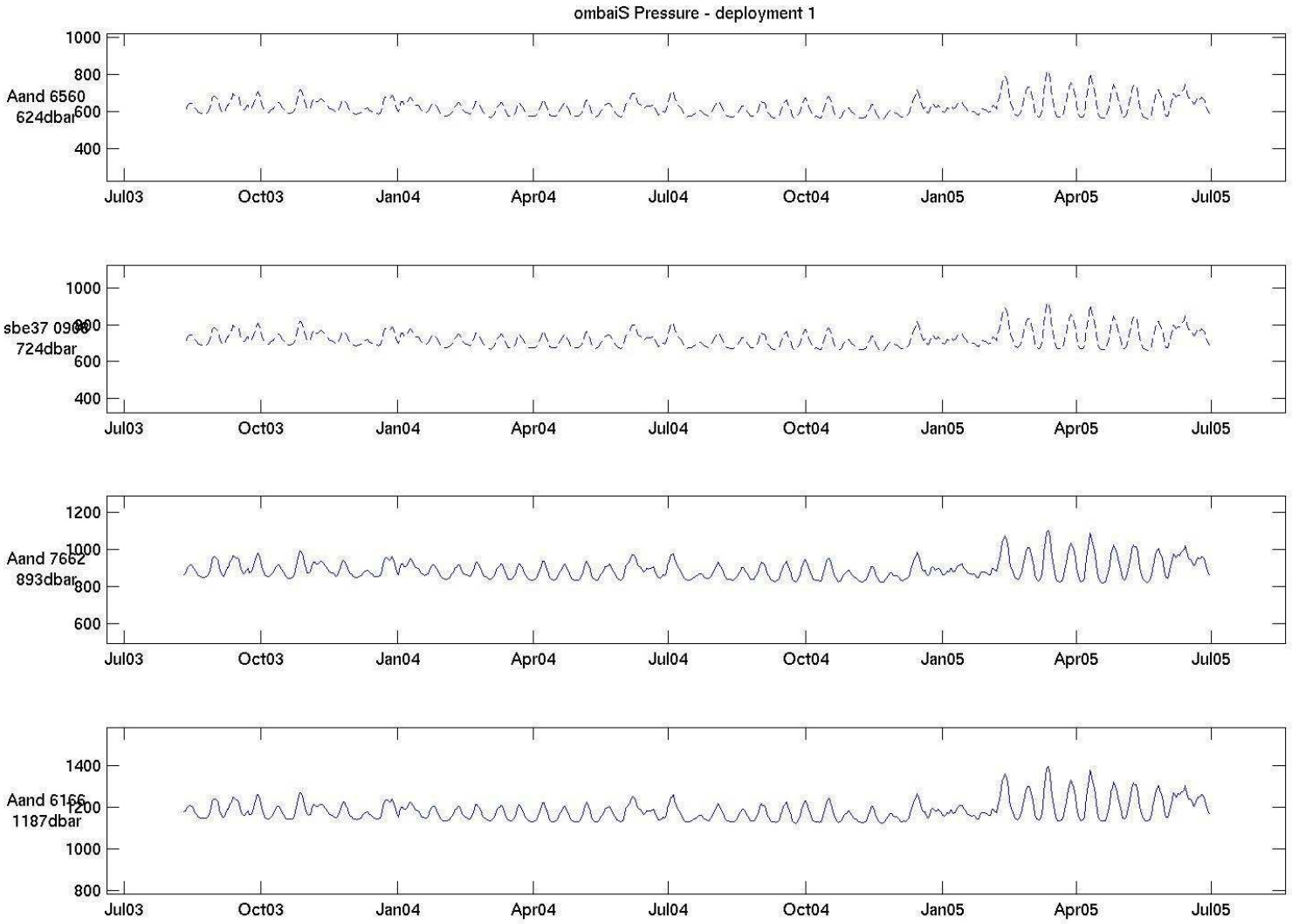
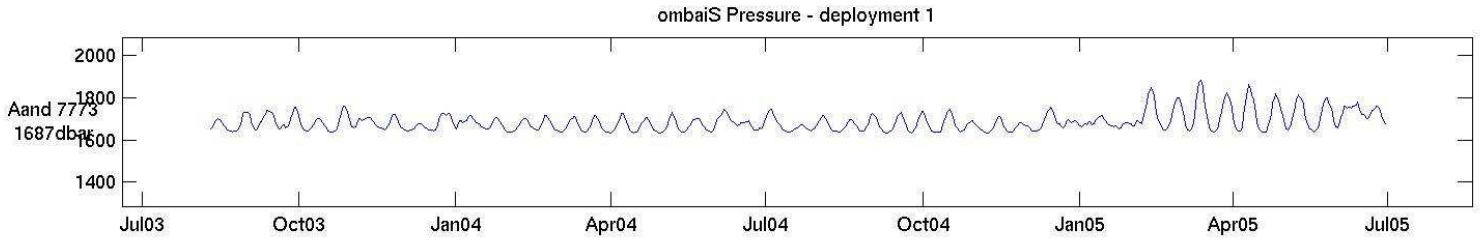
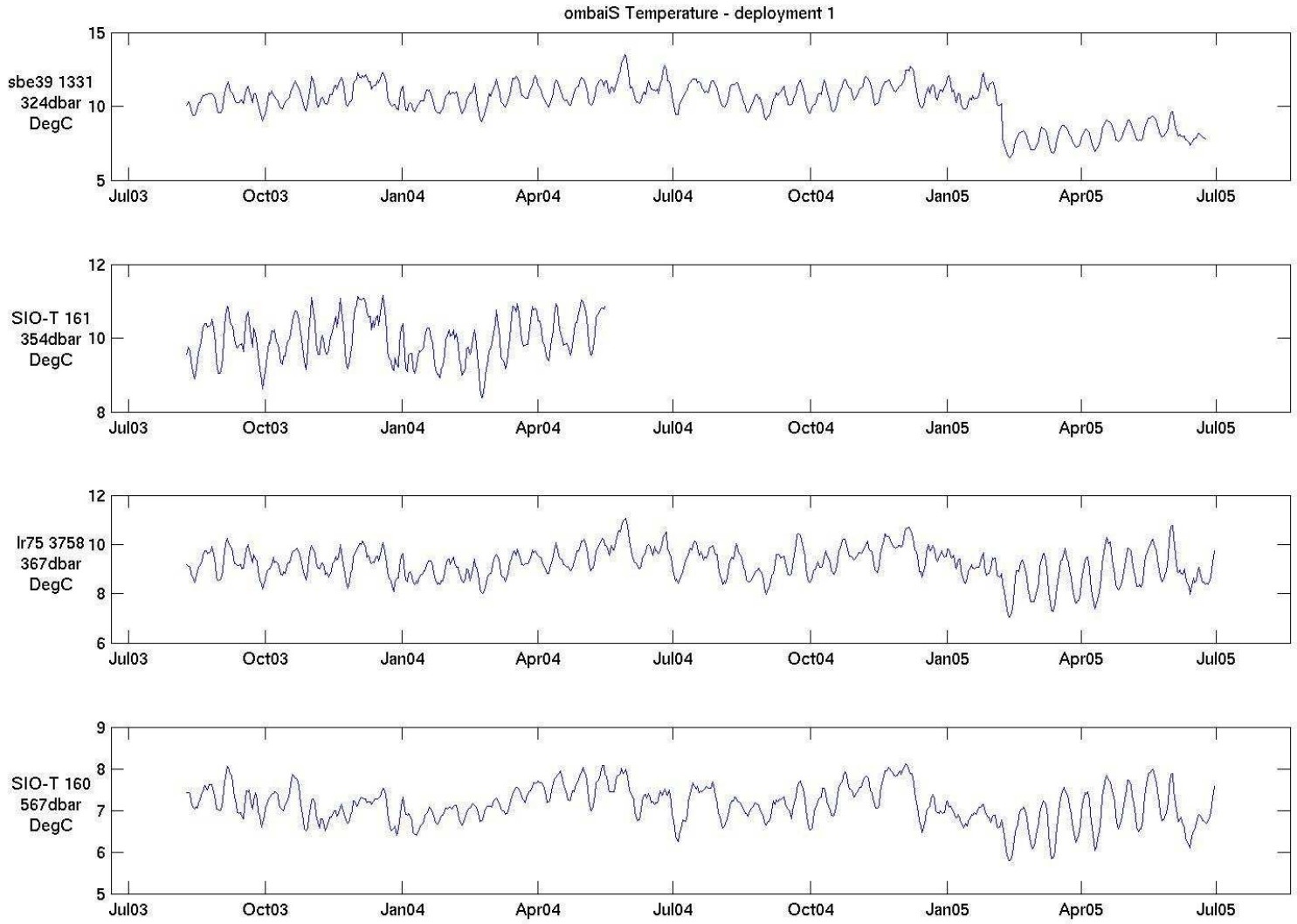

ombaiN Vector plot - deployment 2
ACM 3004
1079dbar
cm/s
10
5
0
-5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

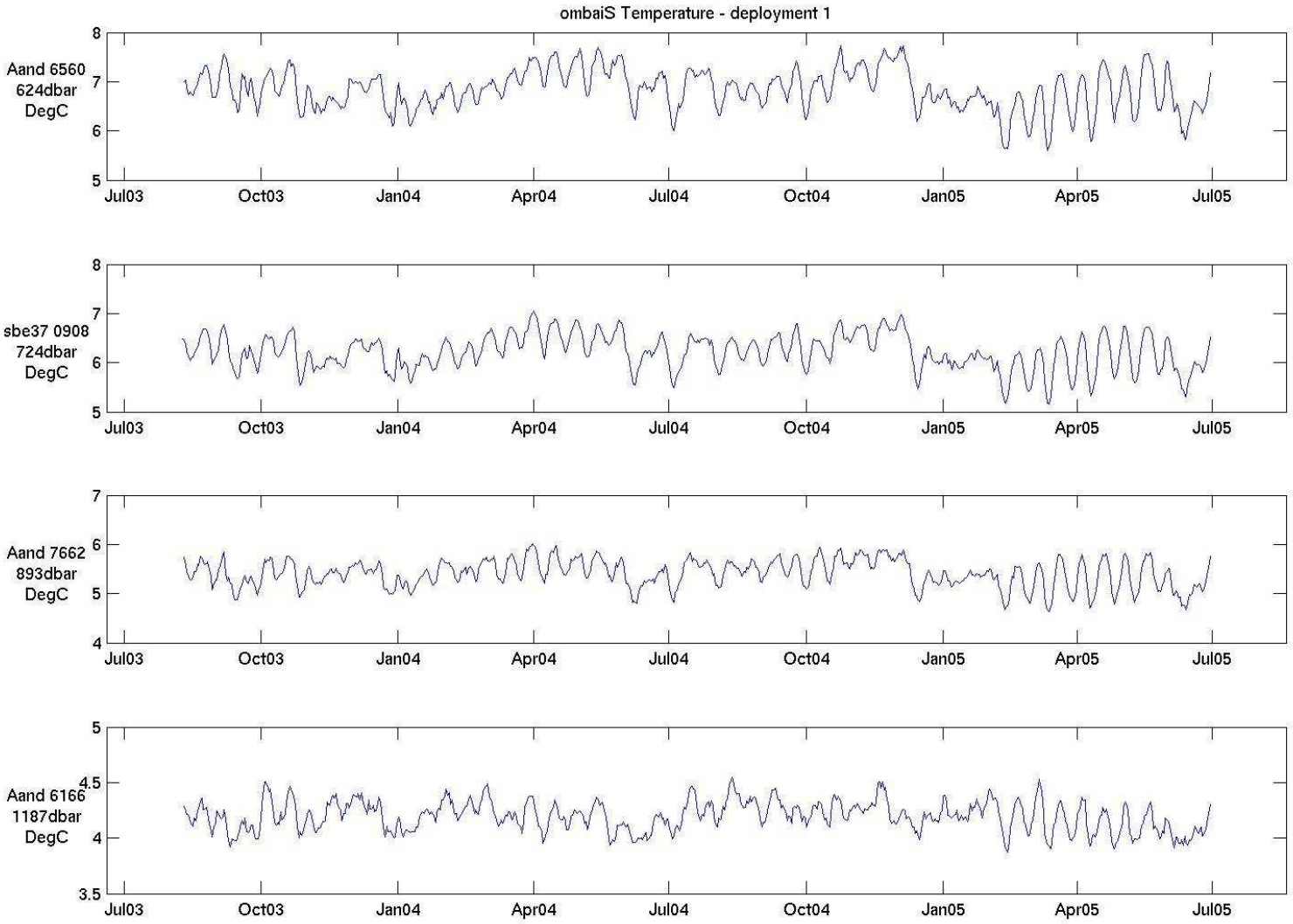
Figure 20. Low pass (1-day) plots of data for Ombai South mooring. **DOTTED LINES INDICATE INFERRED PRESSURE.**

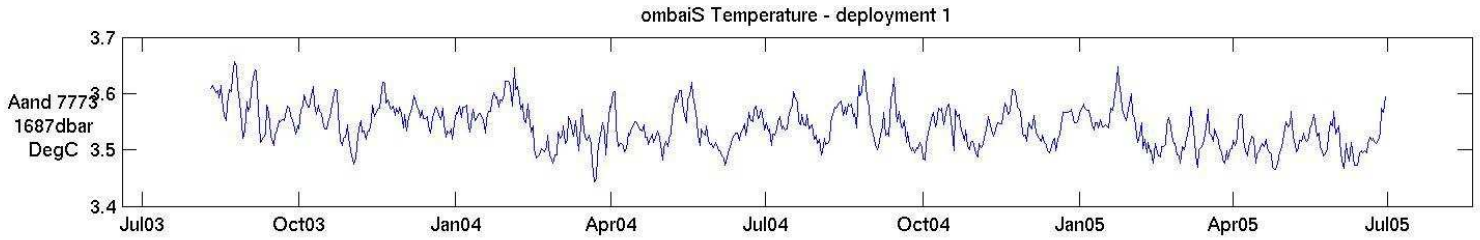


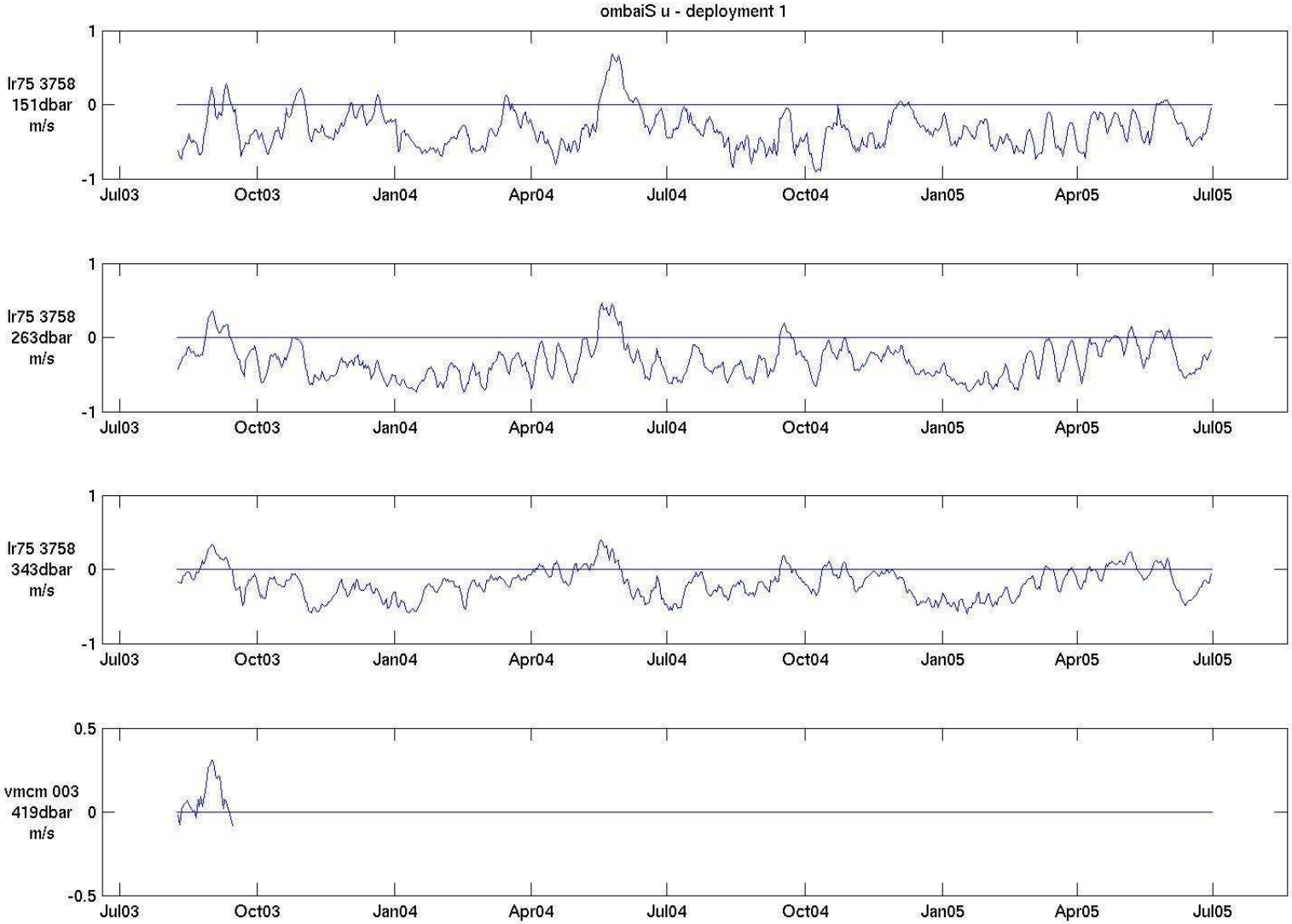

ombaiS Pressure - deployment 1
Aand 6560
624dbar
1000
800
600
400
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
sbe37 0908
724dbar
1000
800
600
400
Aand 7662
893dbar
1200
1000
800
600
Aand 6166
1187dbar
1400
1200
1000
800

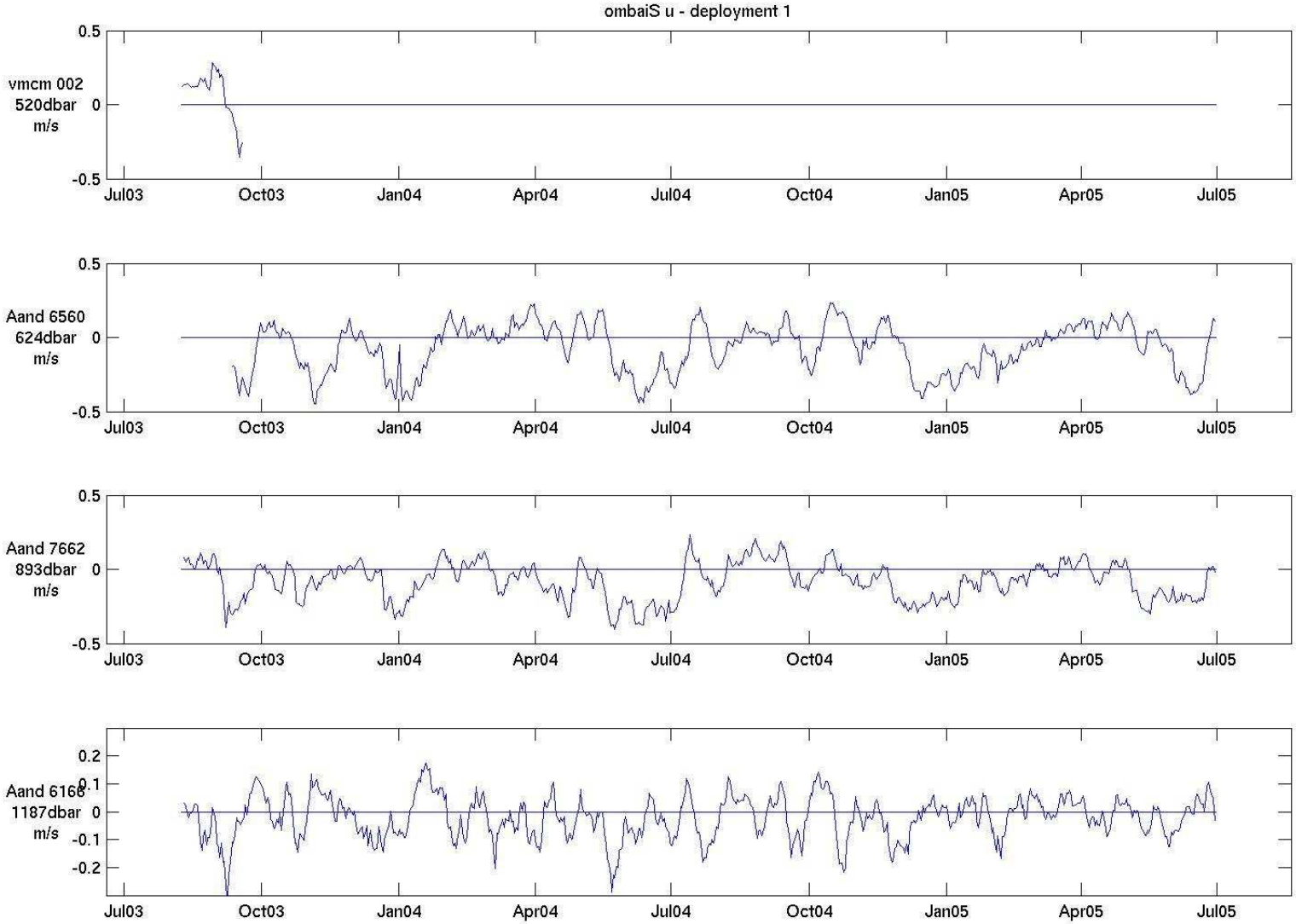

ombaiS Pressure - deployment 1
Aand 7773
1687dbar
2000
1800
1600
1400
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

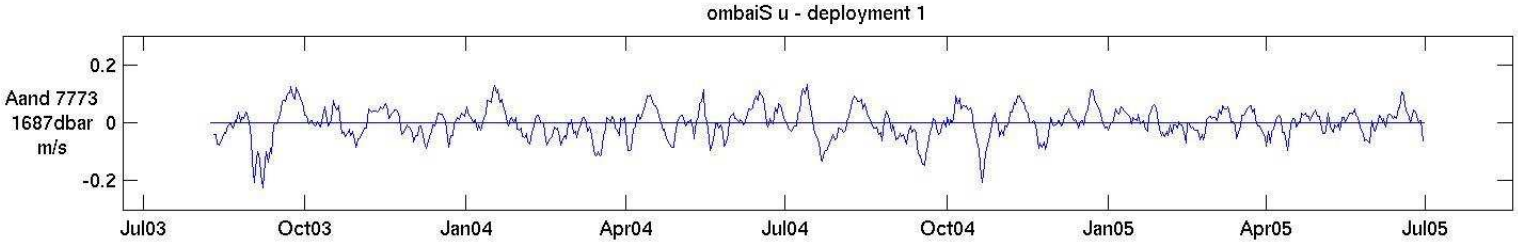

ombaiS Temperature - deployment 1
sbe39 1331
324dbar
DegC
15
10
5
SIO-T 161
354dbar
DegC
12
10
8
lr75 3758
367dbar
DegC
12
10
8
6
SIO-T 160
567dbar
DegC
9
8
7
6
5
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

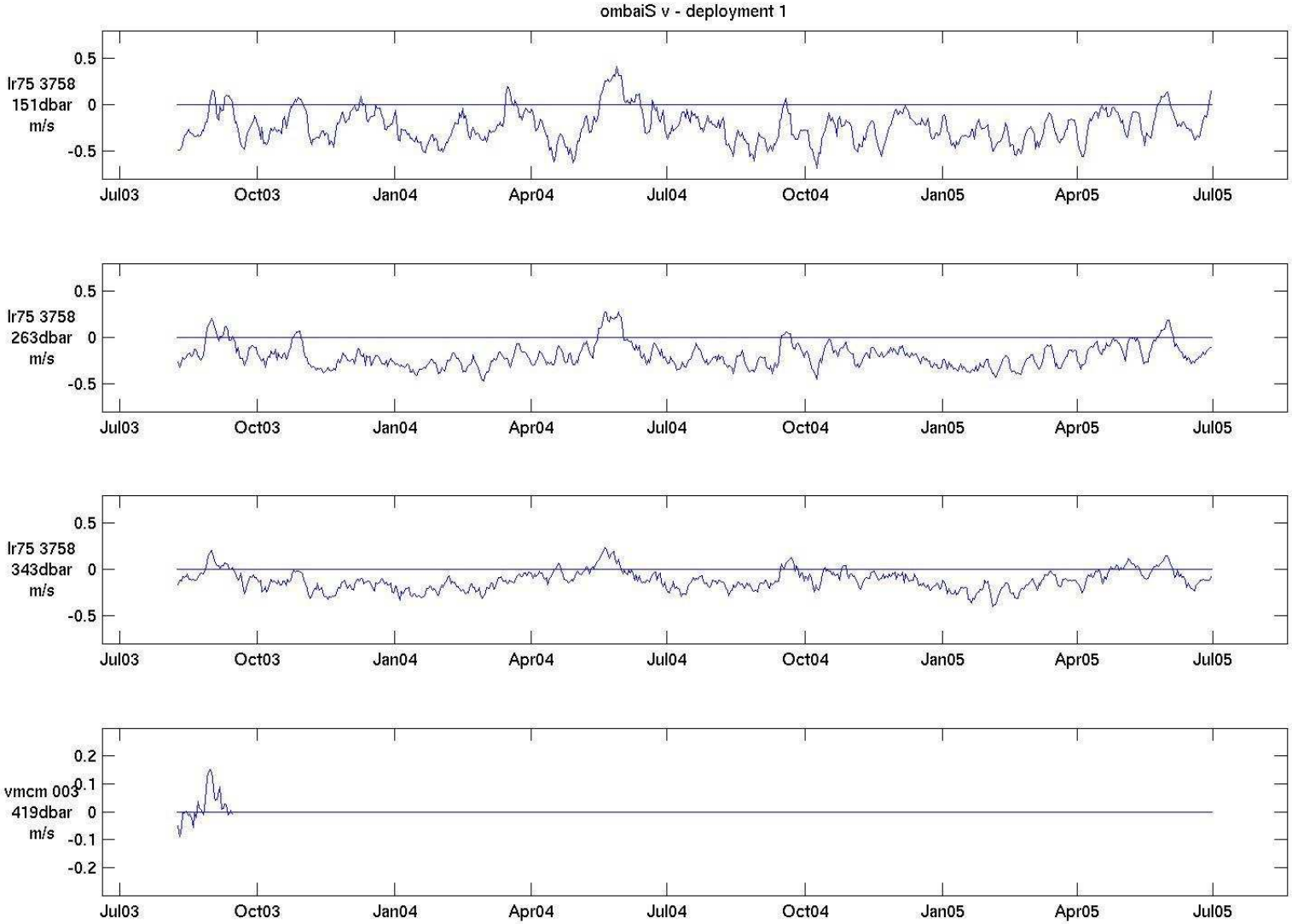

ombaiS Temperature - deployment 1
Aand 6560
624dbar
DegC
sbe37 0908
724dbar
DegC
Aand 7662
893dbar
DegC
Aand 6166
1187dbar
DegC
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

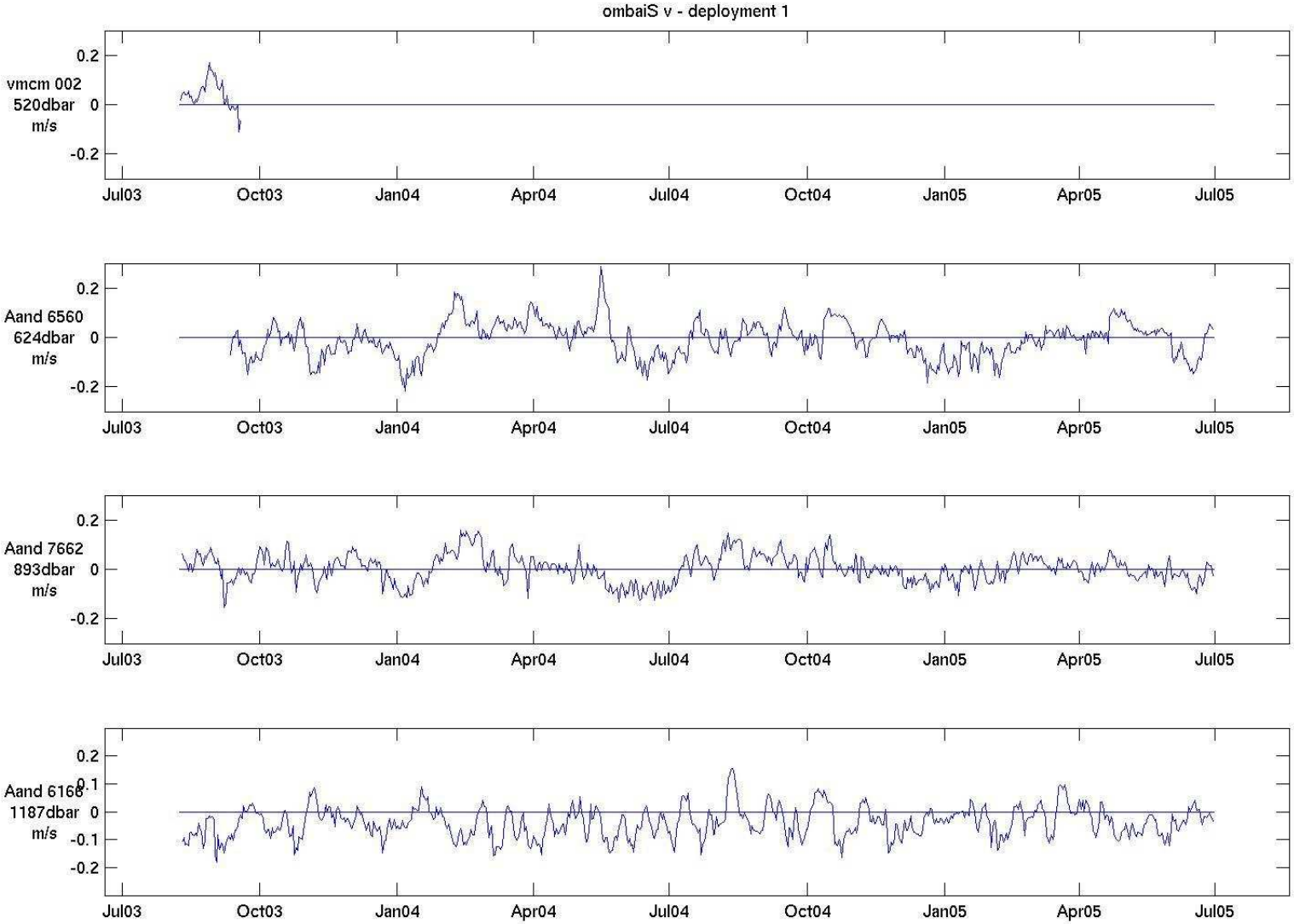

ombaiS Temperature - deployment 1
Aand 7773
1687dbar
DegC
3.7
3.6
3.5
3.4
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

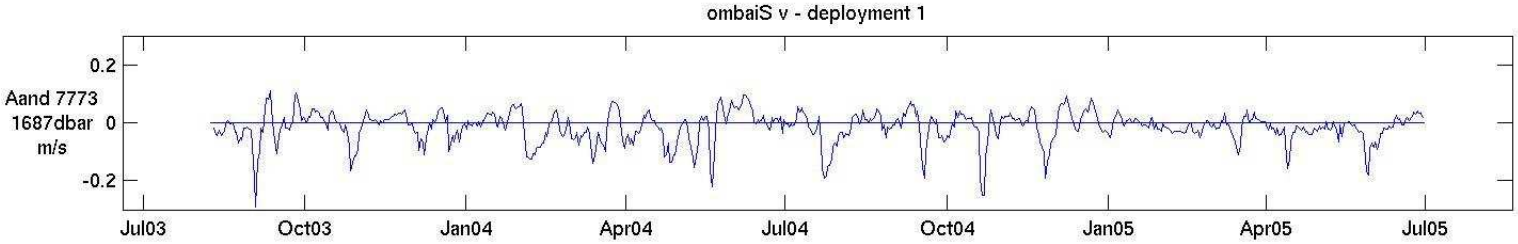

ombaiS u - deployment 1
lr75 3758
151dbar
m/s
lr75 3758
263dbar
m/s
lr75 3758
343dbar
m/s
vmcm 003
419dbar
m/s
1
0
-1
0.5
-0.5
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

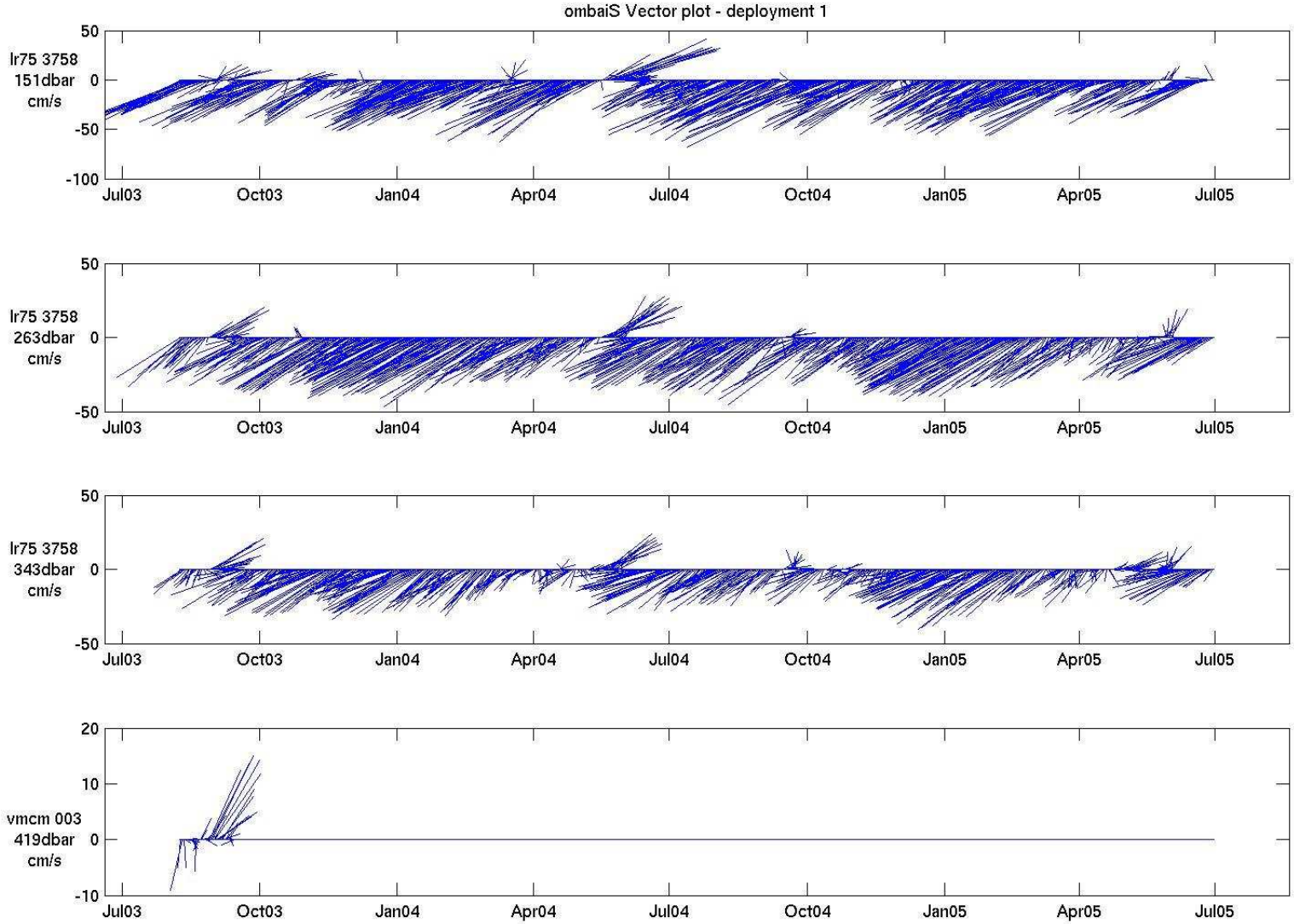

ombaiS u - deployment 1
vmcm 002
520dbar
m/s
Aand 6560
624dbar
m/s
Aand 7662
893dbar
m/s
Aand 6166
1187dbar
m/s
0.5
0
-0.5
0.2
0.1
-0.1
-0.2
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

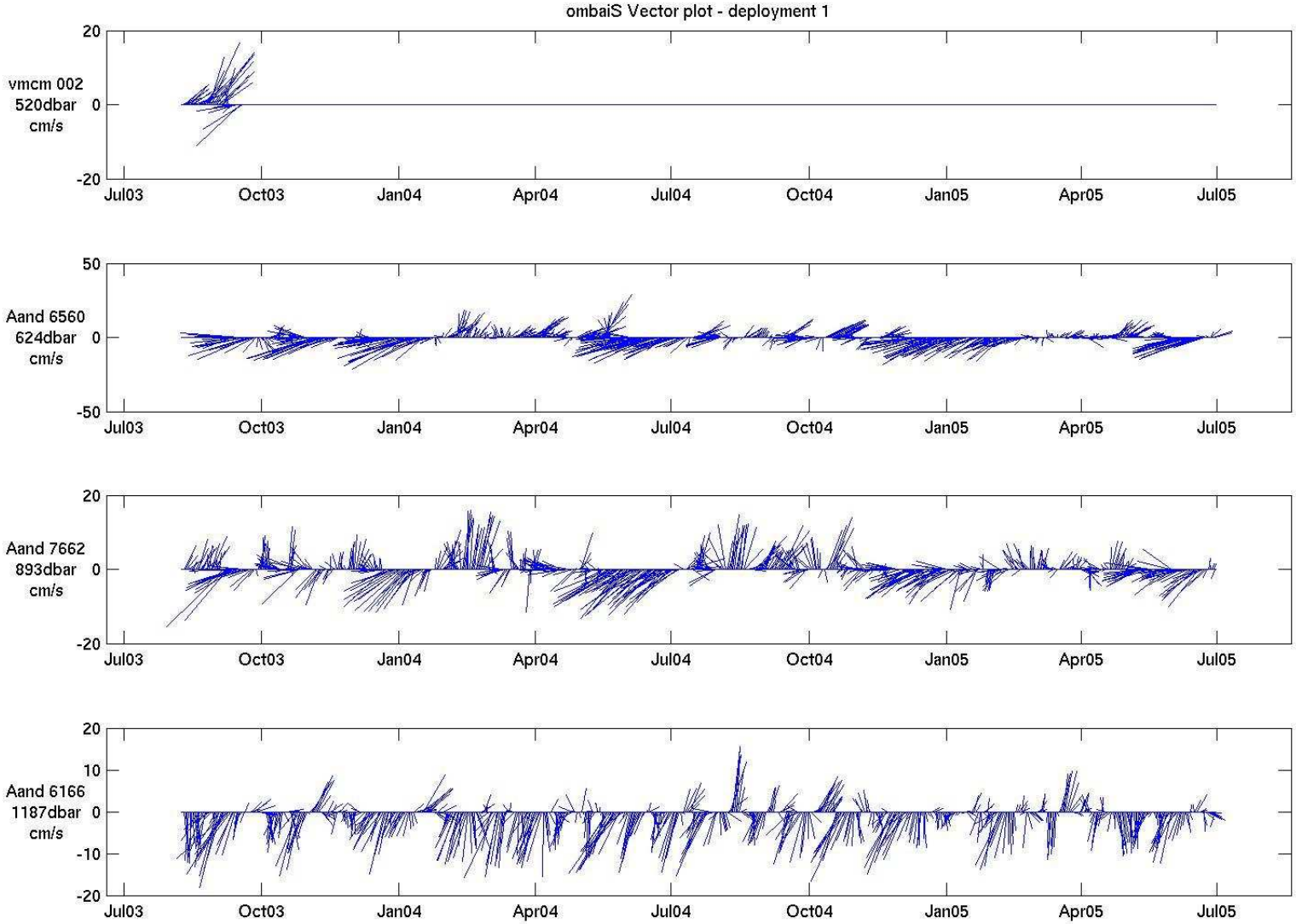

ombaiS u - deployment 1
Aand 7773
1687dbar
m/s
0.2
0
-0.2
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

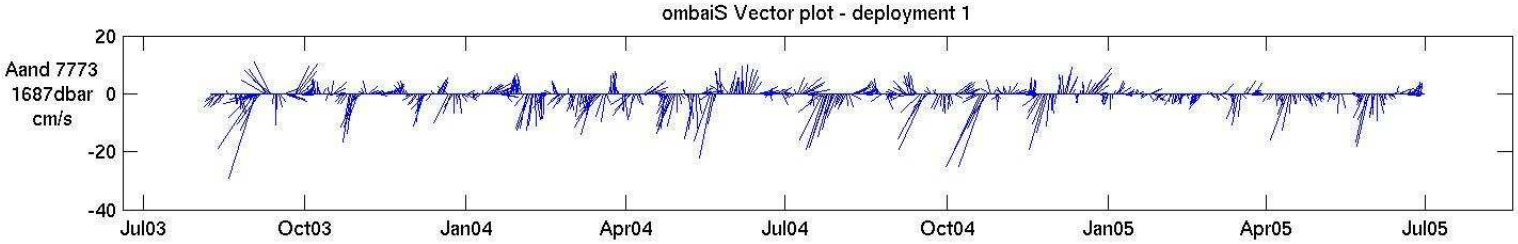

ombaiS v - deployment 1
lr75 3758
151dbar
m/s
lr75 3758
263dbar
m/s
lr75 3758
343dbar
m/s
vmcm 003
419dbar
m/s
0.5
0
-0.5
0.2
0.1
-0.1
-0.2
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

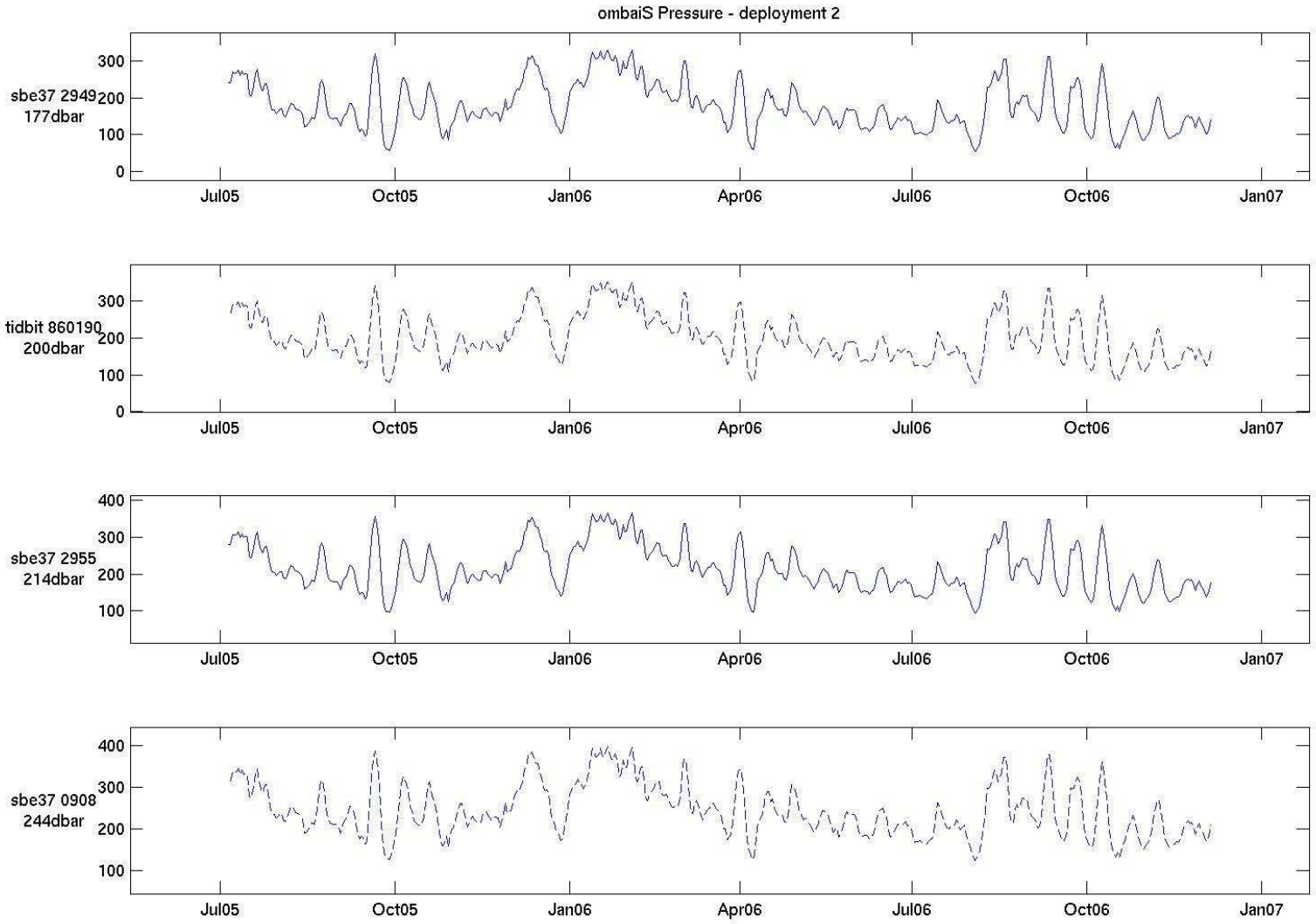

ombaiS v - deployment 1
vmcm 002
520dbar
m/s
Aand 6560
624dbar
m/s
Aand 7662
893dbar
m/s
Aand 6166
1187dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

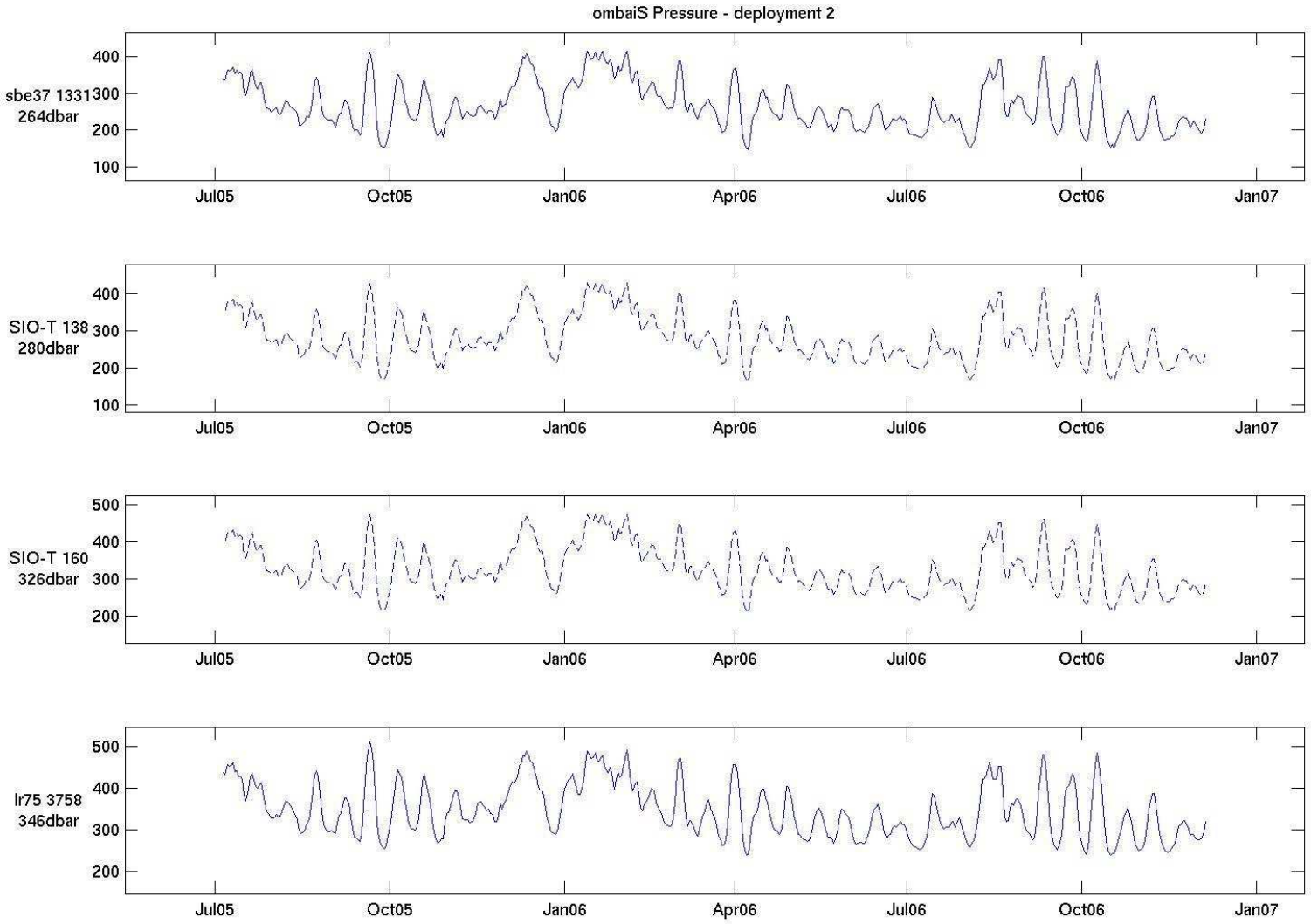

ombaiS v - deployment 1
Aand 7773
1687dbar
m/s
0.2
0
-0.2
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

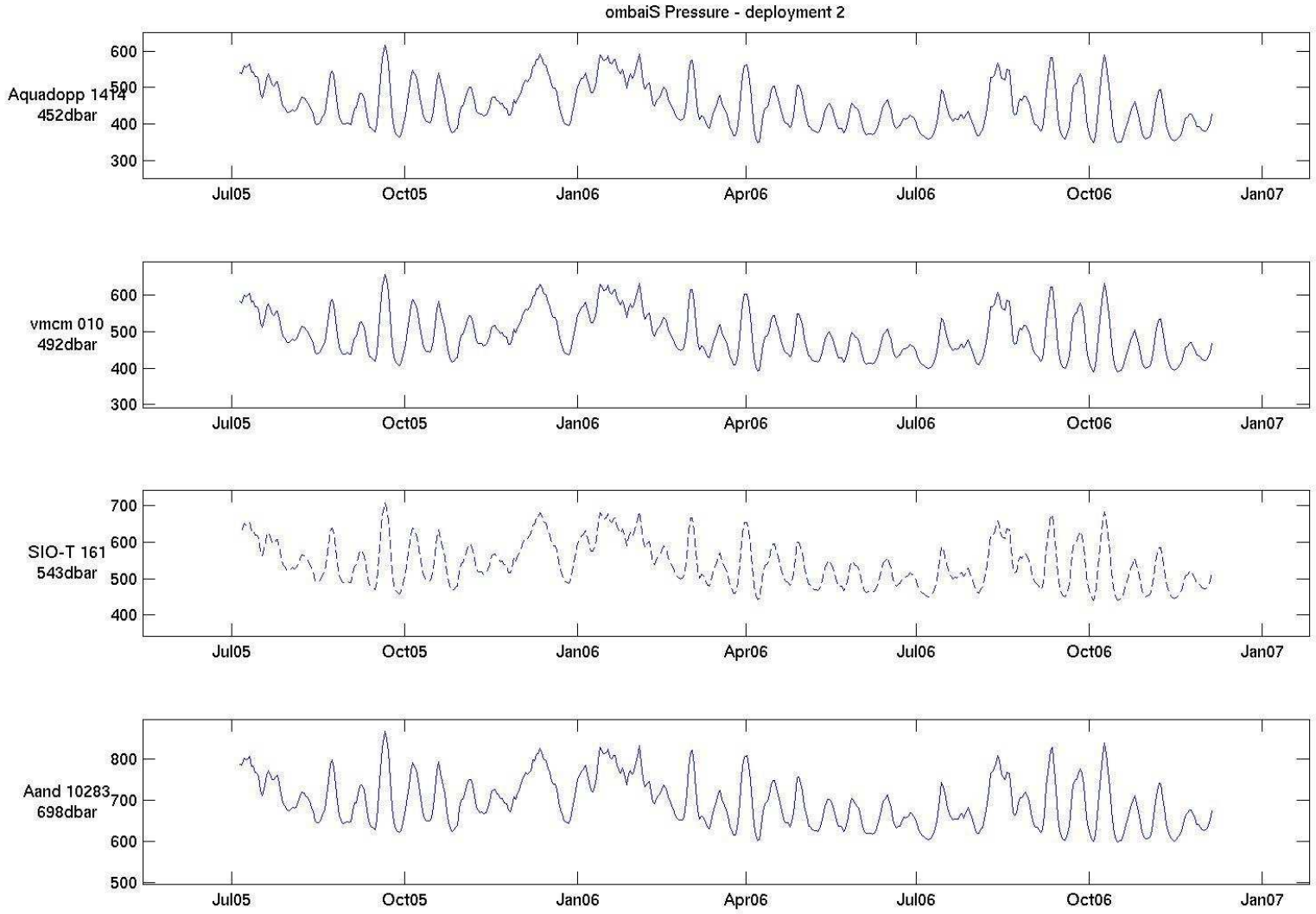

ombaiS Vector plot - deployment 1
lr75 3758
151dbar
cm/s
50
0
-50
-100
lr75 3758
263dbar
cm/s
50
0
-50
lr75 3758
343dbar
cm/s
50
0
-50
vmcm 003
419dbar
cm/s
20
10
0
-10
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

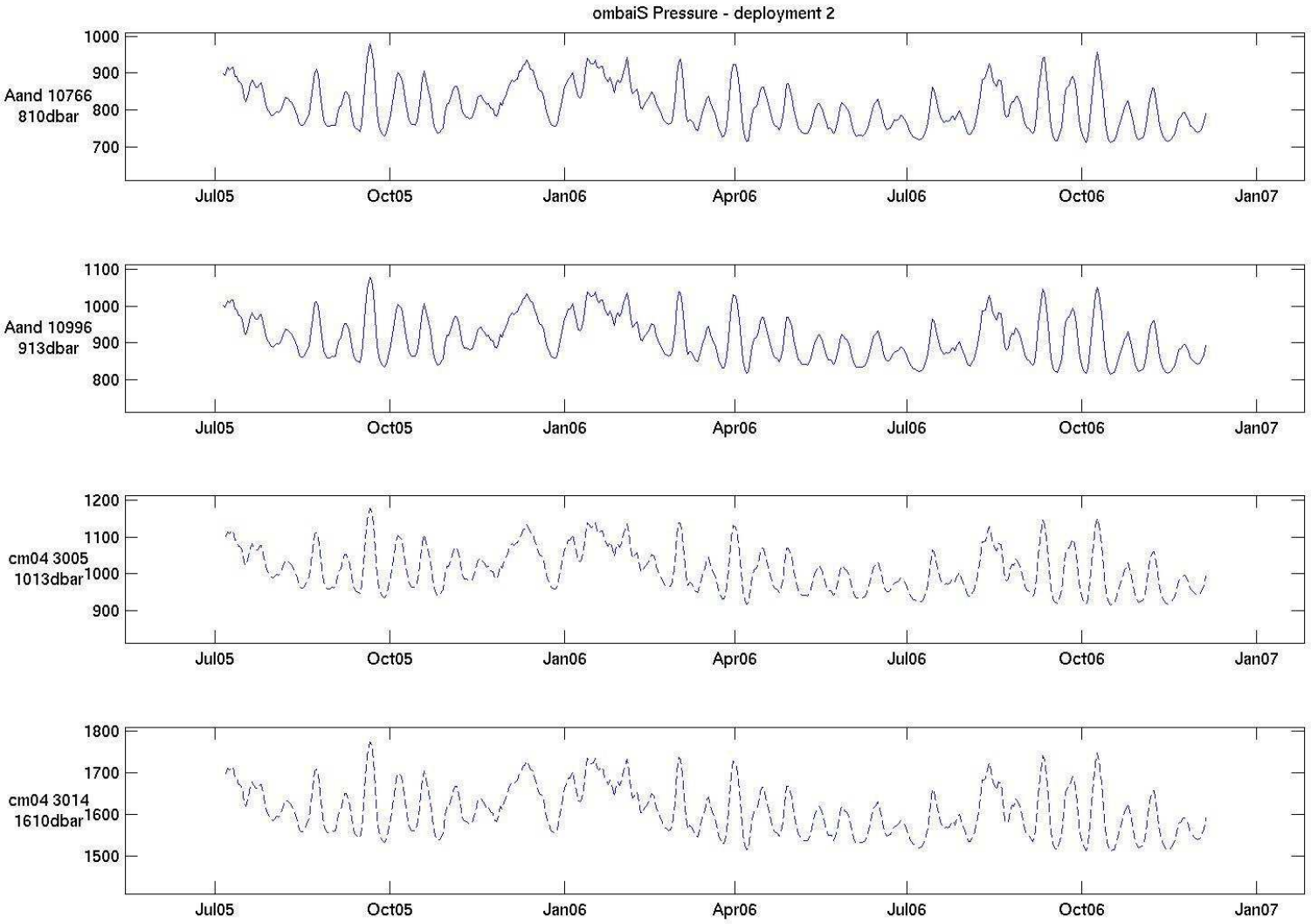

ombaiS Vector plot - deployment 1
vmcm 002
520dbar
cm/s
20
0
-20
Aand 6560
624dbar
cm/s
50
0
-50
Aand 7662
893dbar
cm/s
20
0
-20
Aand 6166
1187dbar
cm/s
20
10
0
-10
-20
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

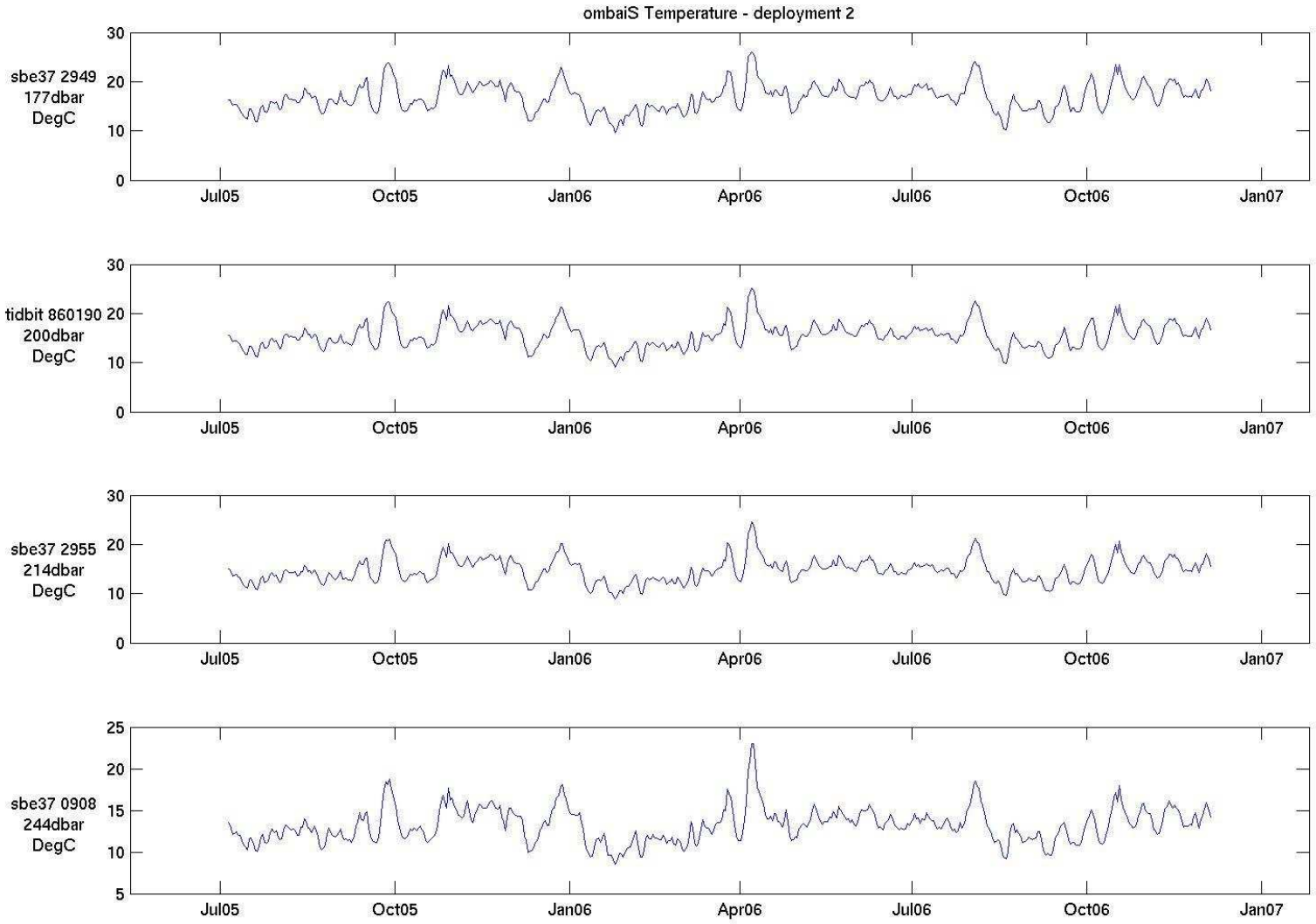

ombaiS Vector plot - deployment 1
Aand 7773
1687dbar
cm/s
20
0
-20
-40
Jul03
Oct03
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

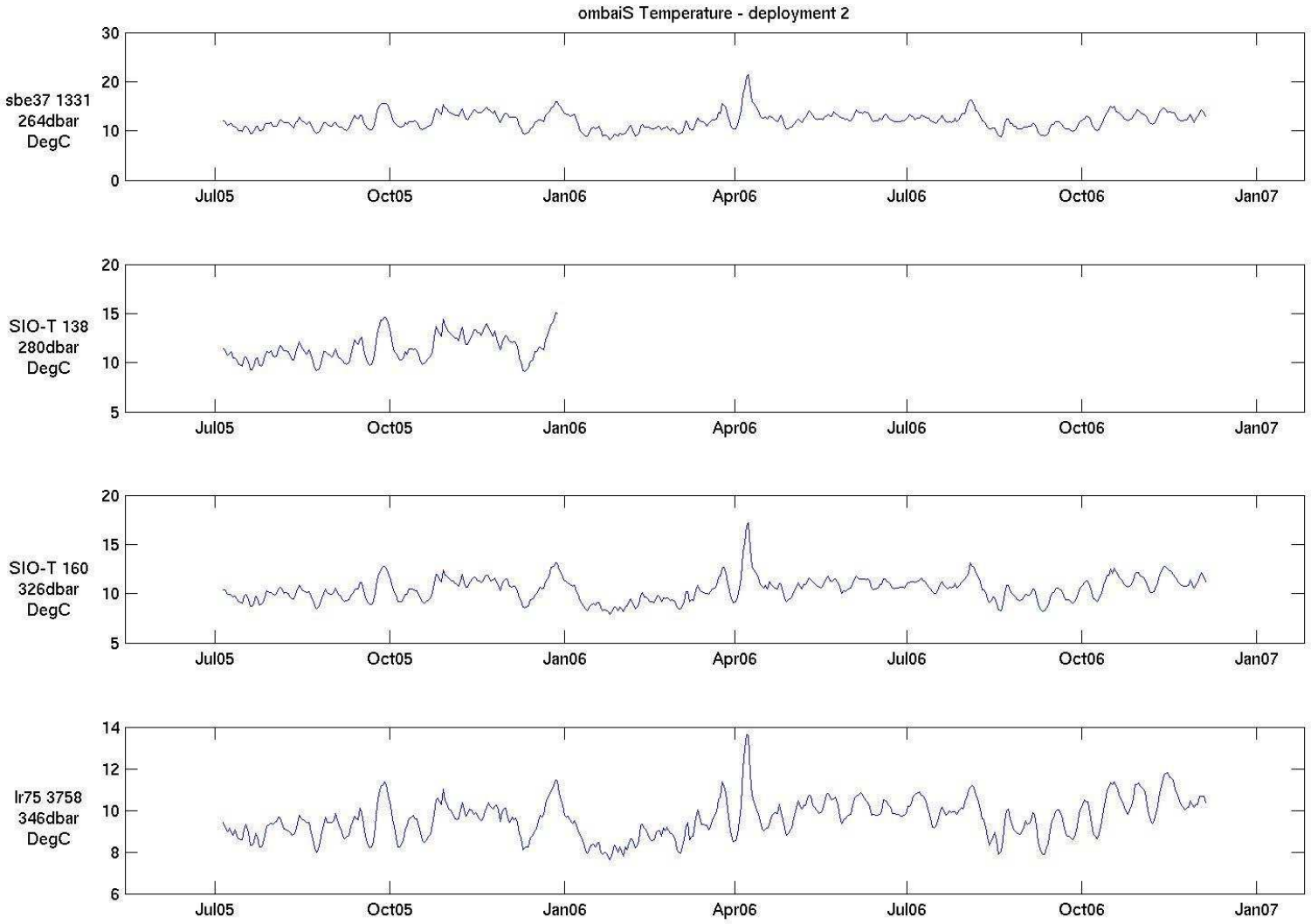

ombaiS Pressure - deployment 2
sbe37 2949
177dbar
tidbit 860190
200dbar
sbe37 2955
214dbar
sbe37 0908
244dbar
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

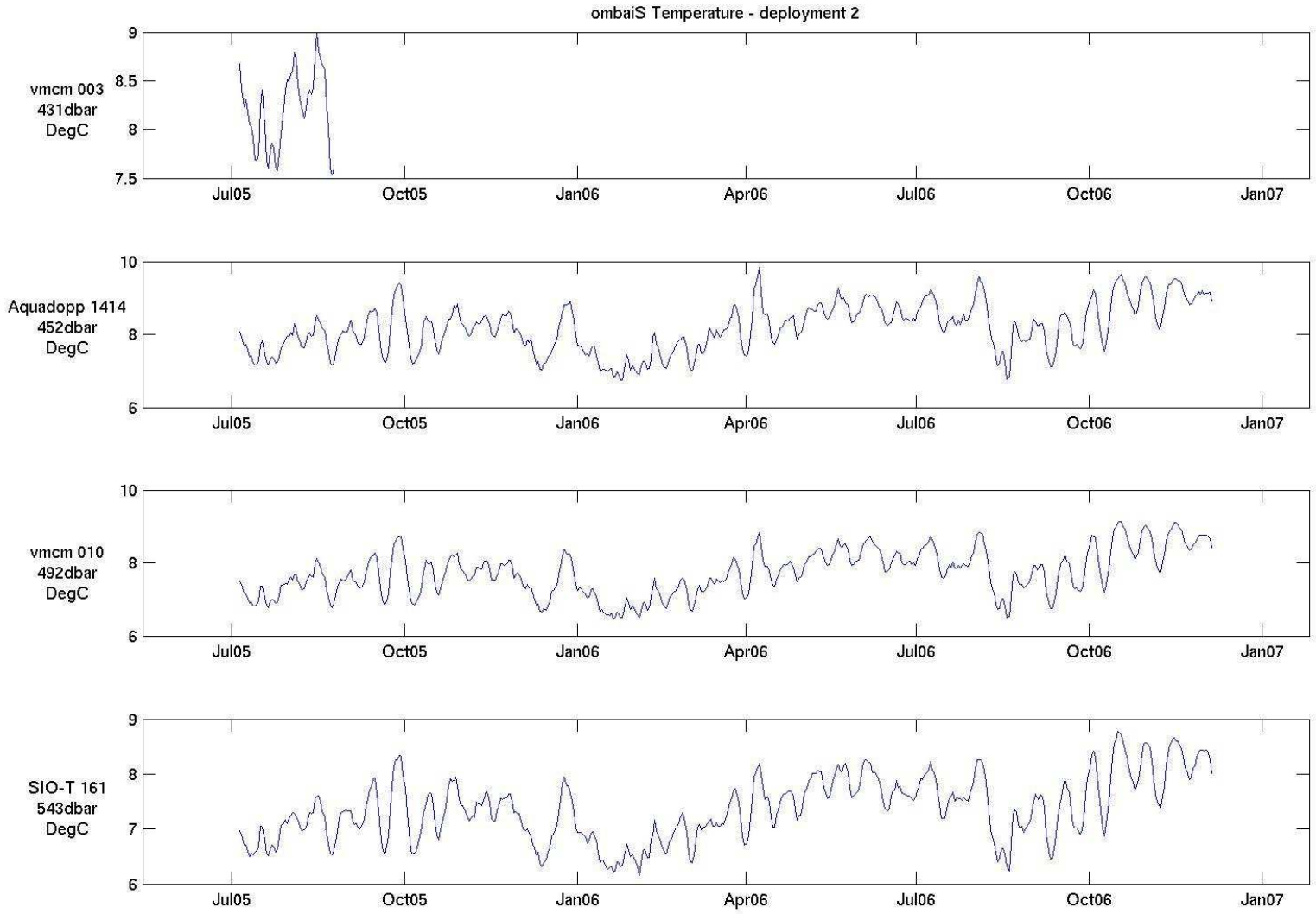

ombaiS Pressure - deployment 2
sbe37 1331
264dbar
SIO-T 138
280dbar
SIO-T 160
326dbar
lr75 3758
346dbar
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

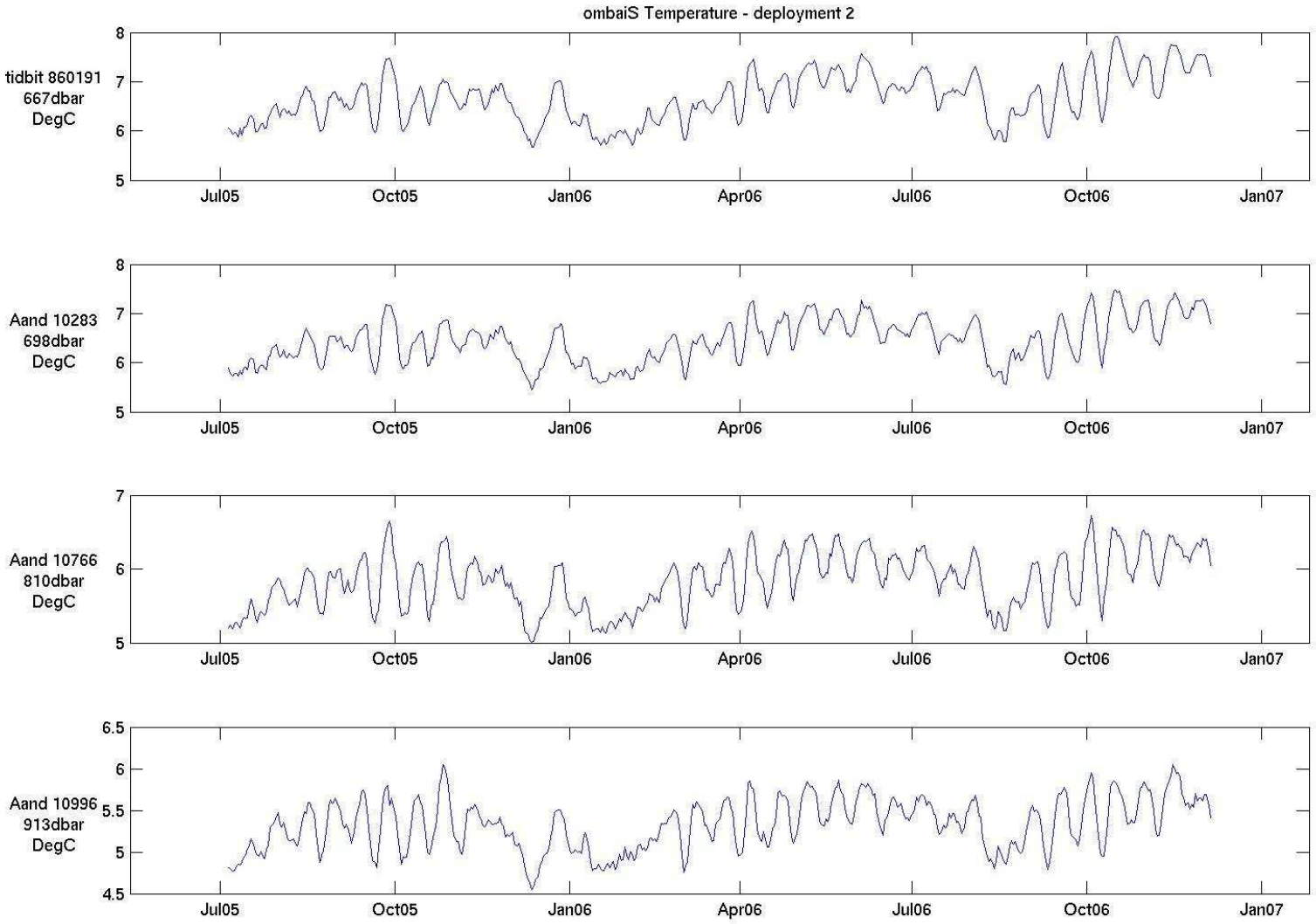

ombaiS Pressure - deployment 2
Aquadopp 1414
452dbar
vmcm 010
492dbar
SIO-T 161
543dbar
Aand 10283
698dbar
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

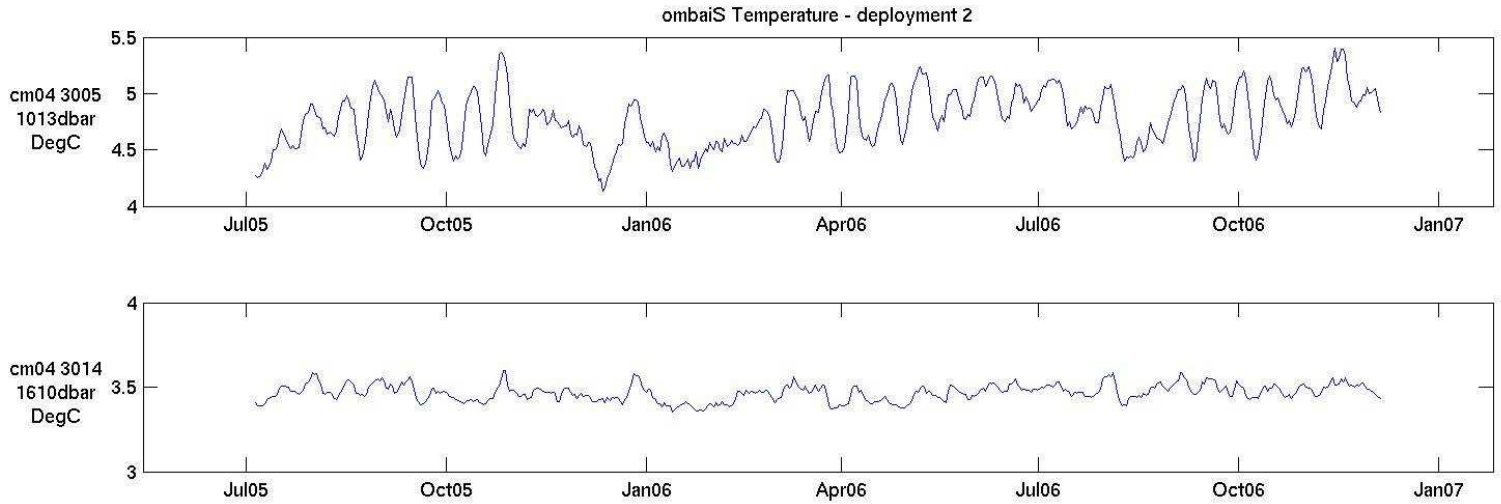

ombaiS Pressure - deployment 2
Aand 10766
810dbar
1000
900
800
700
Aand 10996
913dbar
1100
1000
900
800
cm04 3005
1013dbar
1200
1100
1000
900
cm04 3014
1610dbar
1800
1700
1600
1500
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

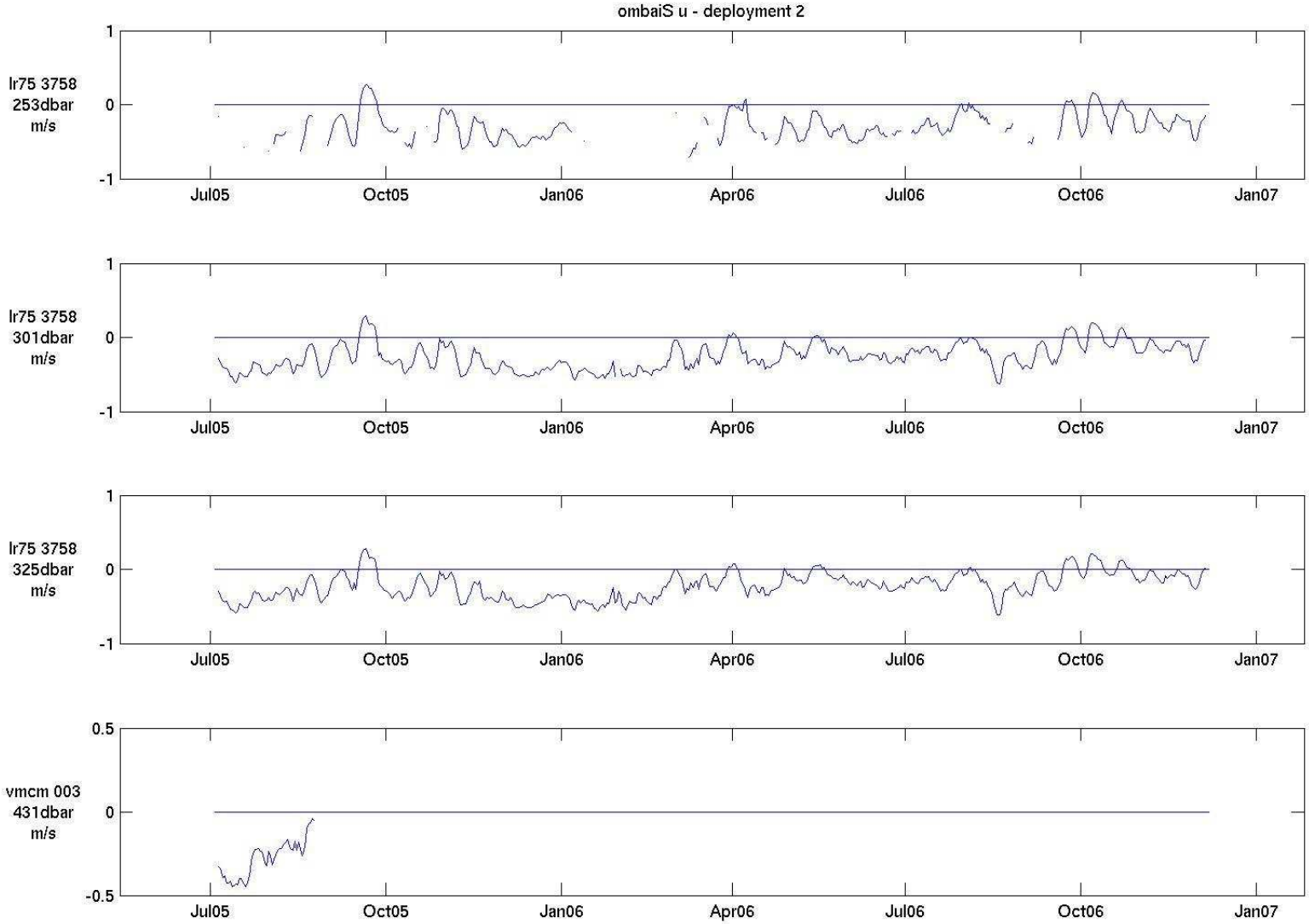

ombaiS Temperature - deployment 2
sbe37 2949
177dbar
DegC
tidbit 860190
200dbar
DegC
sbe37 2955
214dbar
DegC
sbe37 0908
244dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

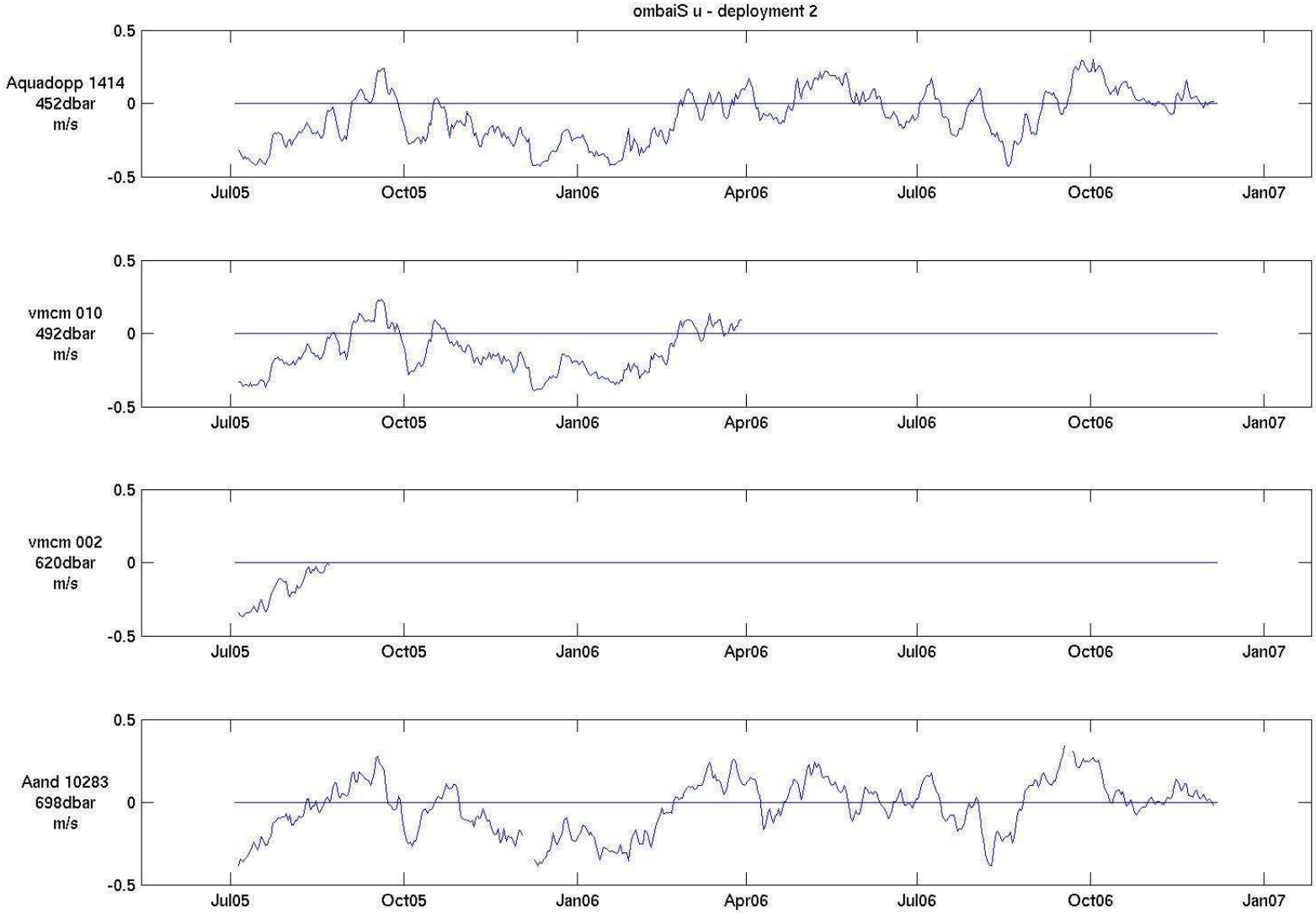

ombaiS Temperature - deployment 2
sbe37 1331
264dbar
DegC
SIO-T 138
280dbar
DegC
SIO-T 160
326dbar
DegC
lr75 3758
346dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

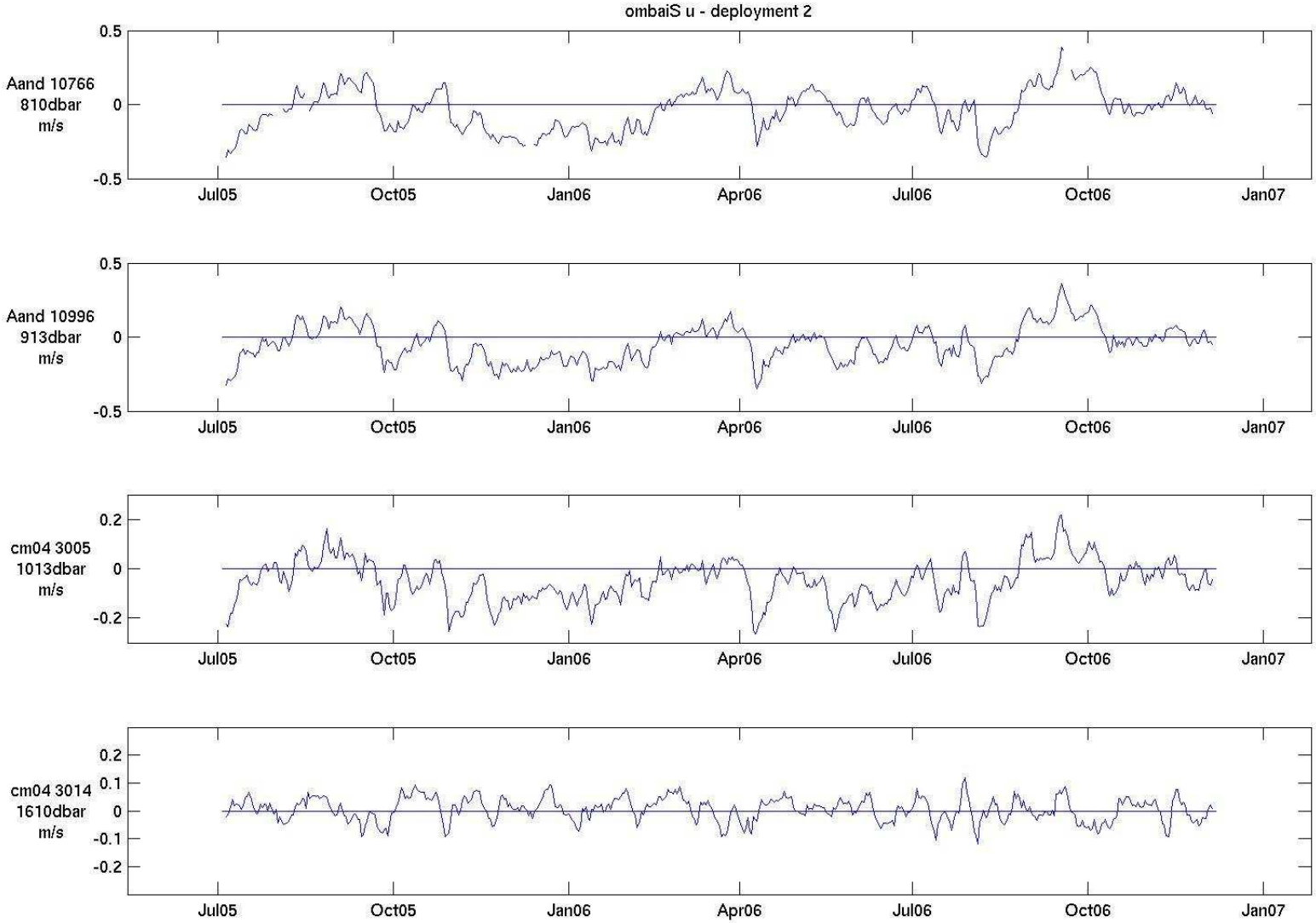

ombaiS Temperature - deployment 2
vmcm 003
431dbar
DegC
9
8.5
8
7.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aquadopp 1414
452dbar
DegC
10
8
6
vmcm 010
492dbar
DegC
SIO-T 161
543dbar
DegC
7

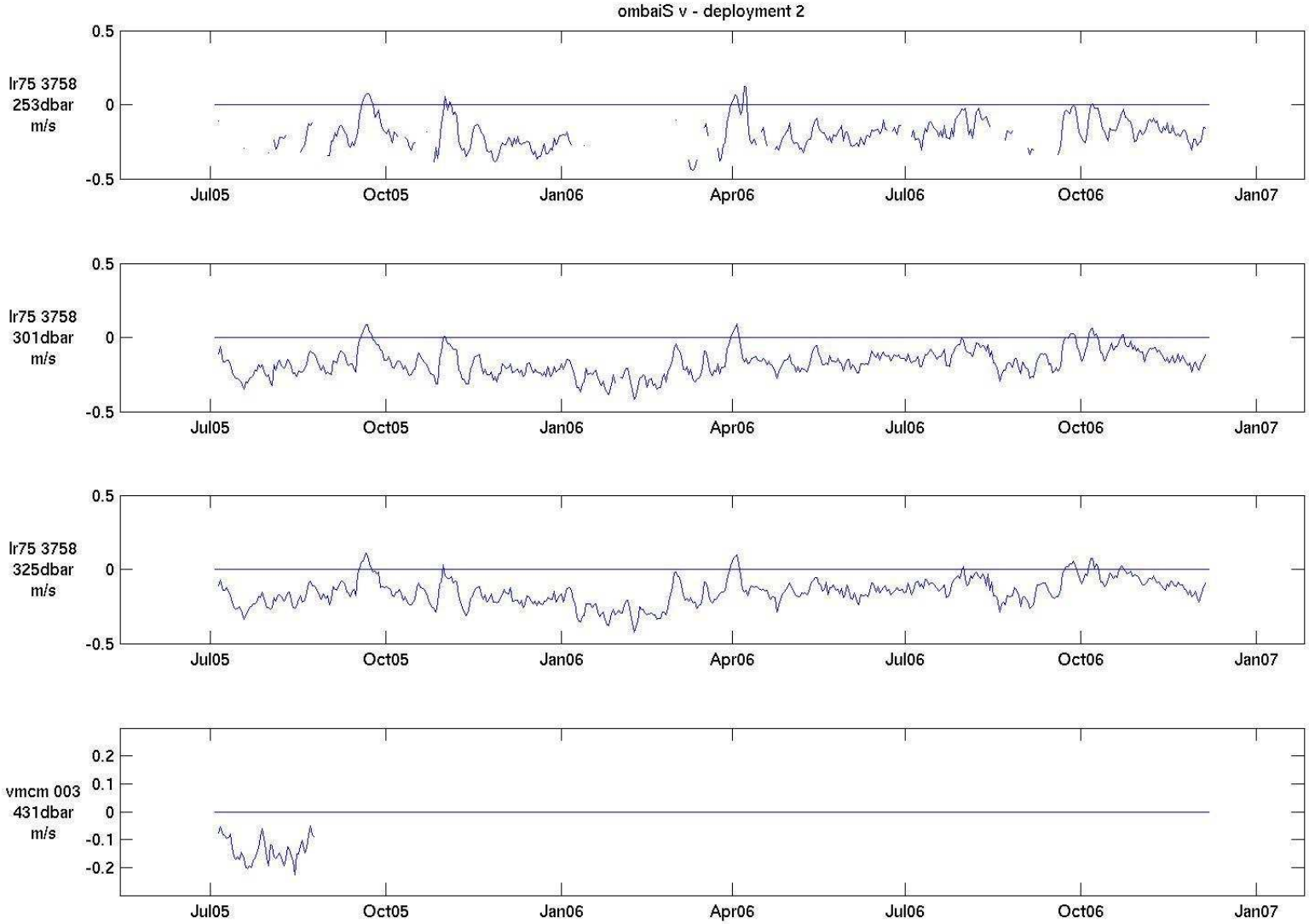

ombaiS Temperature - deployment 2
tidbit 860191
667dbar
DegC
Aand 10283
698dbar
DegC
Aand 10766
810dbar
DegC
Aand 10996
913dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

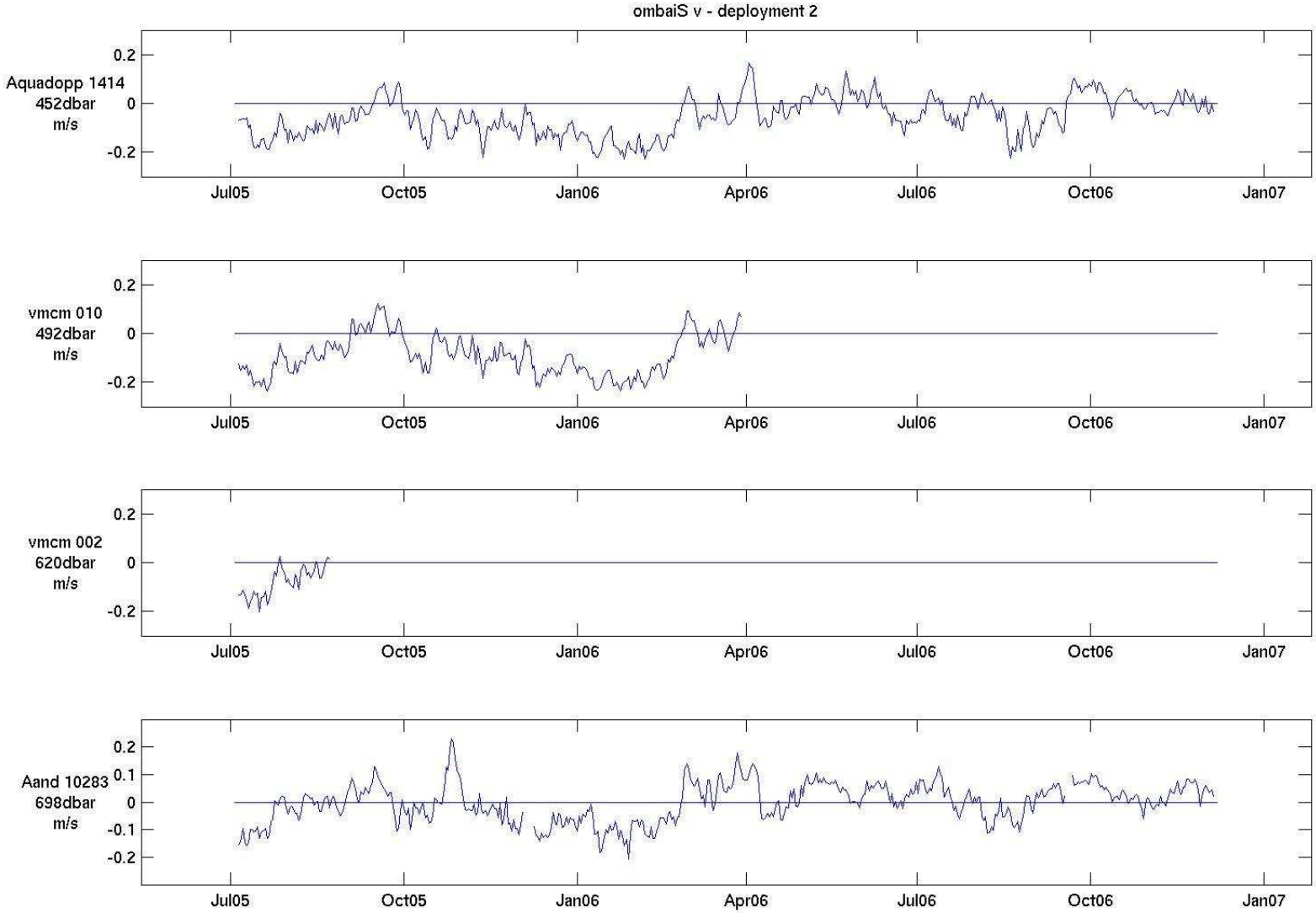

ombaiS Temperature - deployment 2
cm04 3005
1013dbar
DegC
5.5
5
4.5
4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
cm04 3014
1610dbar
DegC
4
3.5
3
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

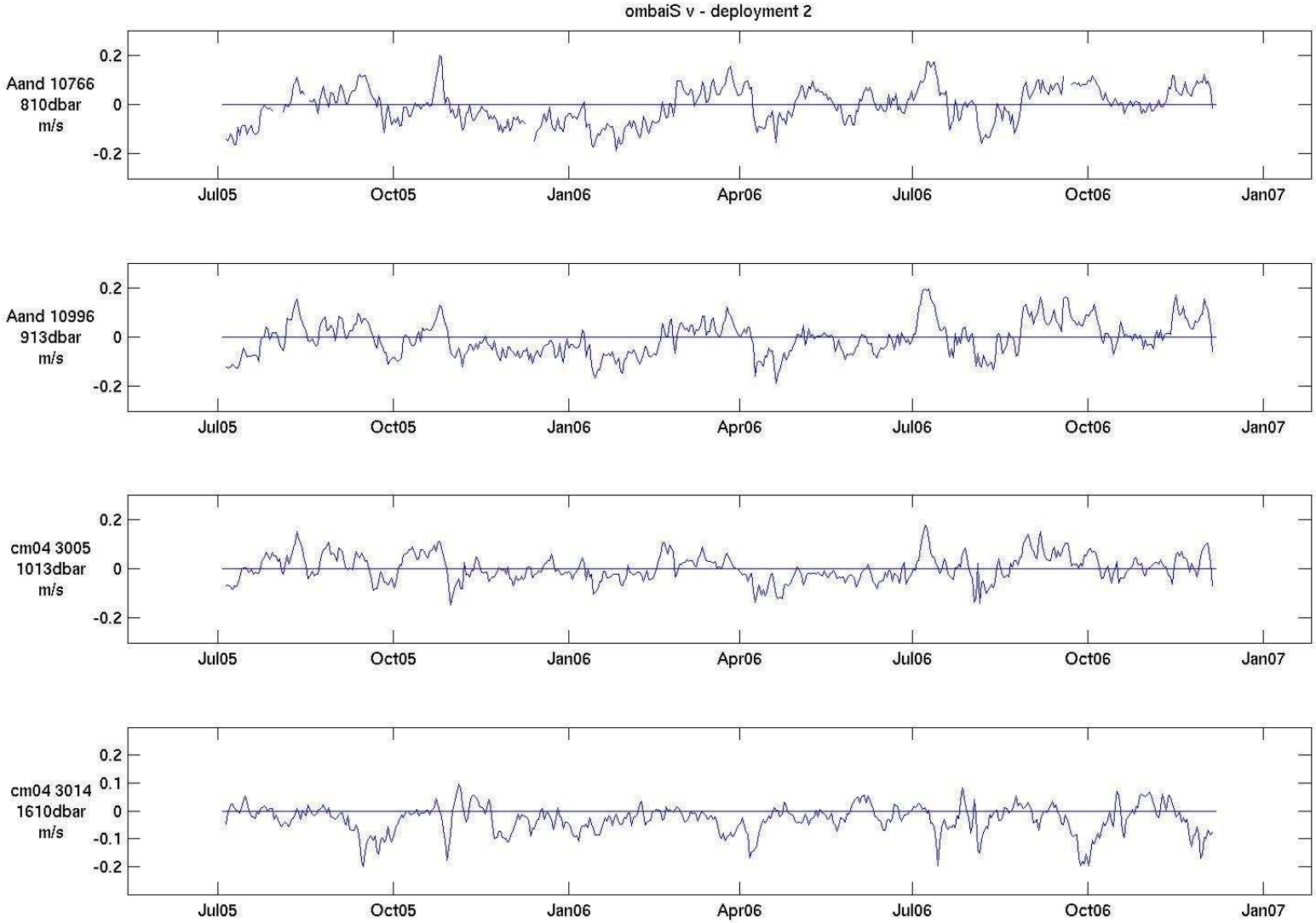

ombaiS u - deployment 2
lr75 3758
253dbar
m/s
lr75 3758
301dbar
m/s
lr75 3758
325dbar
m/s
vmcm 003
431dbar
m/s
1
0
-1
0.5
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

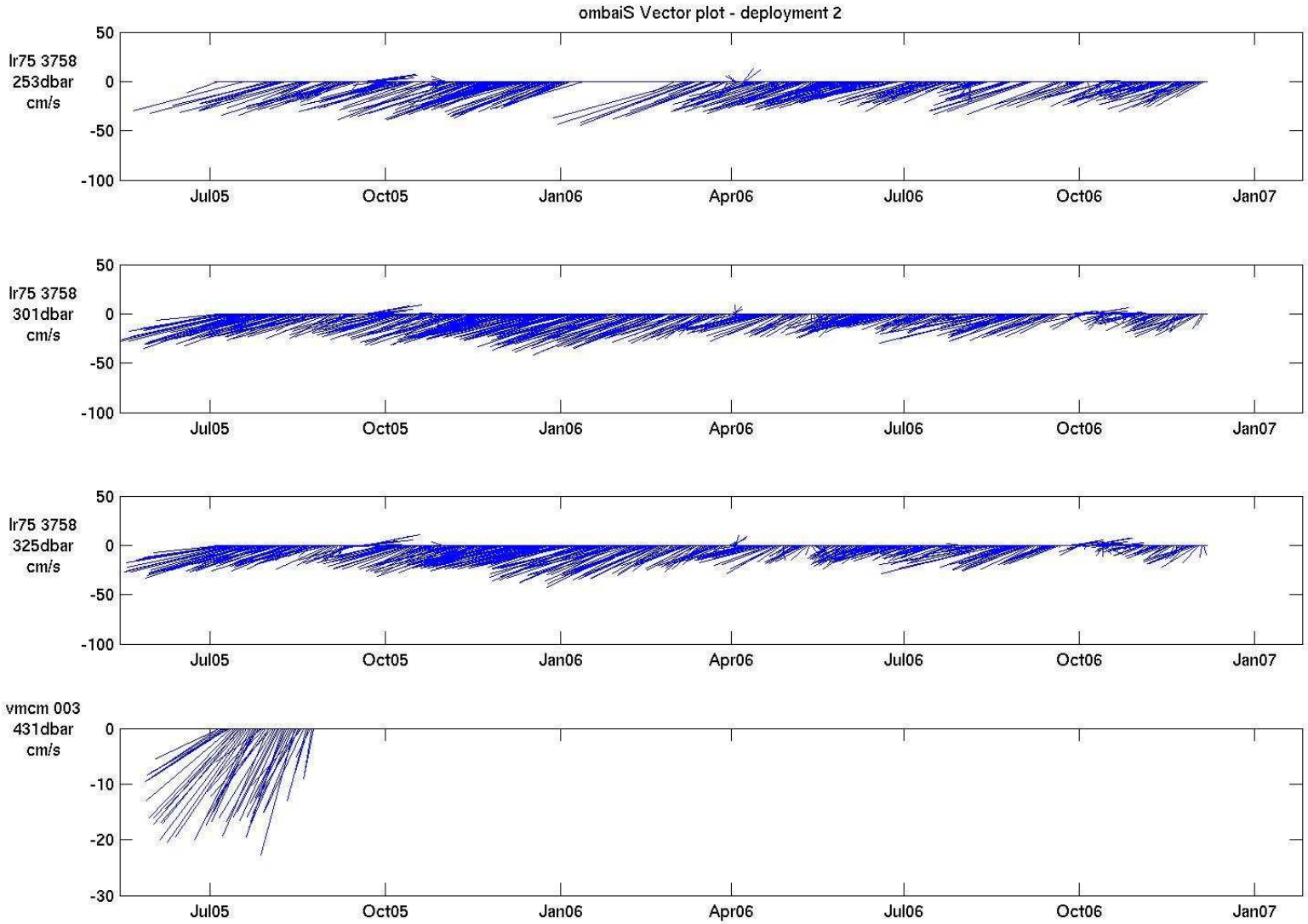

ombaiS u - deployment 2
Aquadopp 1414
452dbar
m/s
vmcm 010
492dbar
m/s
vmcm 002
620dbar
m/s
Aand 10283
698dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

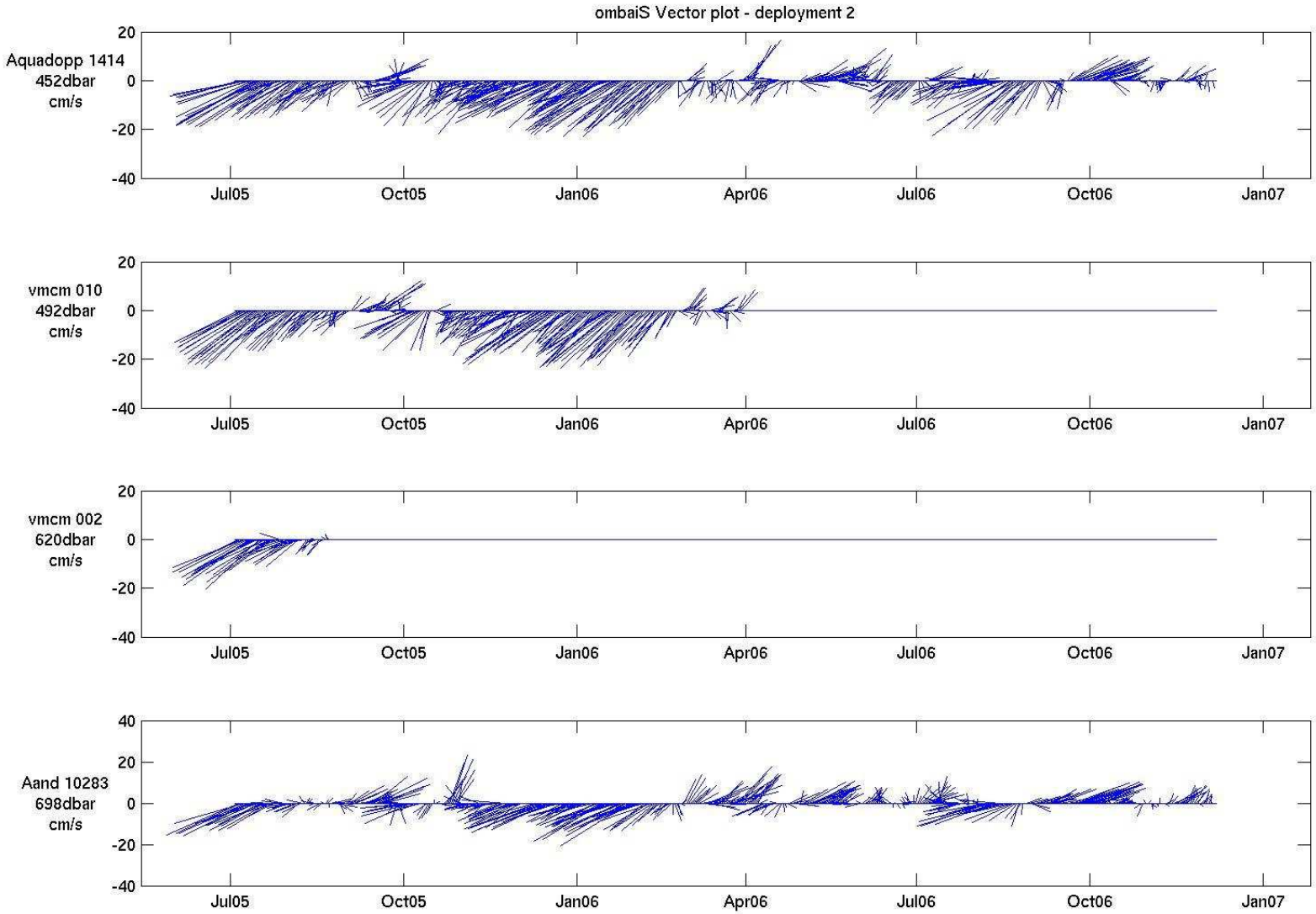

ombaiS u - deployment 2
Aand 10766
810dbar
m/s
0.5
0
-0.5
Aand 10996
913dbar
m/s
0.5
0
-0.5
cm04 3005
1013dbar
m/s
0.2
0
-0.2
cm04 3014
1610dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiS v - deployment 2
lr75 3758
253dbar
m/s
lr75 3758
301dbar
m/s
lr75 3758
325dbar
m/s
vmcm 003
431dbar
m/s
0.5
0
-0.5
0.2
0.1
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiS v - deployment 2
Aquadopp 1414
452dbar
m/s
vmcm 010
492dbar
m/s
vmcm 002
620dbar
m/s
Aand 10283
698dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiS v - deployment 2
Aand 10766
810dbar
m/s
Aand 10996
913dbar
m/s
cm04 3005
1013dbar
m/s
cm04 3014
1610dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiS Vector plot - deployment 2
lr75 3758
253dbar
cm/s
lr75 3758
301dbar
cm/s
lr75 3758
325dbar
cm/s
vmcm 003
431dbar
cm/s
50
0
-50
-100
-10
-20
-30
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


ombaiS Vector plot - deployment 2
Aquadopp 1414
452dbar
cm/s
vmcm 010
492dbar
cm/s
vmcm 002
620dbar
cm/s
Aand 10283
698dbar
cm/s
20
0
-20
-40
40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

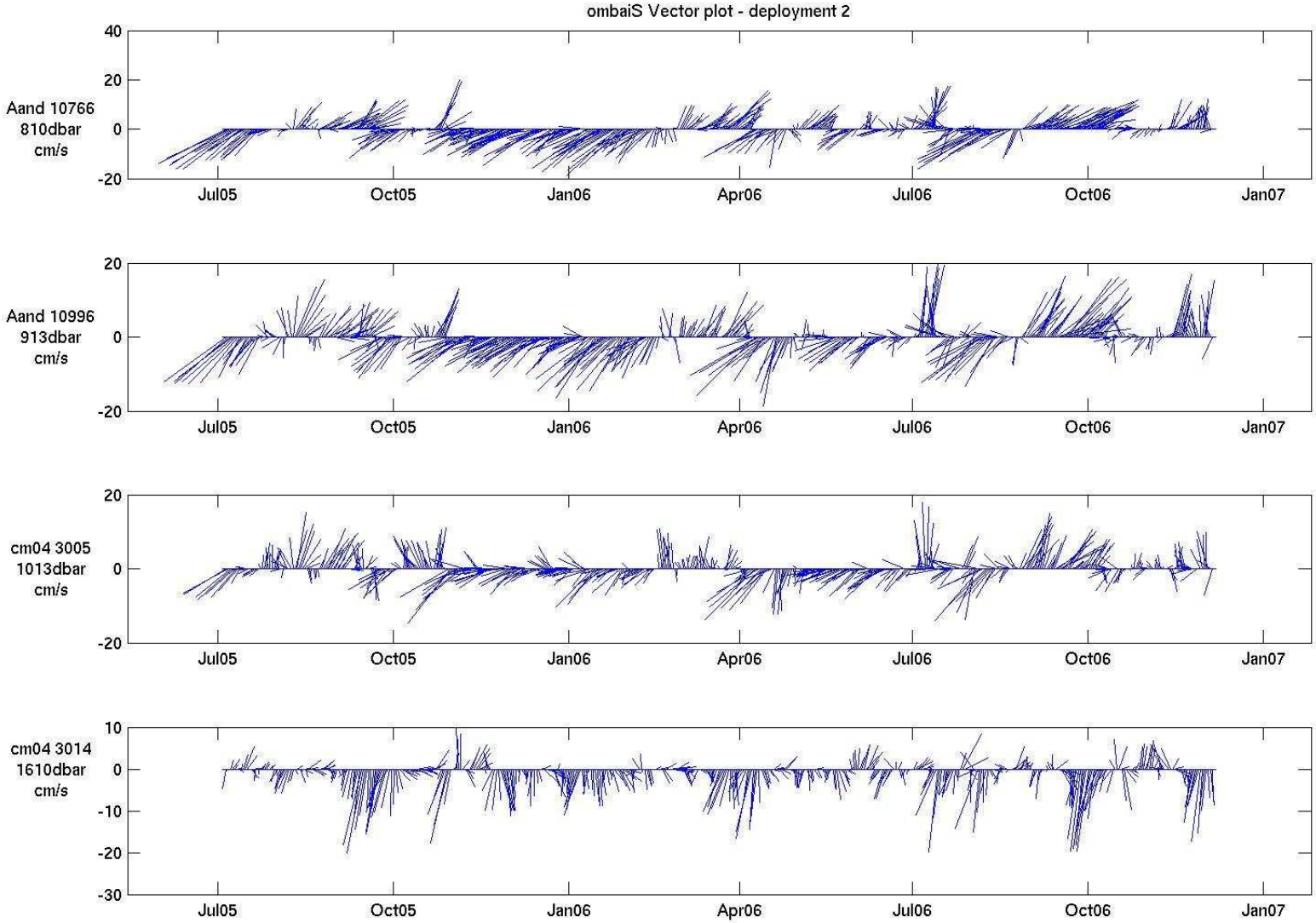
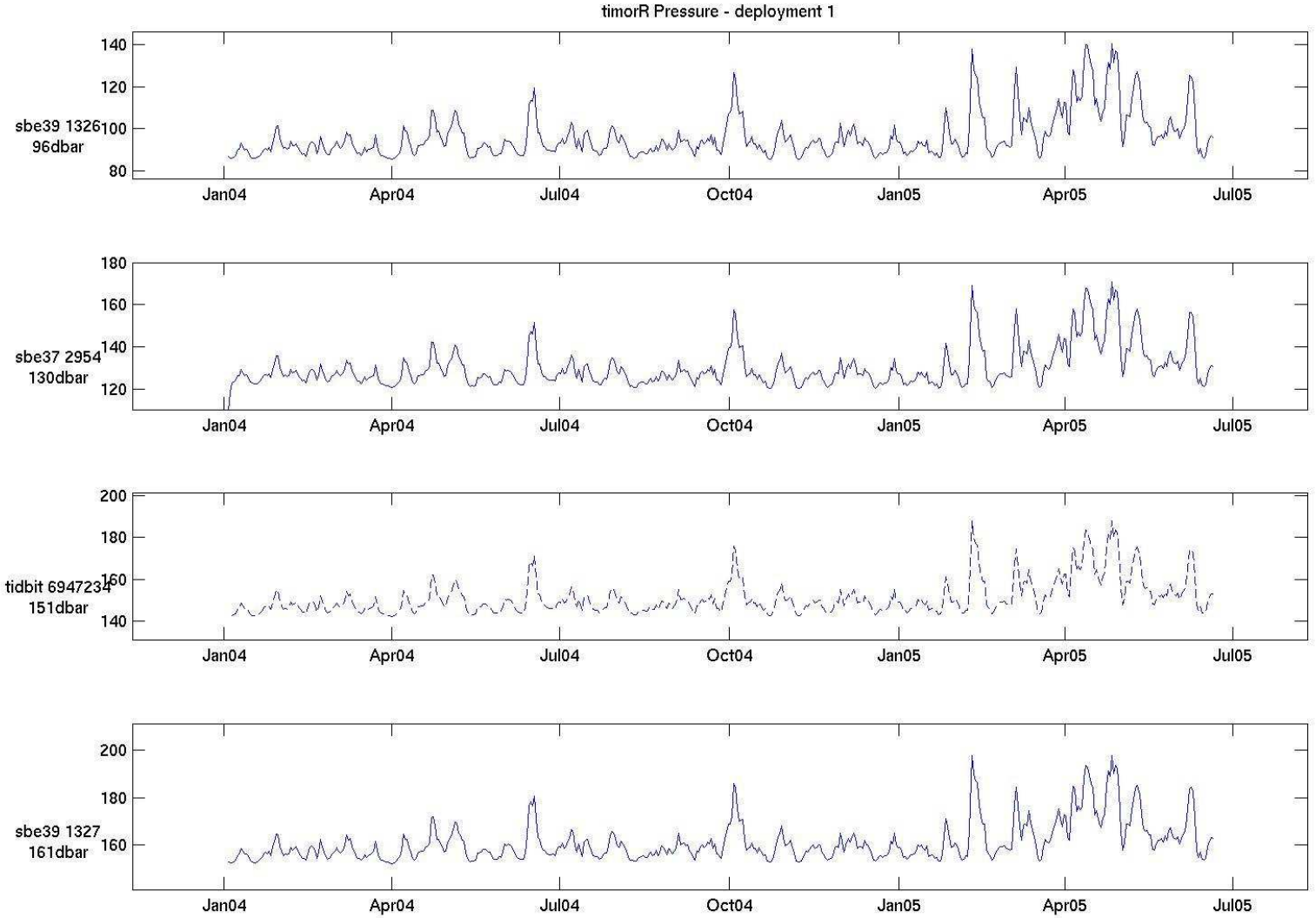
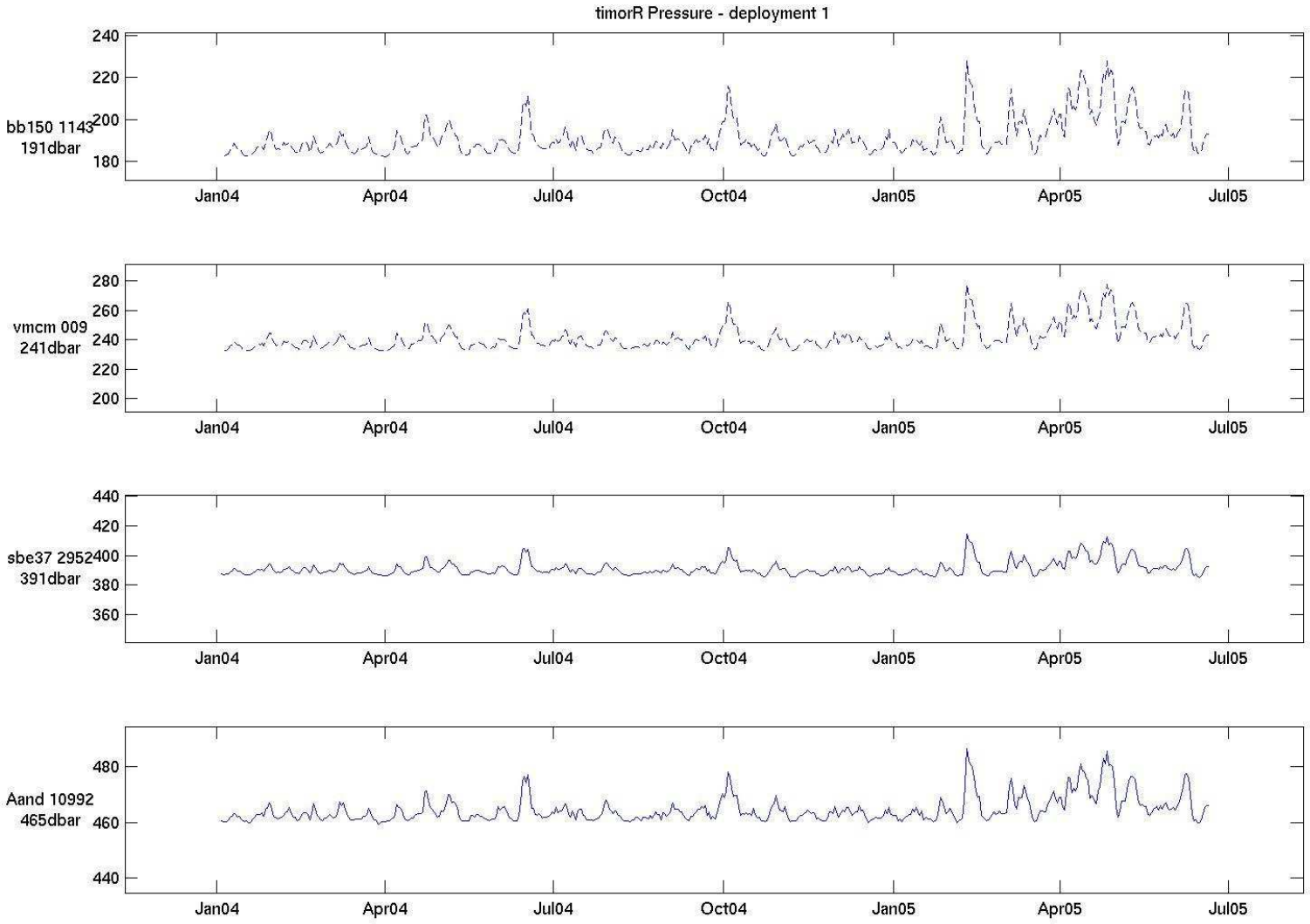
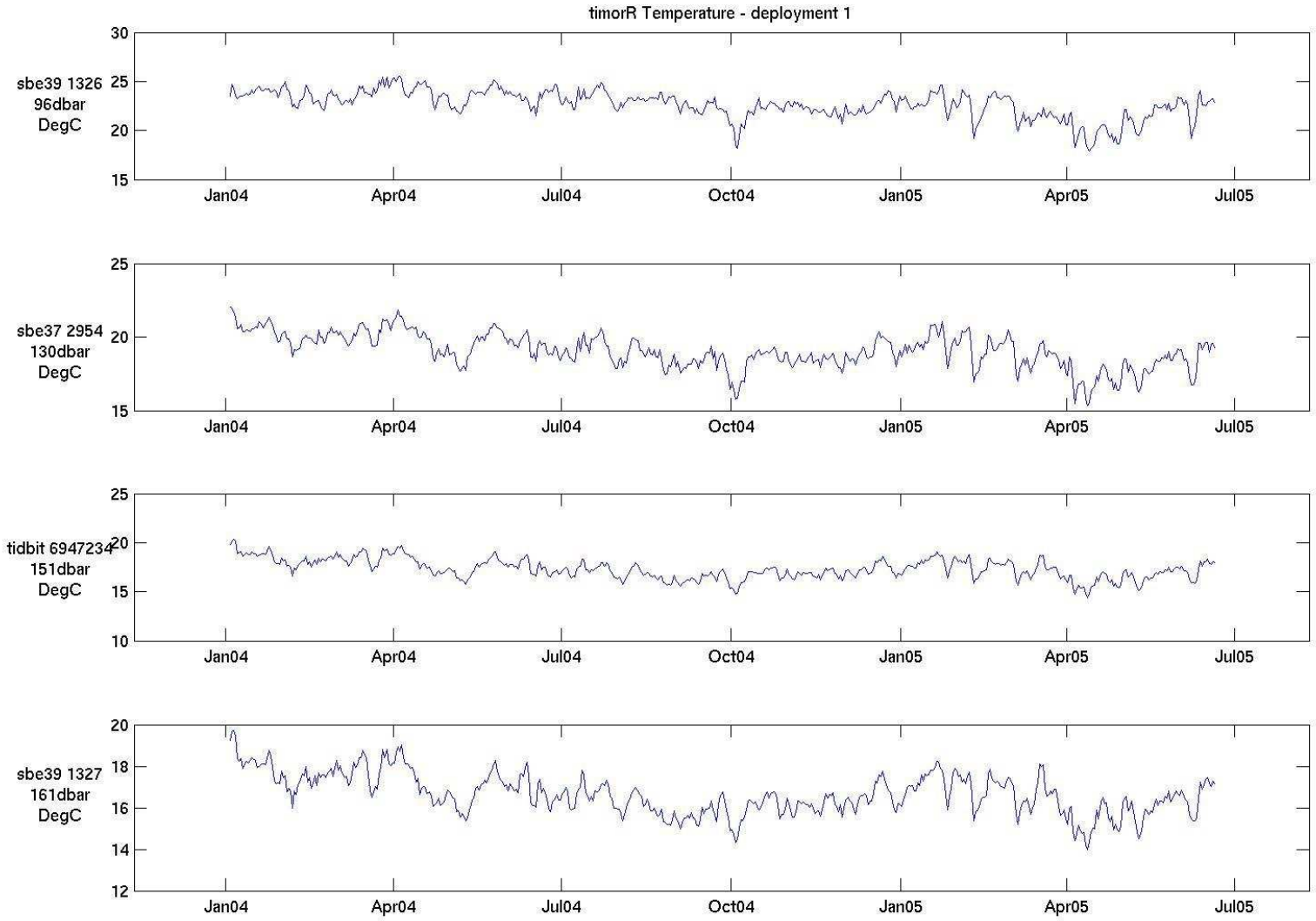
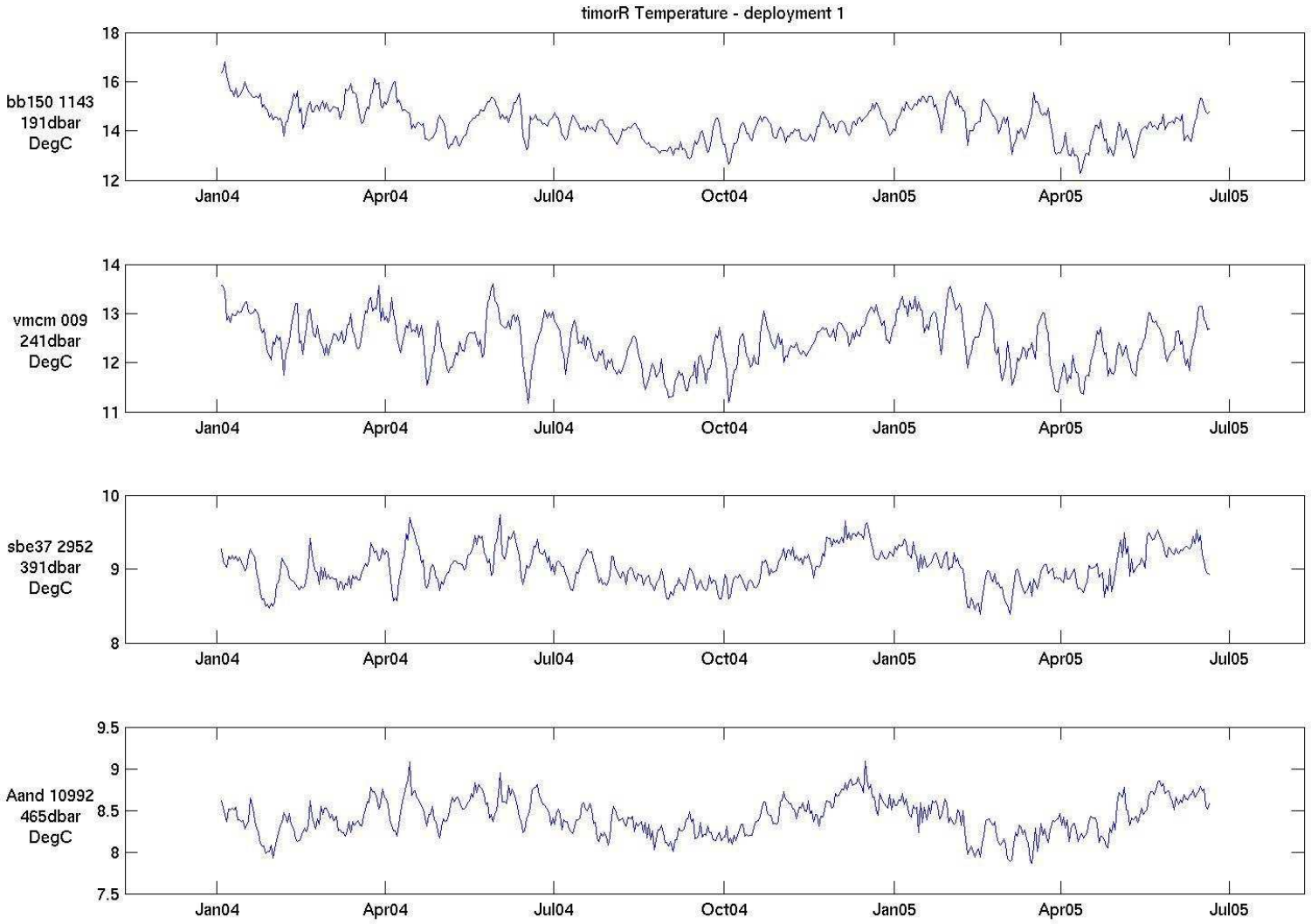

ombaiS Vector plot - deployment 2
Aand 10766
810dbar
cm/s
Aand 10996
913dbar
cm/s
cm04 3005
1013dbar
cm/s
cm04 3014
1610dbar
cm/s
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

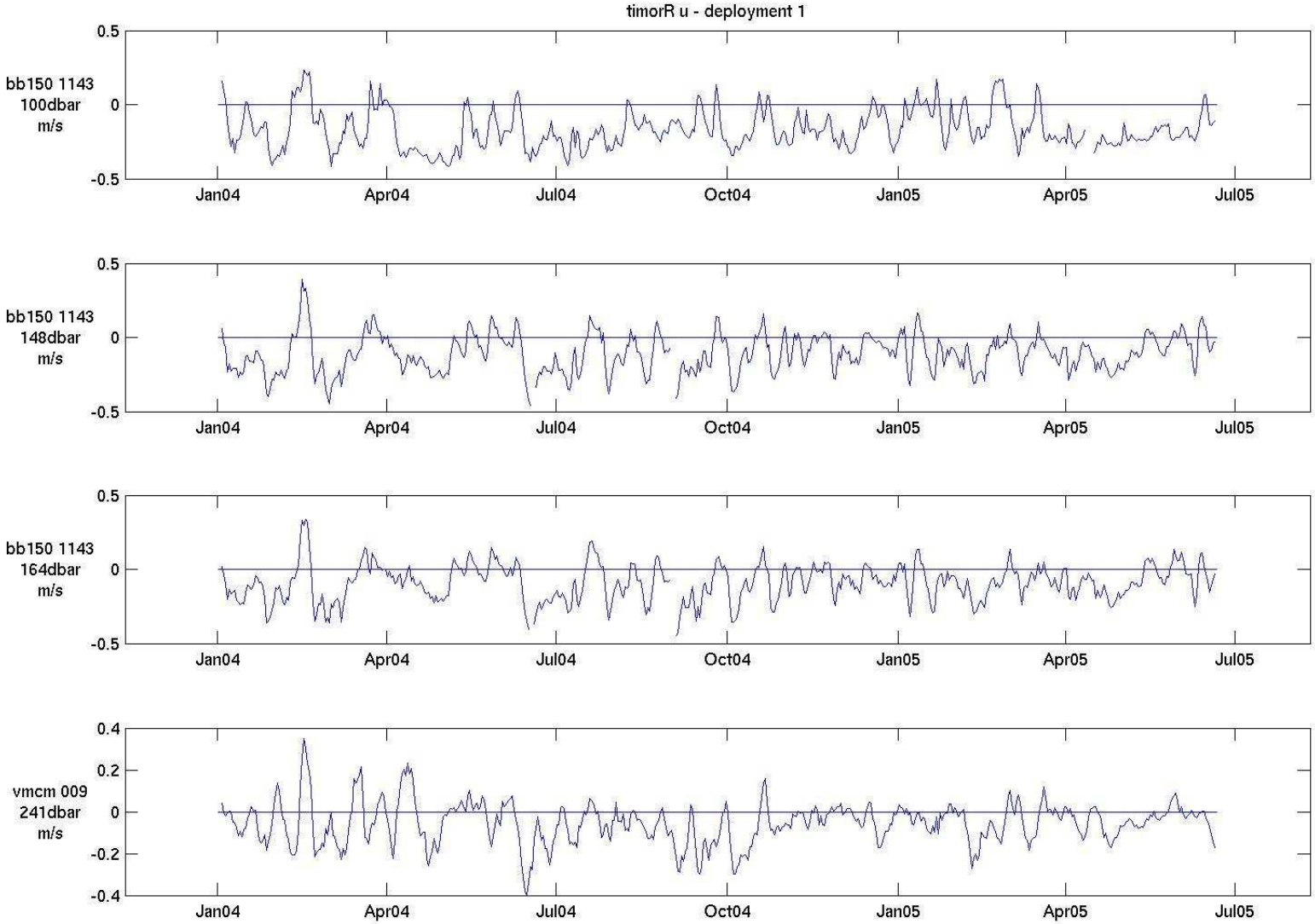
Figure 21. Low pass (1-day) plots of data for Timor Roti mooring. **DOTTED LINES INDICATE INFERRED PRESSURE.**

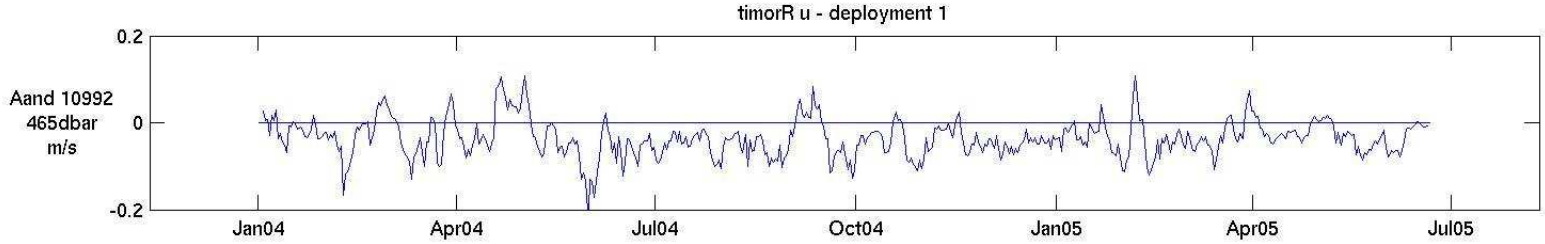


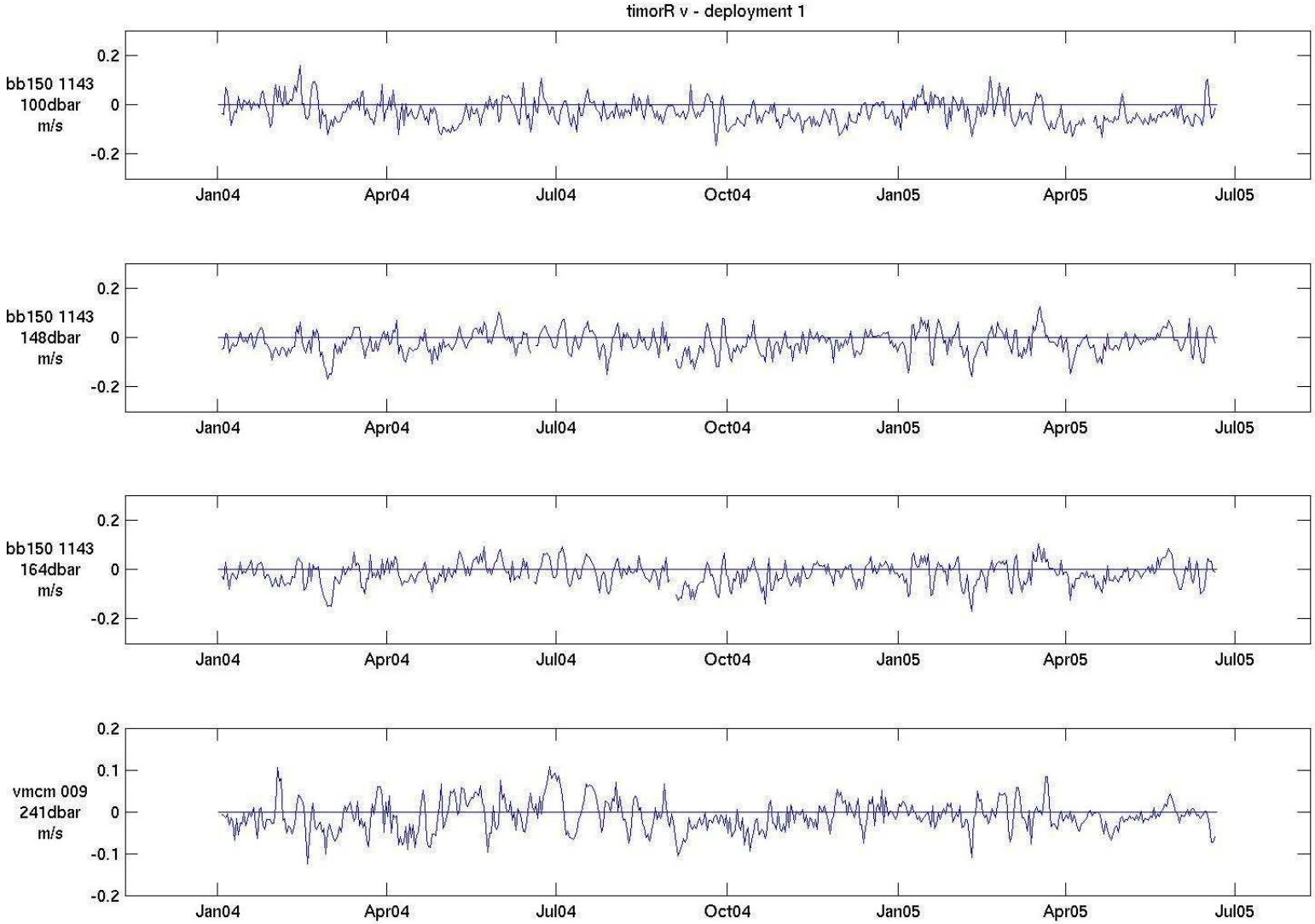

timorR Pressure - deployment 1
bb150 1143
191dbar
240
220
200
180
vmcm 009
241dbar
280
260
240
220
200
sbe37 2952
391dbar
440
420
400
380
360
Aand 10992
465dbar
480
460
440
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

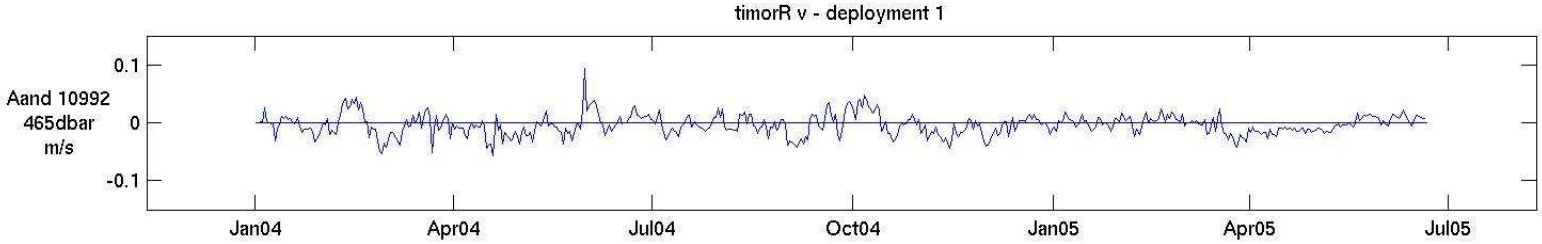

timorR Temperature - deployment 1
sbe39 1326
96dbar
DegC
sbe37 2954
130dbar
DegC
tidbit 6947234
151dbar
DegC
sbe39 1327
161dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

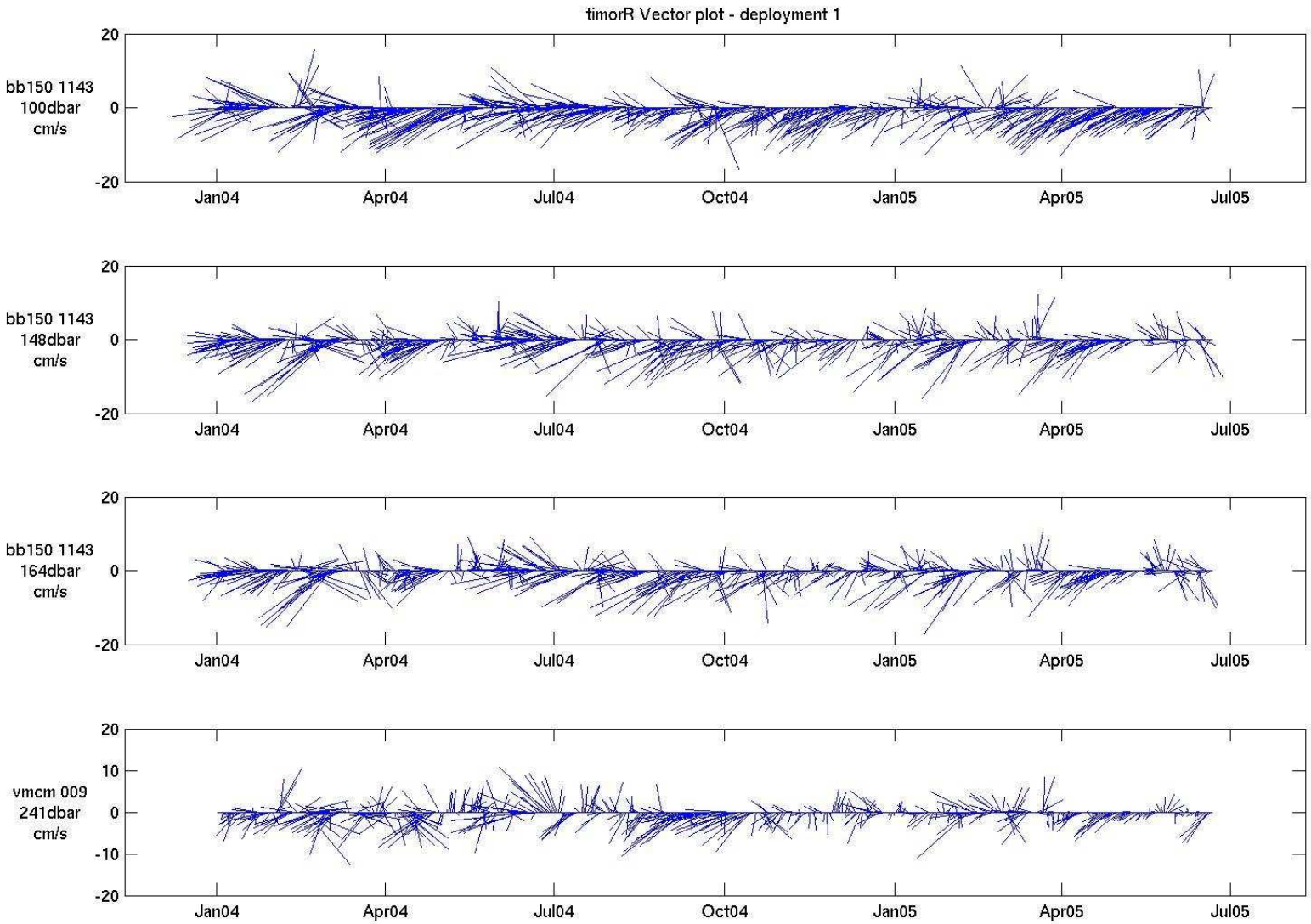

timorR Temperature - deployment 1
bb150 1143
191dbar
DegC
vmcm 009
241dbar
DegC
sbe37 2952
391dbar
DegC
Aand 10992
465dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

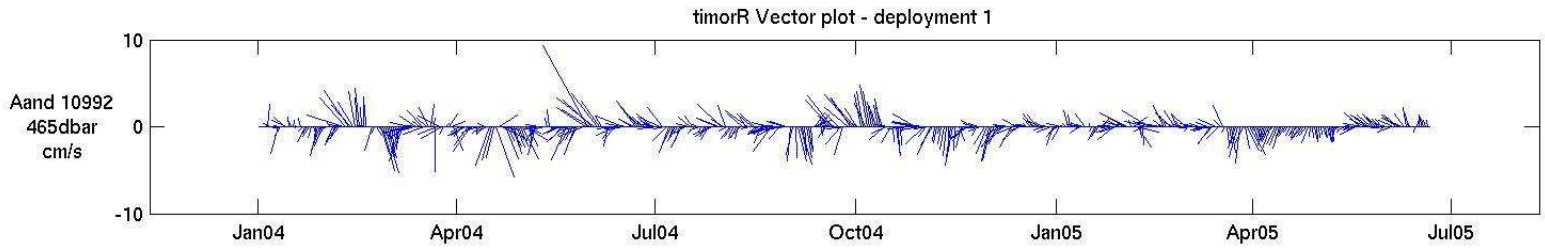

timorR u - deployment 1
bb150 1143
100dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
bb150 1143
148dbar
m/s
bb150 1143
164dbar
m/s
vmcm 009
241dbar
m/s
0.4
0.2
-0.2
-0.4

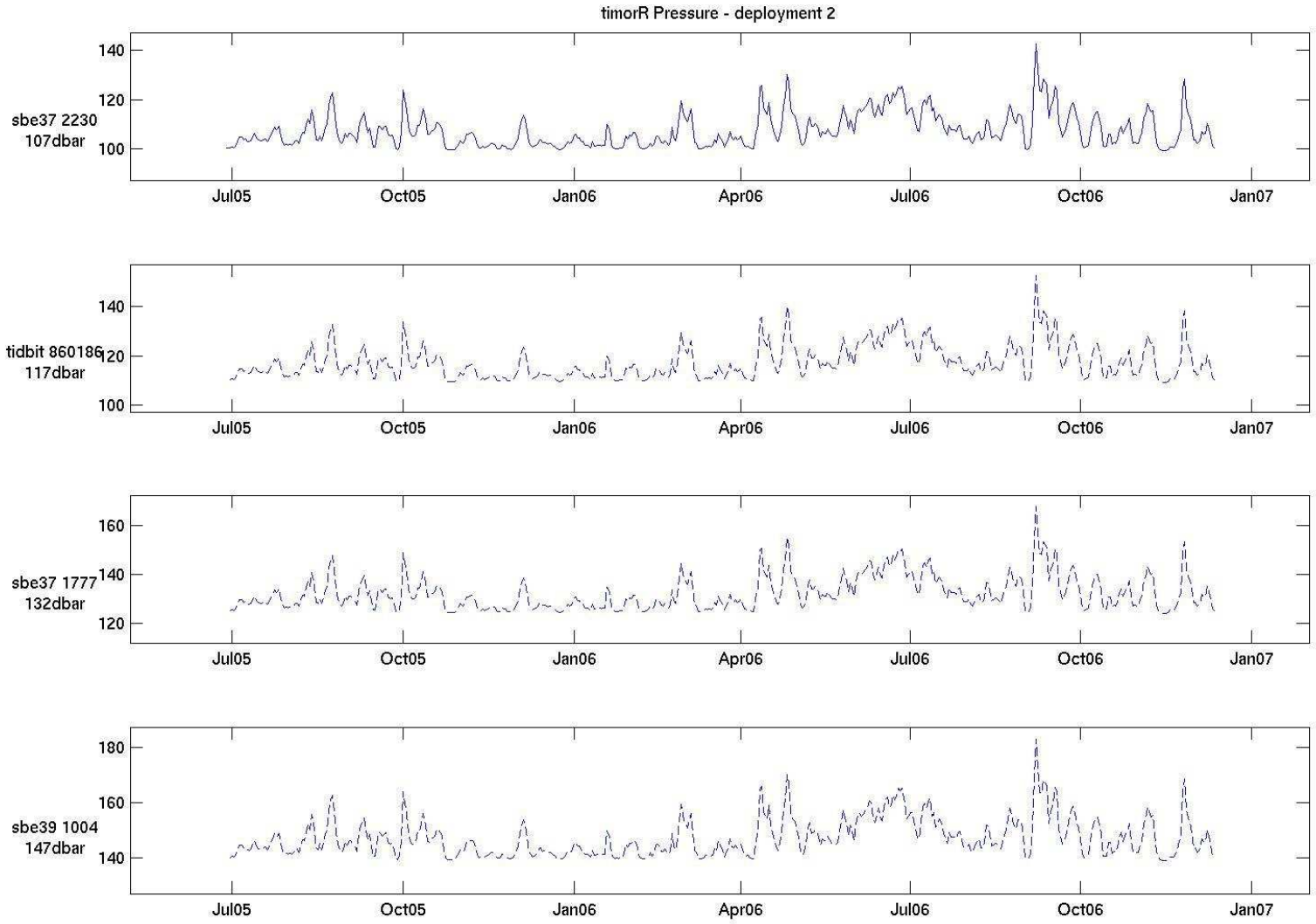

timorR u - deployment 1
Aand 10992
465dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

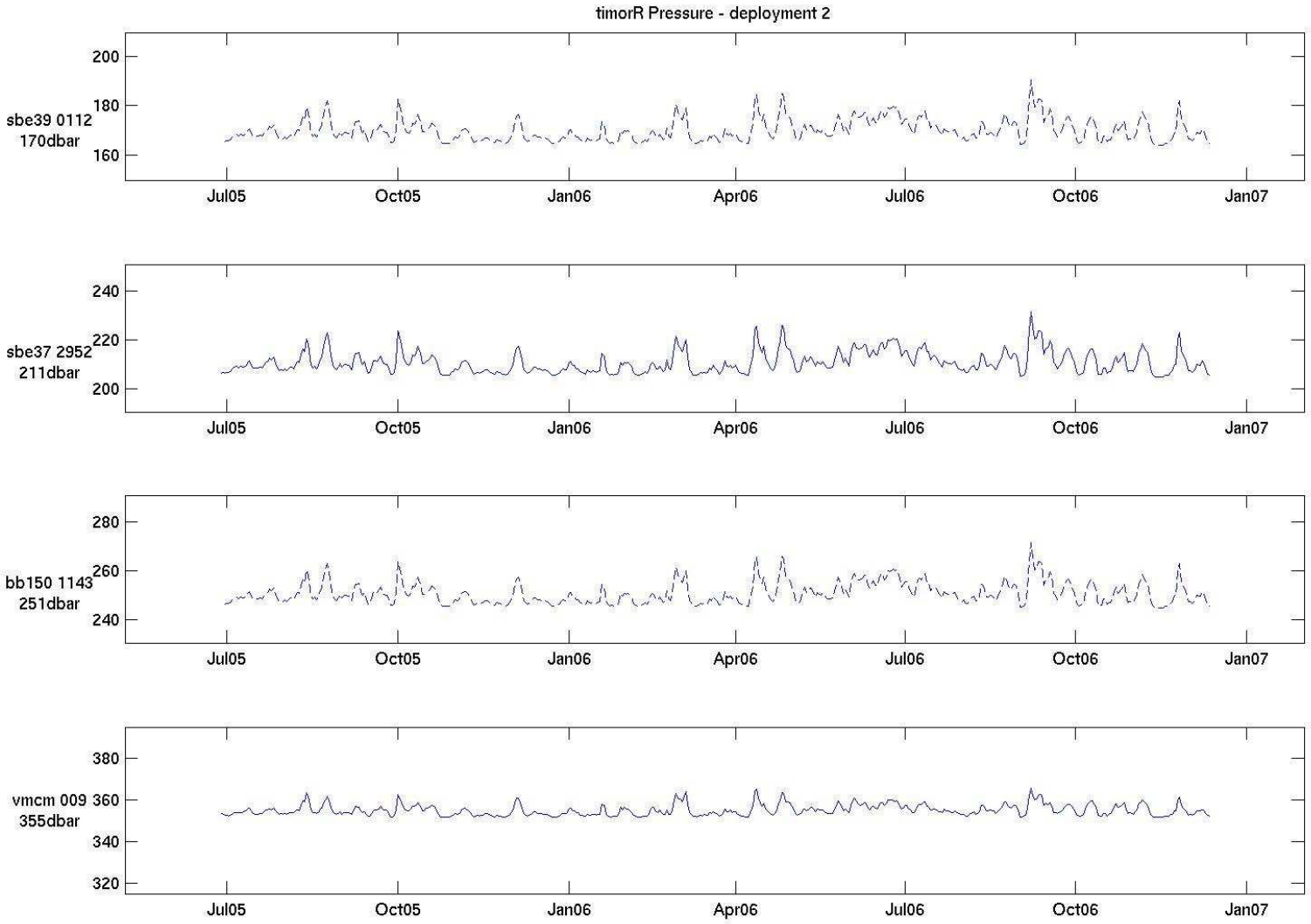

timorR v - deployment 1
bb150 1143
100dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
bb150 1143
148dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
bb150 1143
164dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
vmcm 009
241dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

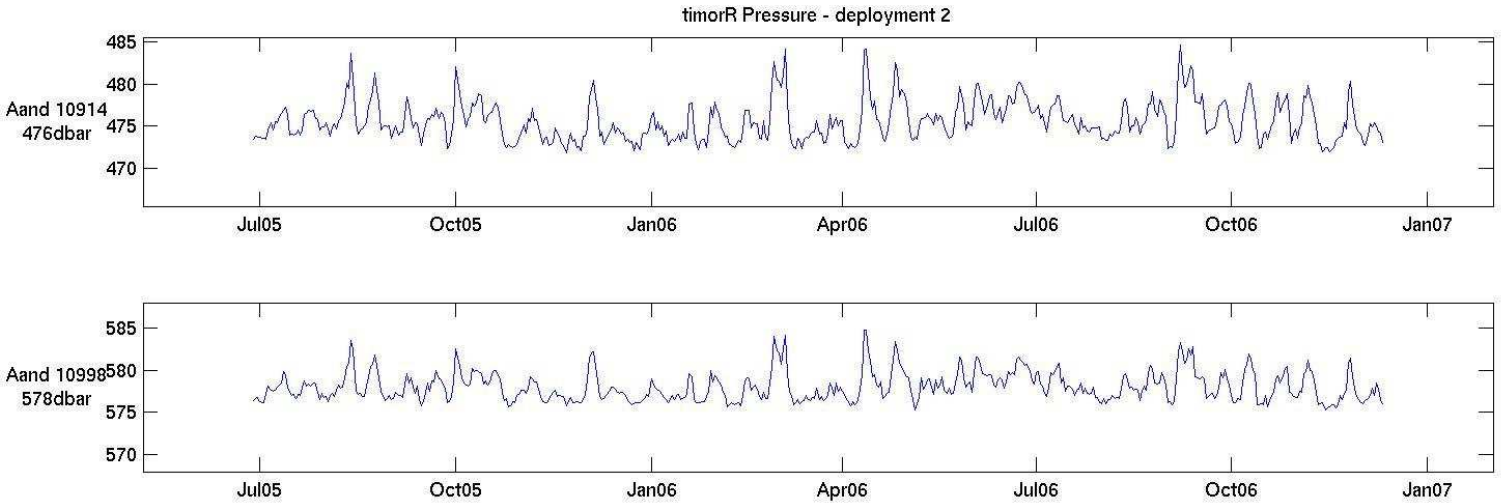

timorR v - deployment 1
Aand 10992
465dbar
m/s
0.1
0
-0.1
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

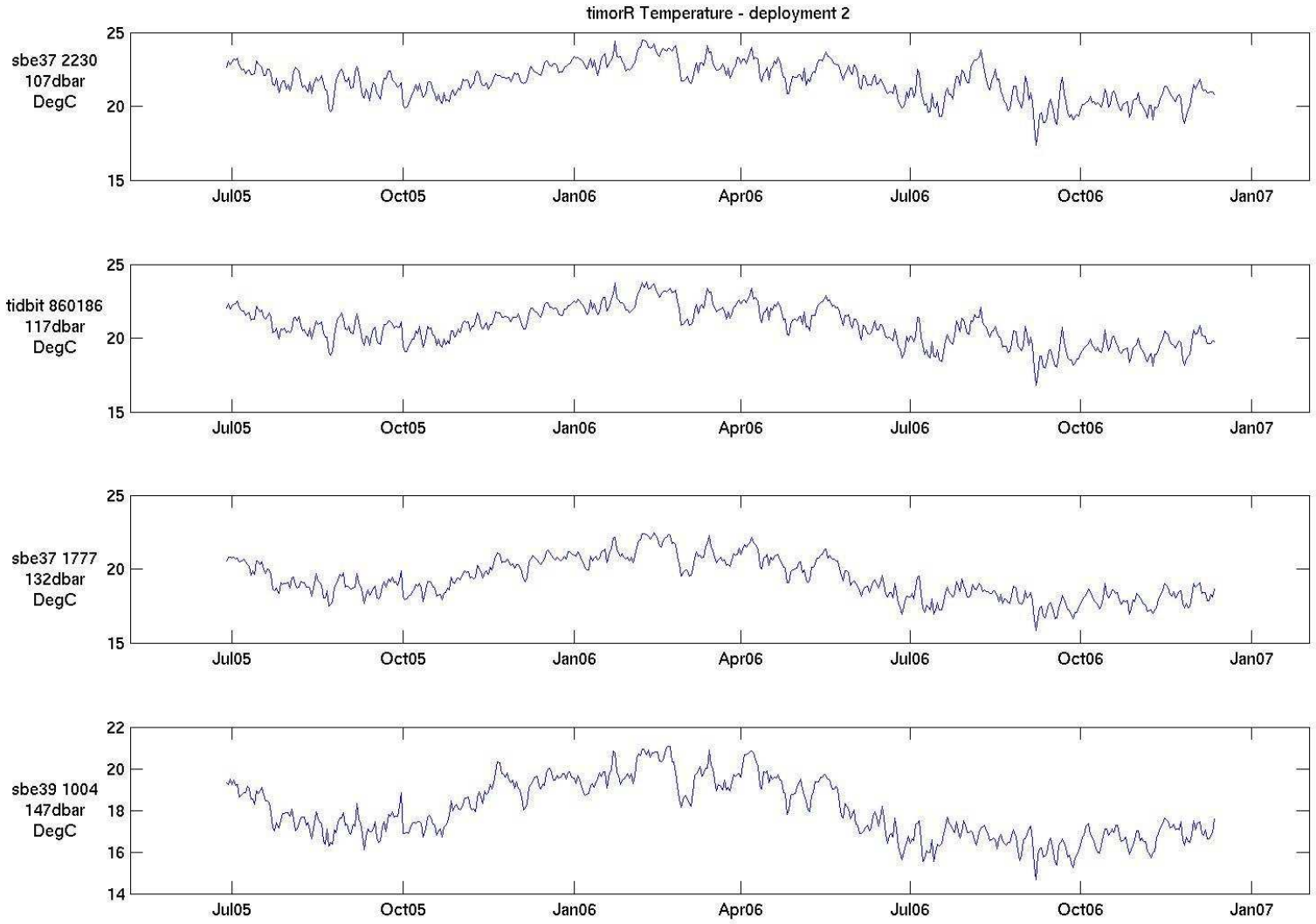

timorR Vector plot - deployment 1
bb150 1143
100dbar
cm/s
bb150 1143
148dbar
cm/s
bb150 1143
164dbar
cm/s
vmcm 009
241dbar
cm/s
20
10
0
-10
-20
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

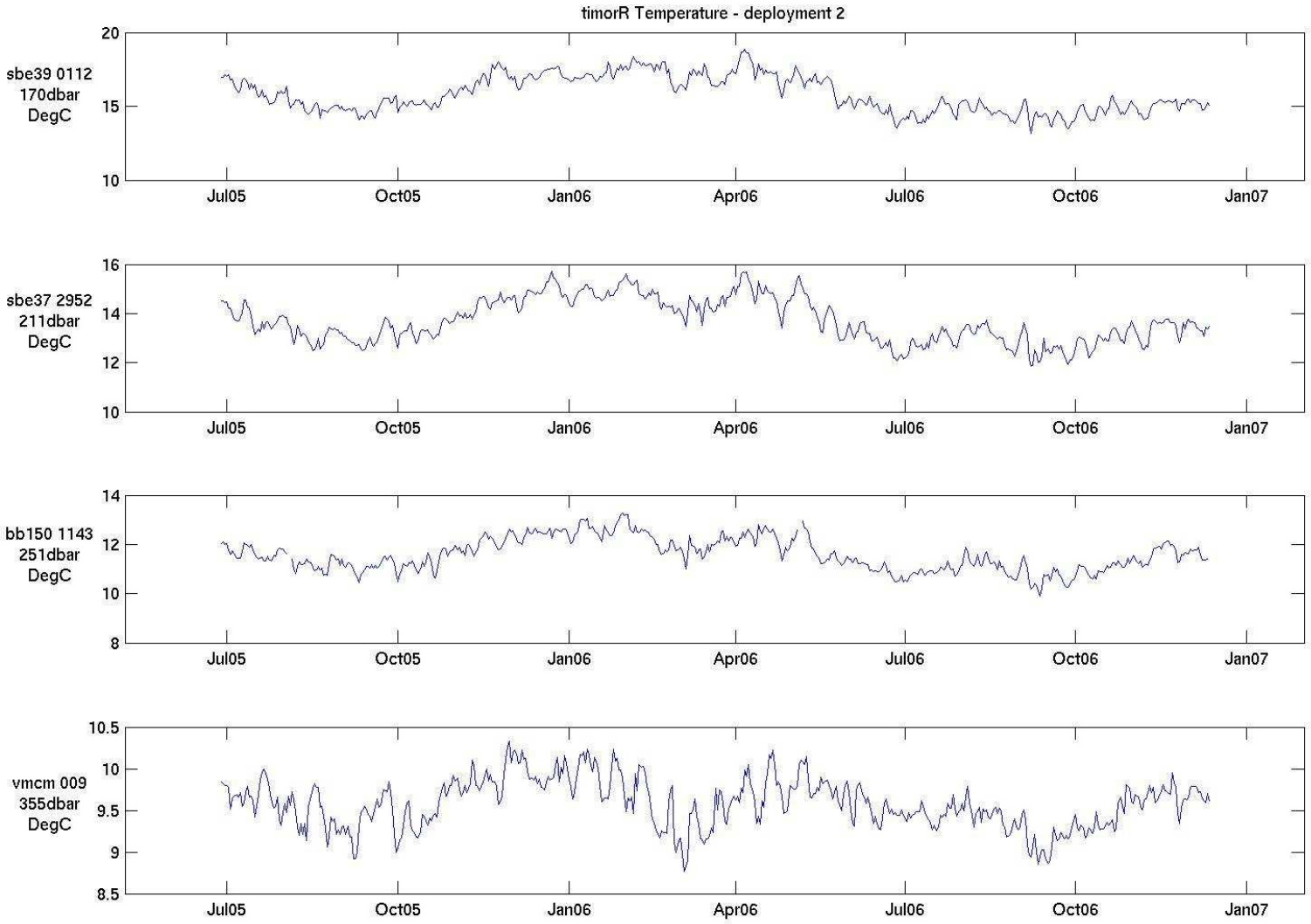

timorR Vector plot - deployment 1
Aand 10992
465dbar
cm/s
10
0
-10
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

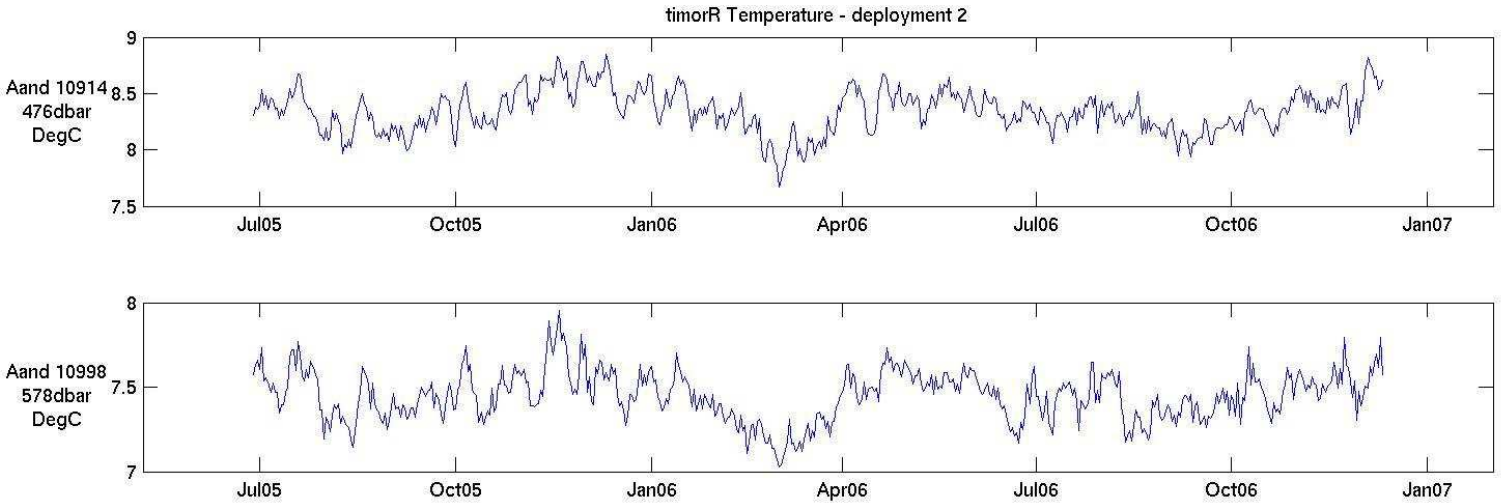

timorR Pressure - deployment 2
sbe37 2230
107dbar
tidbit 860186
117dbar
sbe37 1777
132dbar
sbe39 1004
147dbar
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

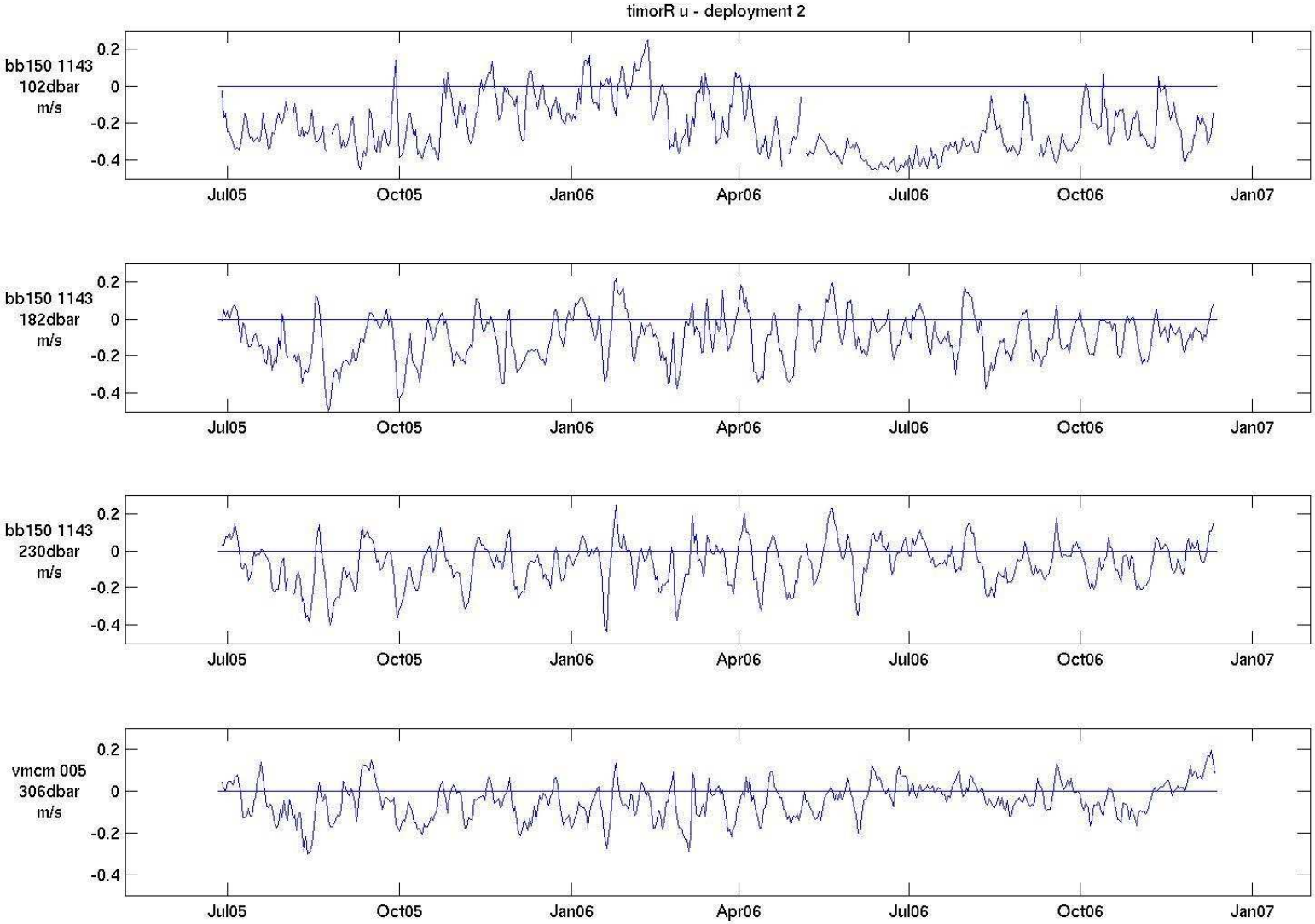

timorR Pressure - deployment 2
sbe39 0112
170dbar
200
180
160
sbe37 2952
211dbar
240
220
200
bb150 1143
251dbar
280
260
240
vmcm 009
355dbar
380
360
340
320
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

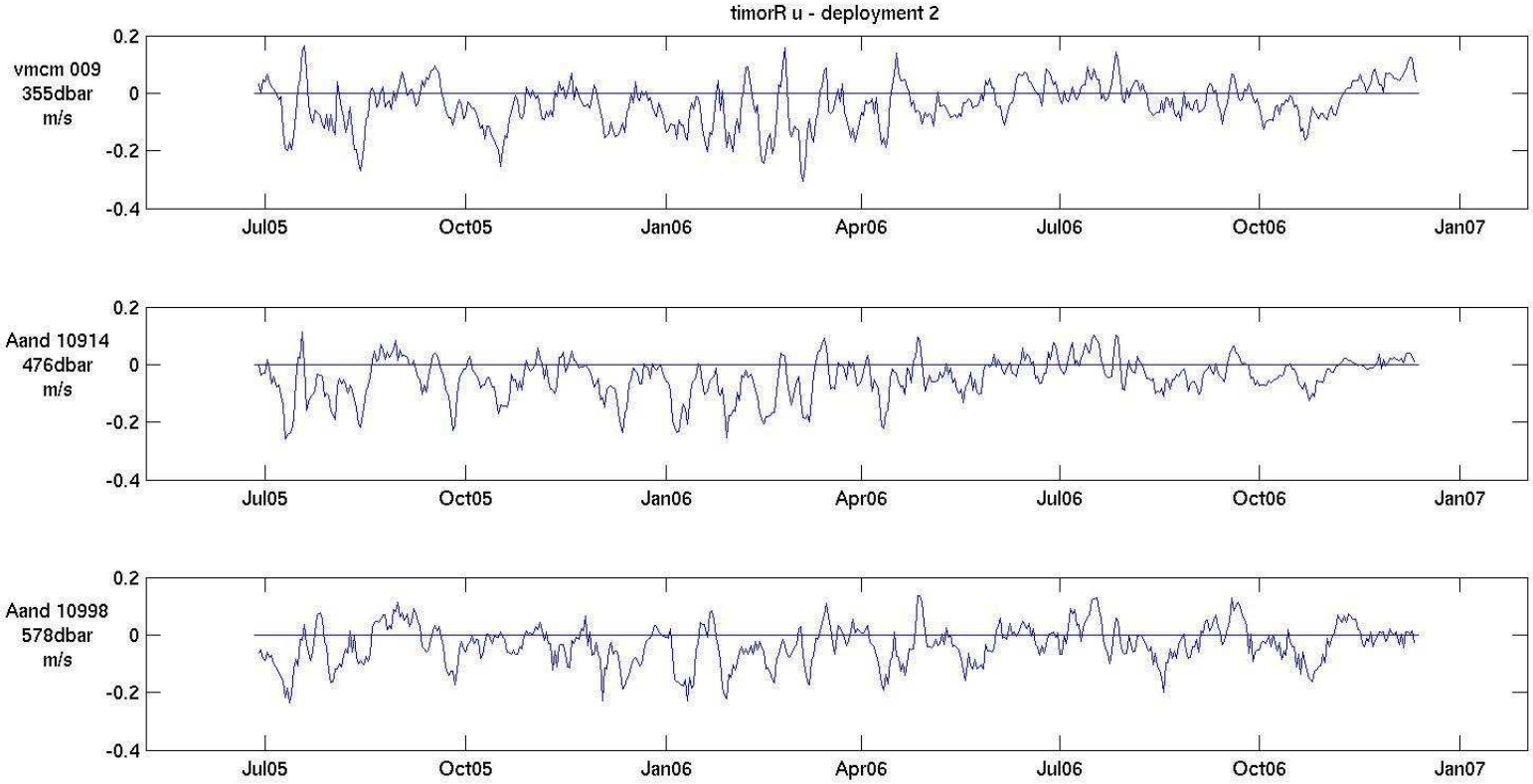

timorR Pressure - deployment 2
Aand 10914
476dbar
485
480
475
470
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10998
578dbar
585
580
575
570
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

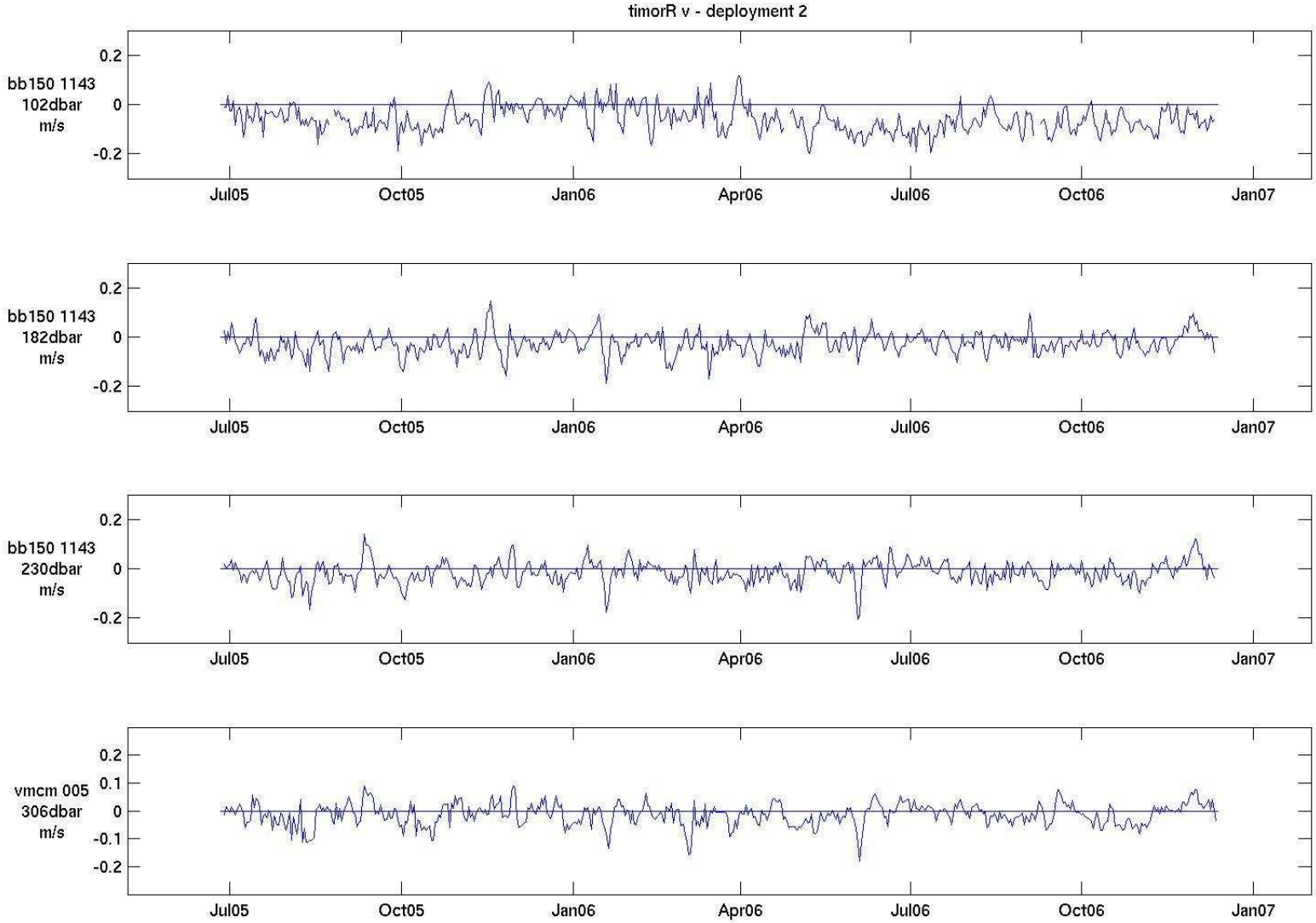

timorR Temperature - deployment 2
sbe37 2230
107dbar
DegC
tidbit 860186
117dbar
DegC
sbe37 1777
132dbar
DegC
sbe39 1004
147dbar
DegC
25
20
15
22
18
16
14
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

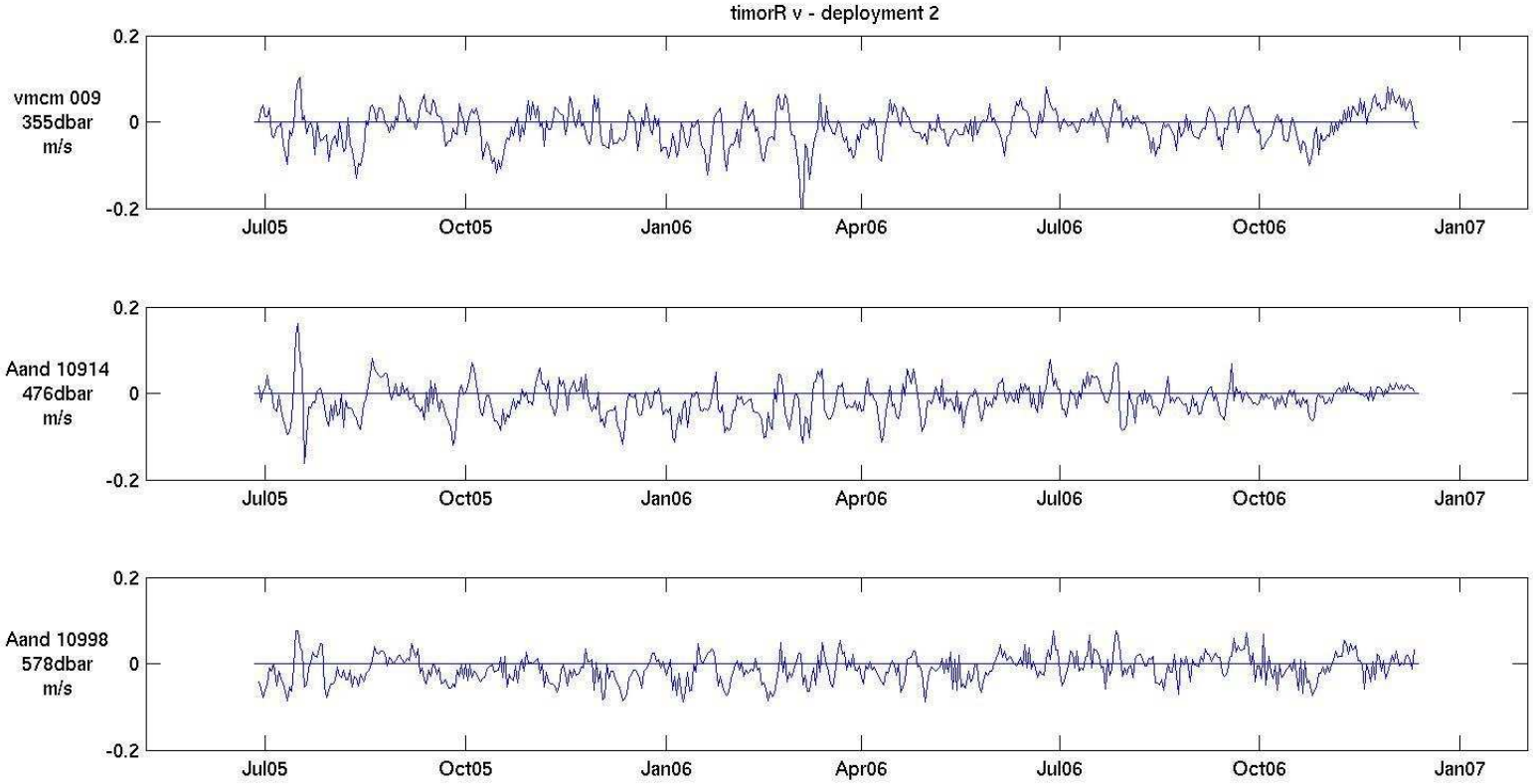

timorR Temperature - deployment 2
sbe39 0112
170dbar
DegC
sbe37 2952
211dbar
DegC
bb150 1143
251dbar
DegC
vmcm 009
355dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

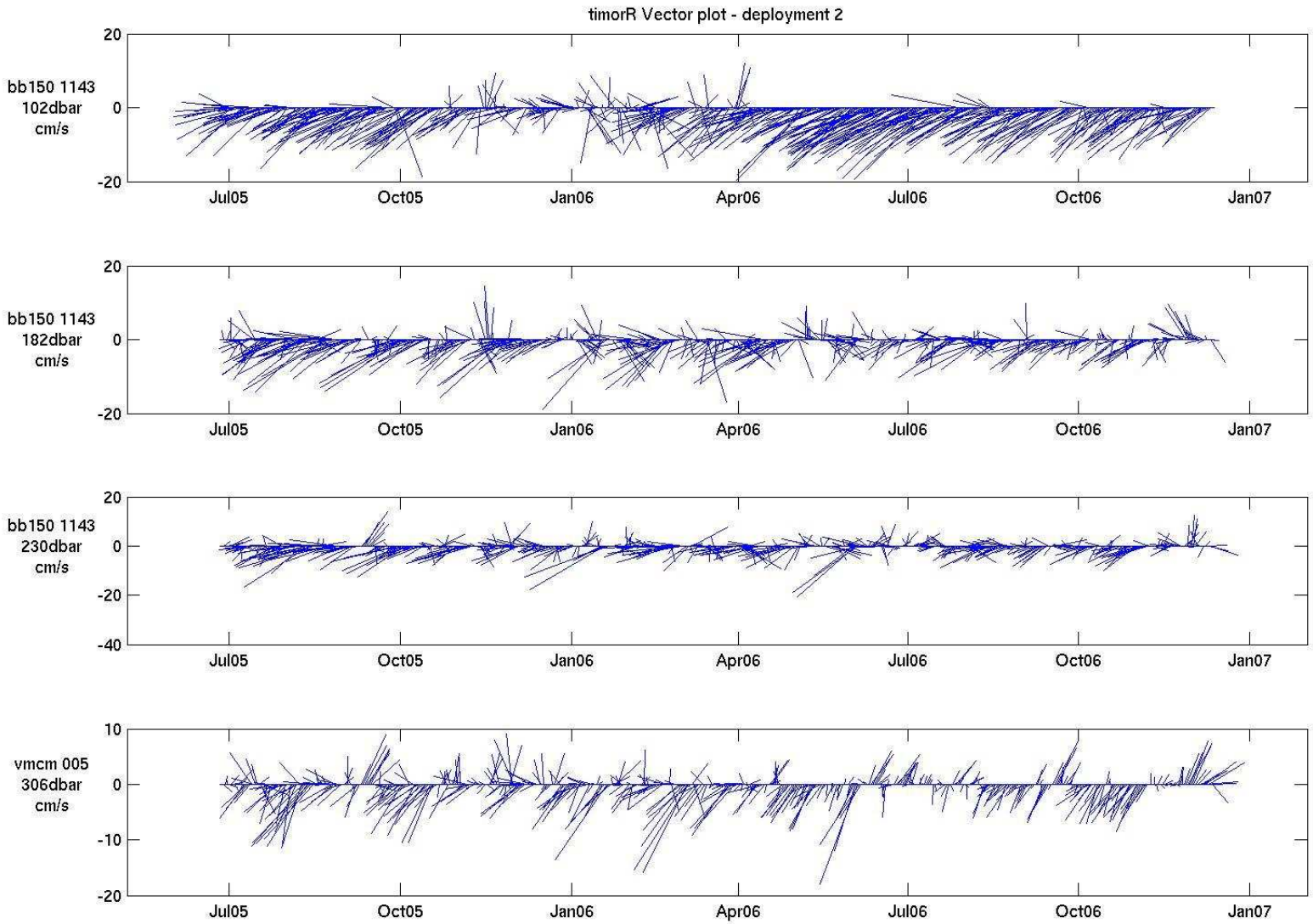

timorR Temperature - deployment 2
Aand 10914
476dbar
DegC
9
8.5
8
7.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10998
578dbar
DegC
8
7.5
7
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorR u - deployment 2
bb150 1143
102dbar
m/s
bb150 1143
182dbar
m/s
bb150 1143
230dbar
m/s
vmcm 005
306dbar
m/s
0.2
0
-0.2
-0.4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorR u - deployment 2
vmcm 009
355dbar
m/s
Aand 10914
476dbar
m/s
Aand 10998
578dbar
m/s
0.2
0
-0.2
-0.4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorR v - deployment 2
bb150 1143
102dbar
m/s
0.2
0
-0.2
bb150 1143
182dbar
m/s
0.2
0
-0.2
bb150 1143
230dbar
m/s
0.2
0
-0.2
vmcm 005
306dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorR v - deployment 2
vmcm 009
355dbar
m/s
Aand 10914
476dbar
m/s
Aand 10998
578dbar
m/s
0.2
0
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorR Vector plot - deployment 2
bb150 1143
102dbar
cm/s
20
0
-20
bb150 1143
182dbar
cm/s
20
0
-20
bb150 1143
230dbar
cm/s
20
0
-20
-40
vmcm 005
306dbar
cm/s
10
0
-10
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

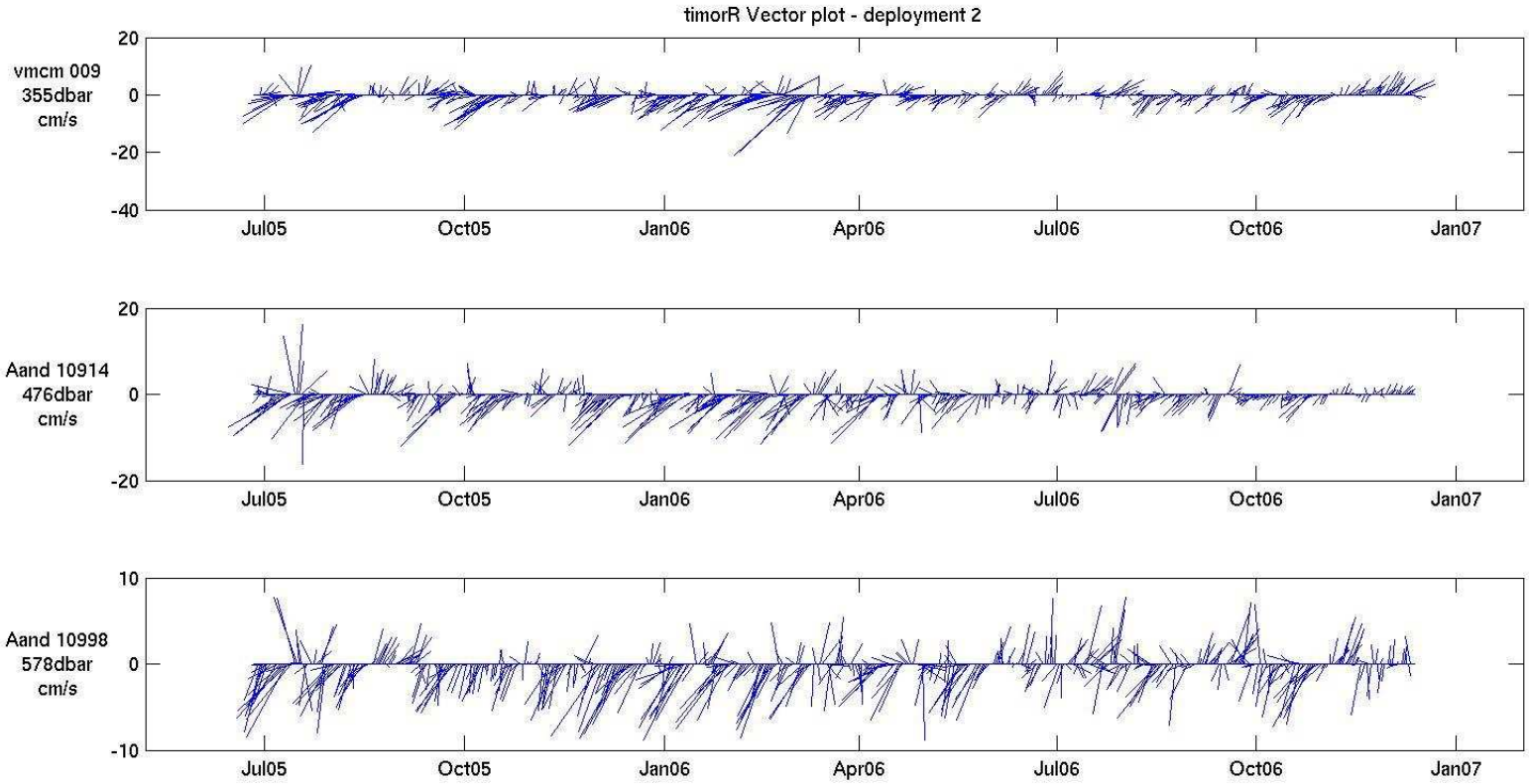
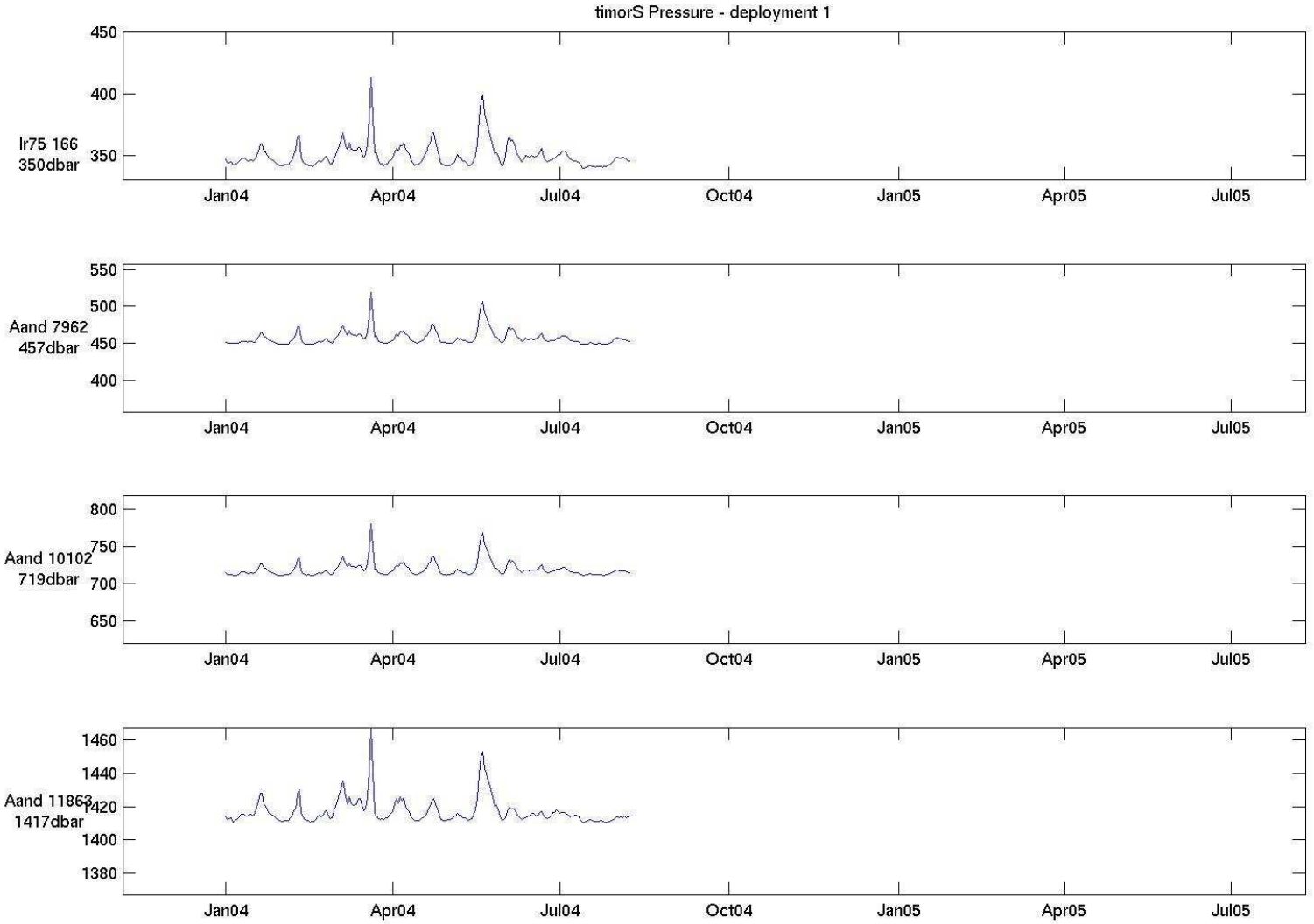
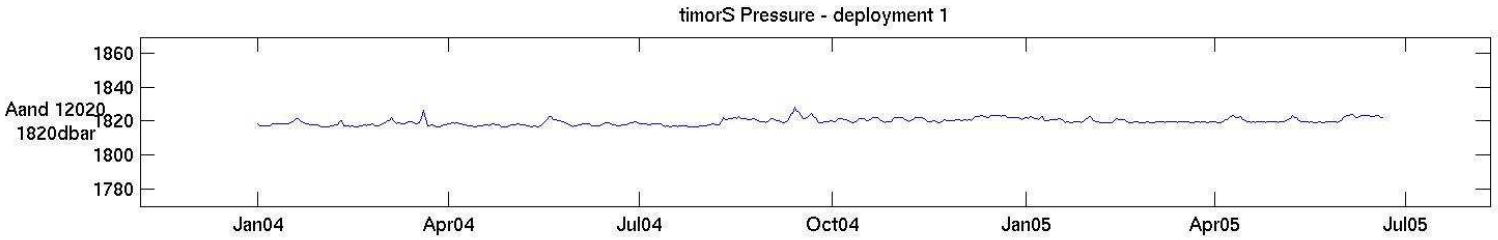
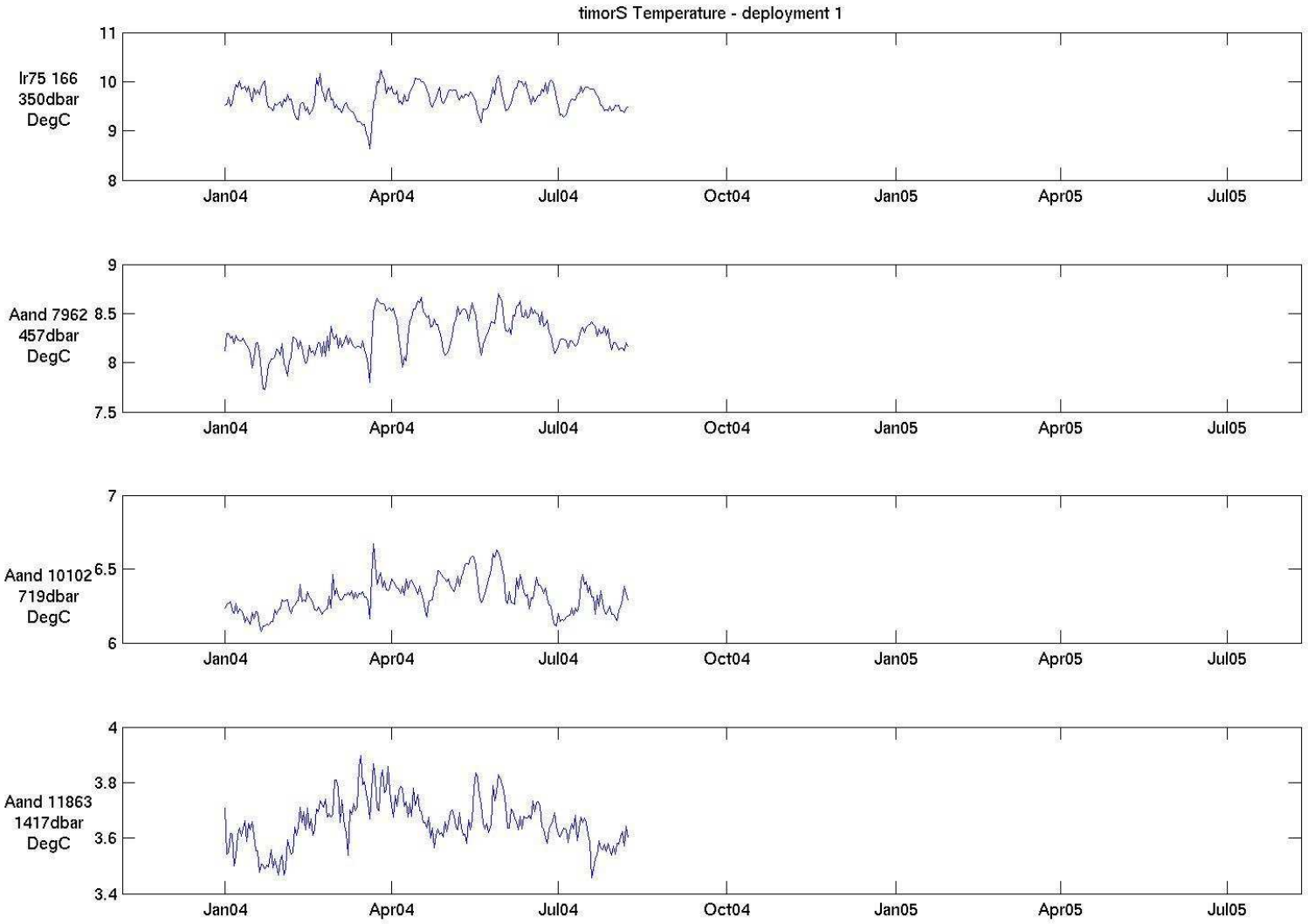
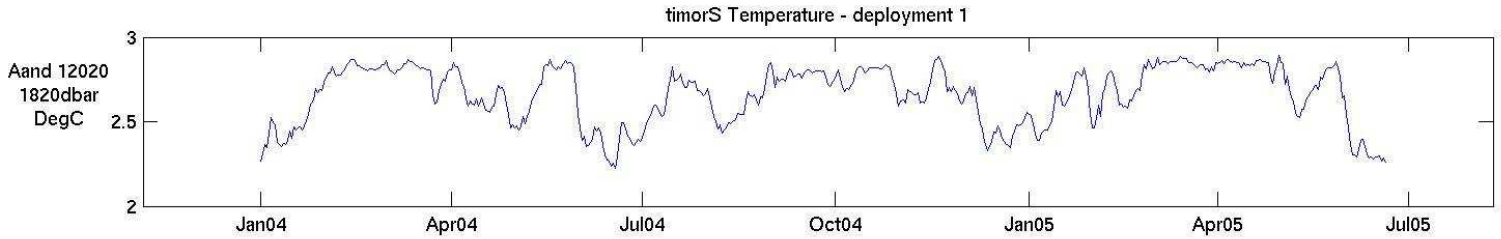

timorR Vector plot - deployment 2
vmcm 009
355dbar
cm/s
20
0
-20
-40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10914
476dbar
cm/s
20
0
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10998
578dbar
cm/s
10
0
-10
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

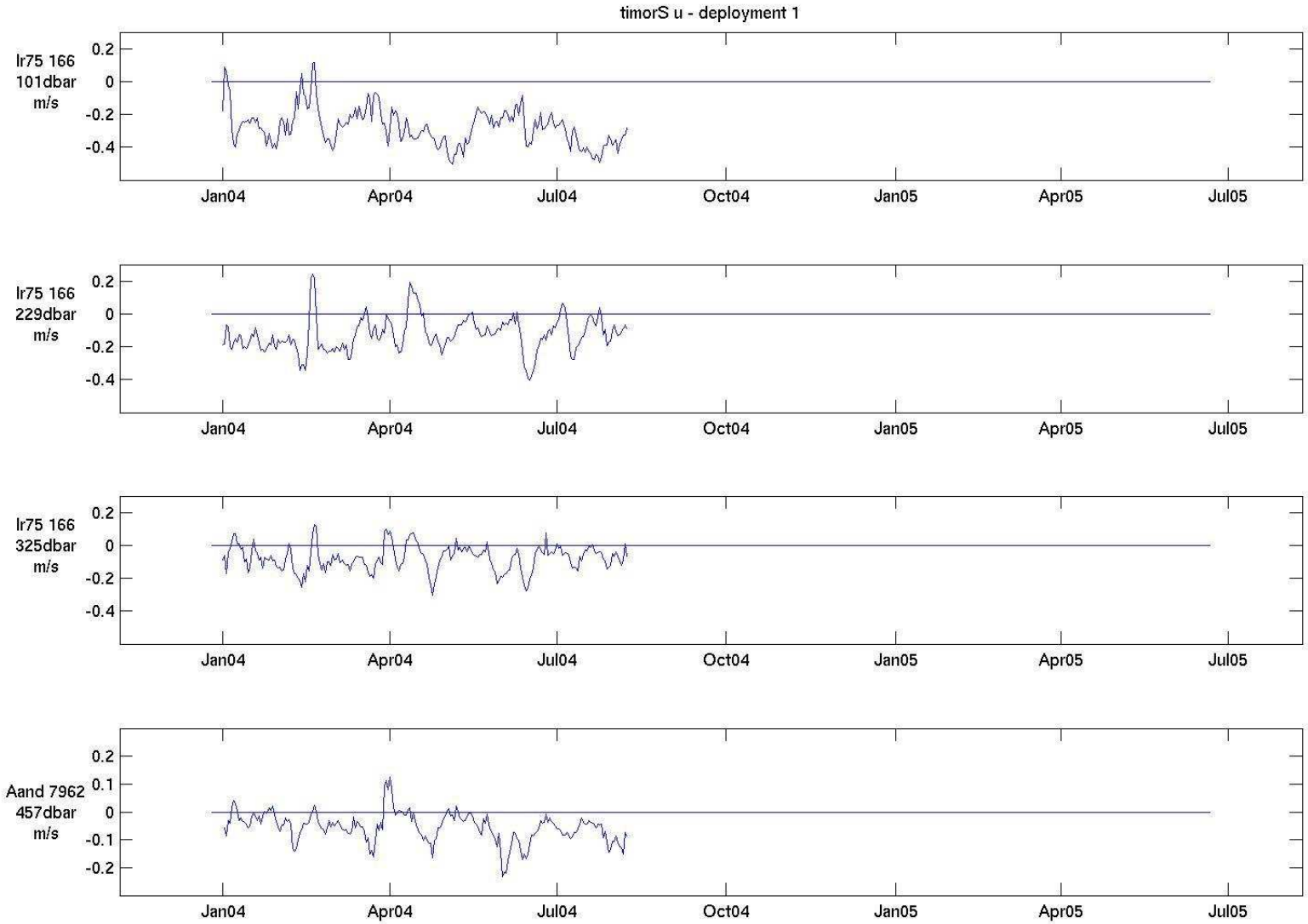
Figure 22. Low pass (1-day) plots of data for Timor Sill mooring. **DOTTED LINES INDICATE INFERRED PRESSURE.**

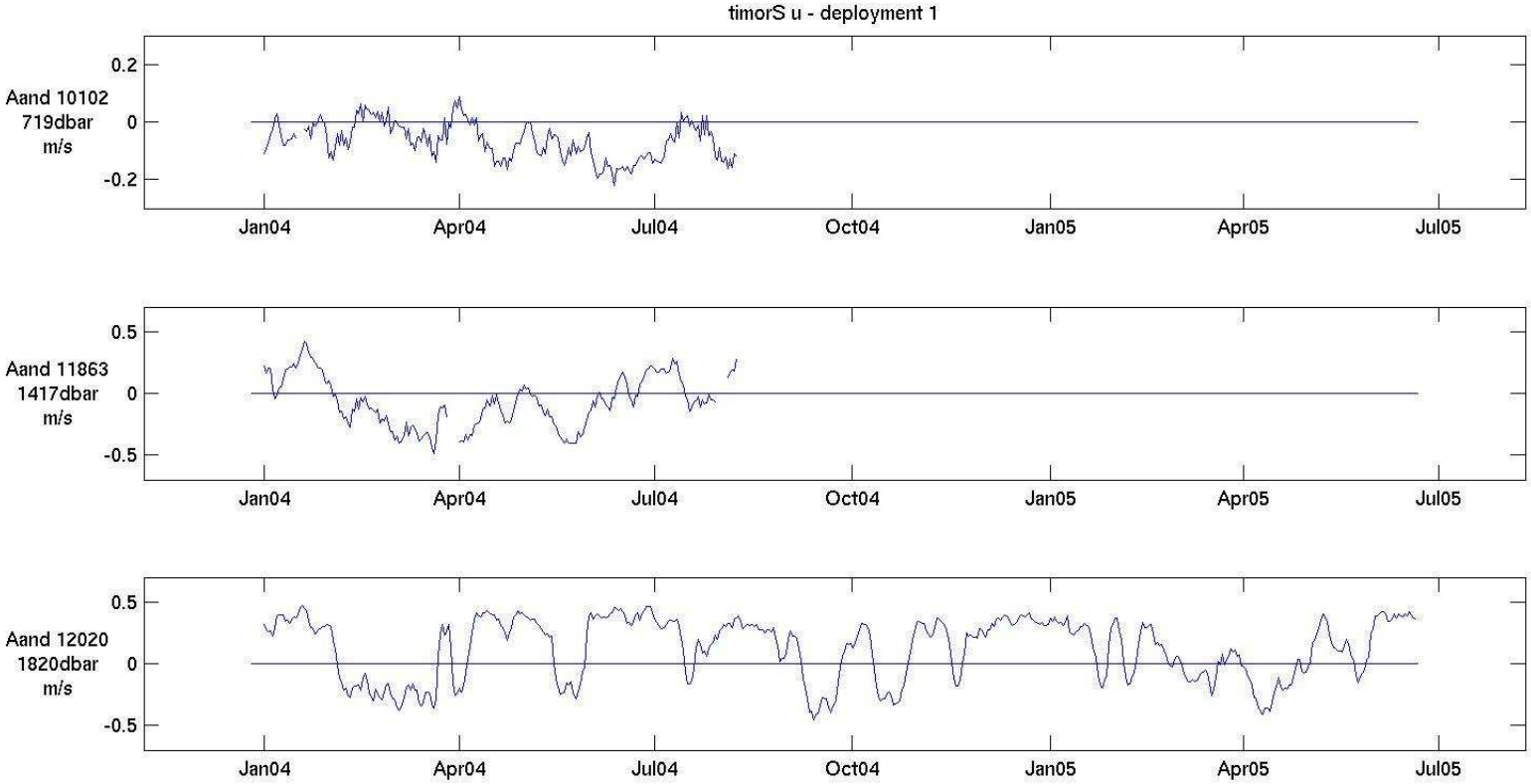


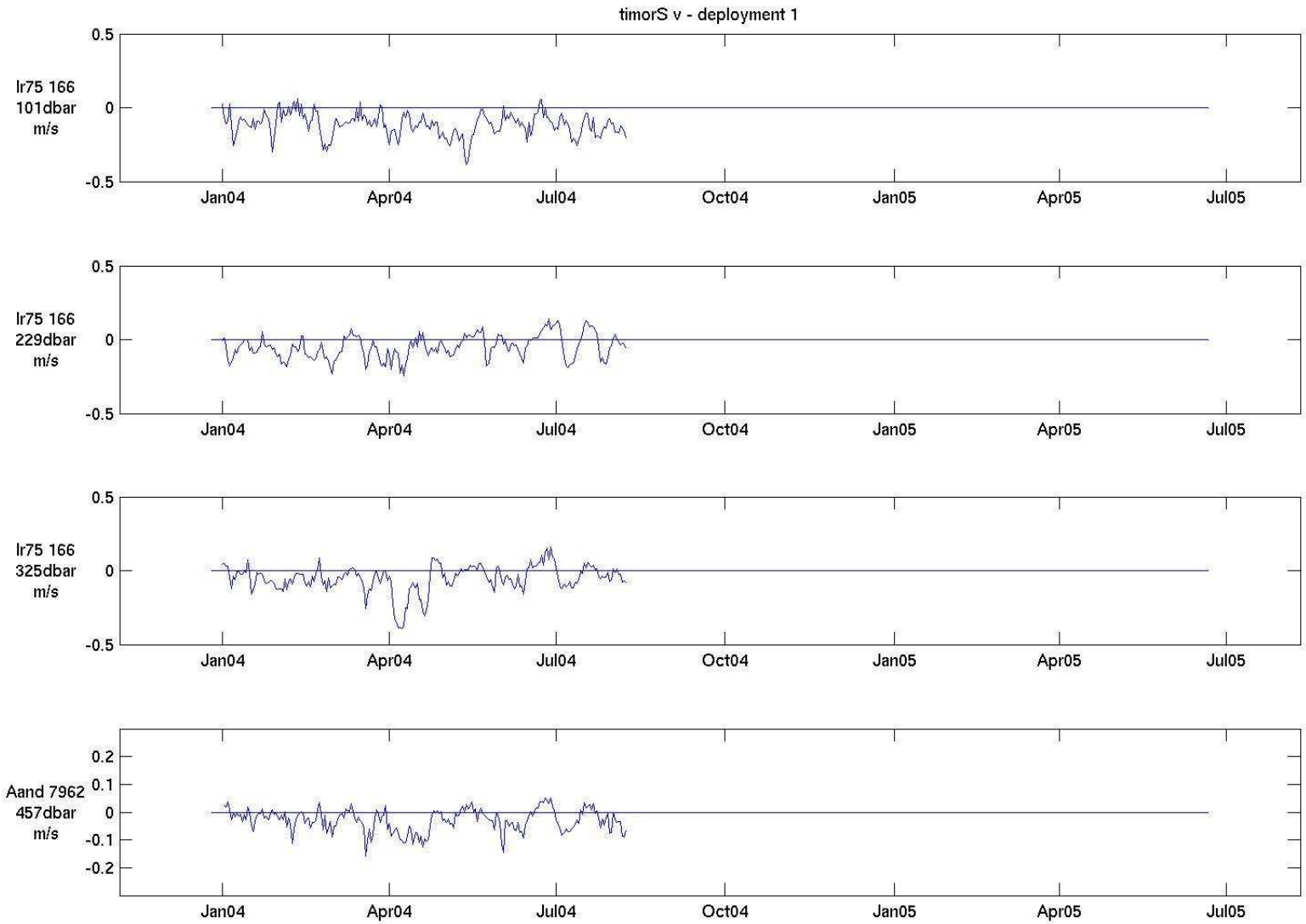

timorS Pressure - deployment 1
Aand 12020
1820dbar
1860
1840
1820
1800
1780
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

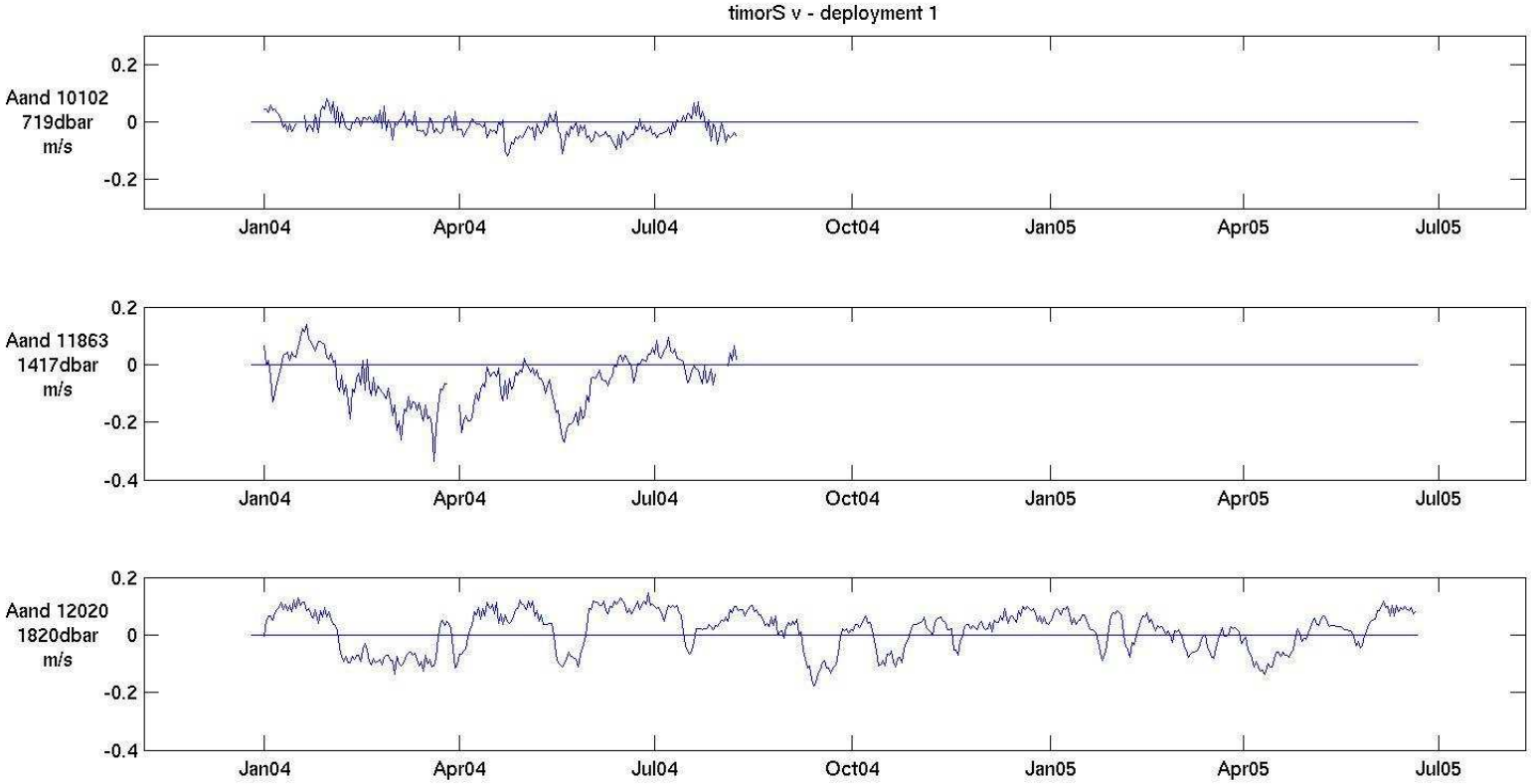

timorS Temperature - deployment 1
Ir75 166
350dbar
DegC
11
10
9
8
Aand 7962
457dbar
DegC
9
8.5
8
7.5
Aand 10102
719dbar
DegC
7
6.5
6
Aand 11863
1417dbar
DegC
4
3.8
3.6
3.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

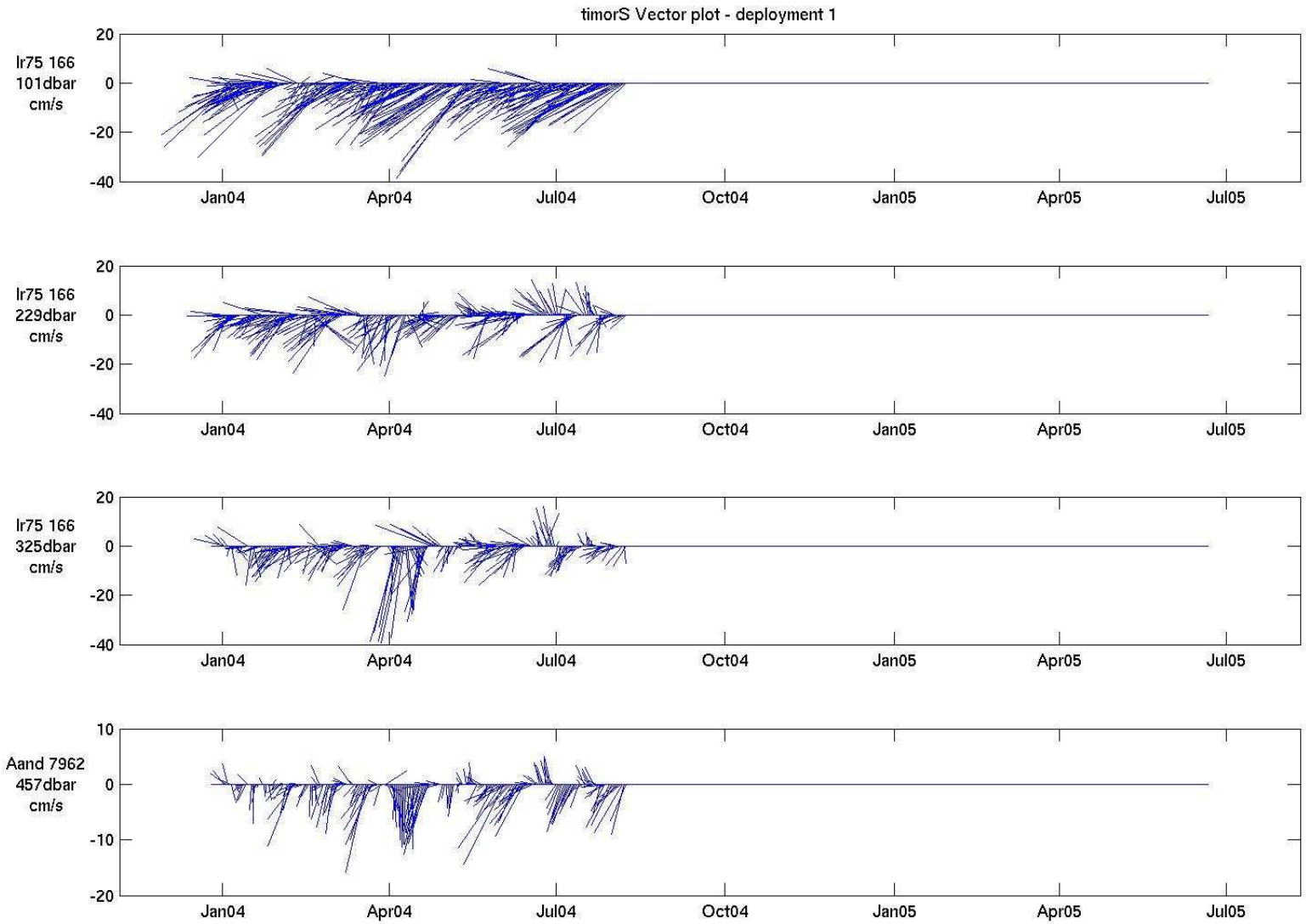

timorS Temperature - deployment 1
Aand 12020
1820dbar
DegC
3
2.5
2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

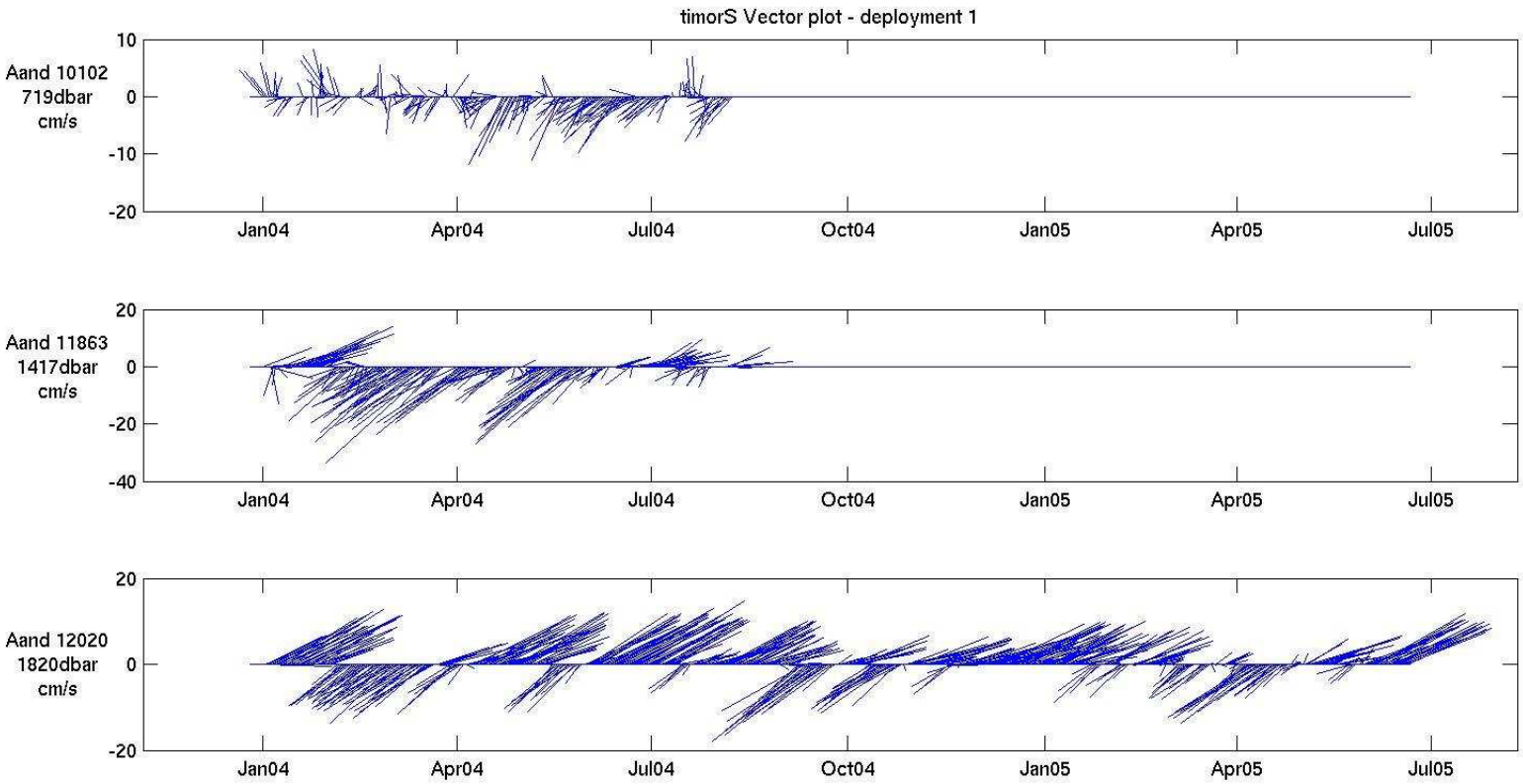

timorS u - deployment 1
lr75 166
101dbar
m/s
0.2
0
-0.2
-0.4
lr75 166
229dbar
m/s
lr75 166
325dbar
m/s
Aand 7962
457dbar
m/s
0.1
-0.1
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

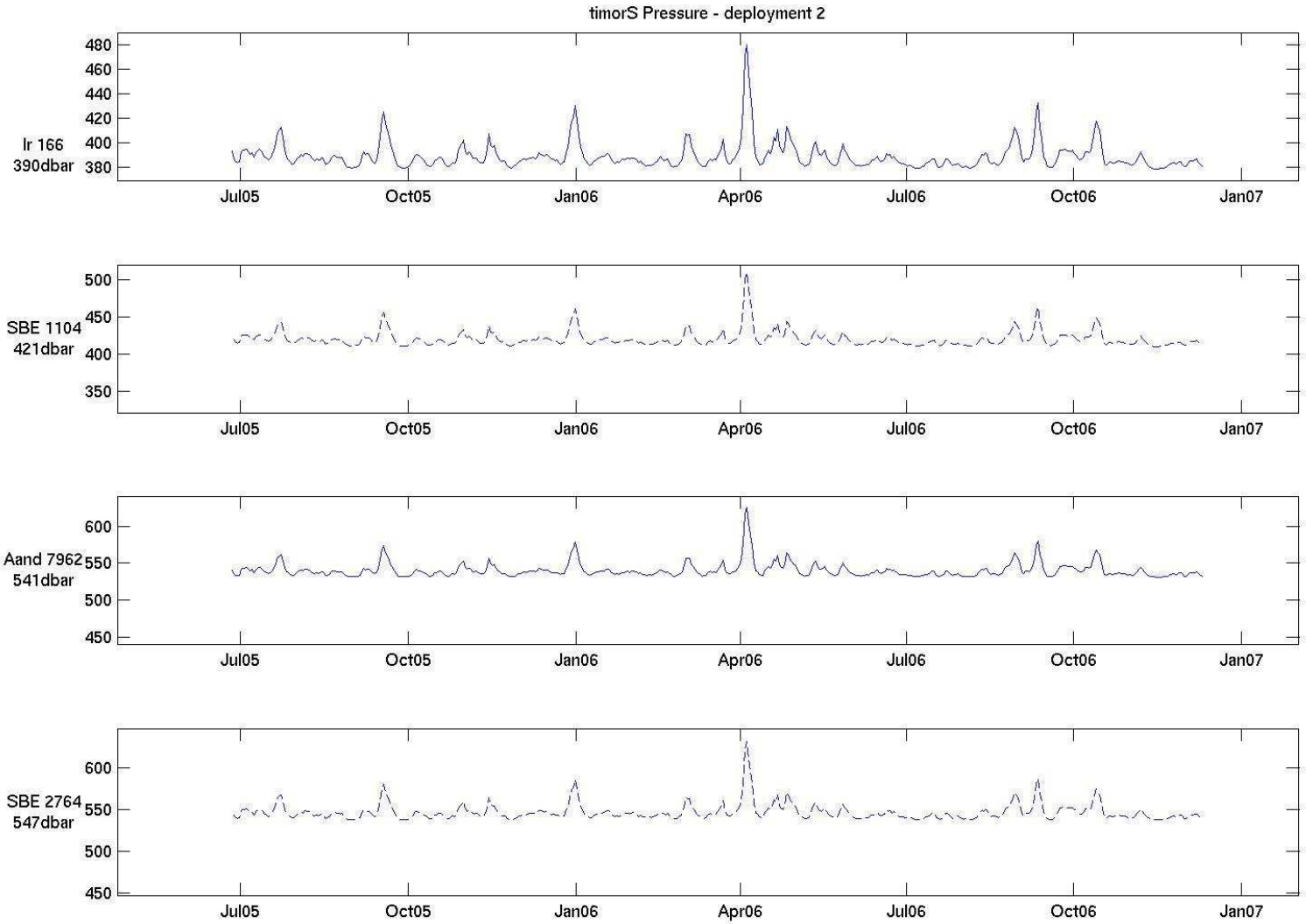

timorS u - deployment 1
Aand 10102
719dbar
m/s
0.2
0
-0.2
Aand 11863
1417dbar
m/s
0.5
0
-0.5
Aand 12020
1820dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

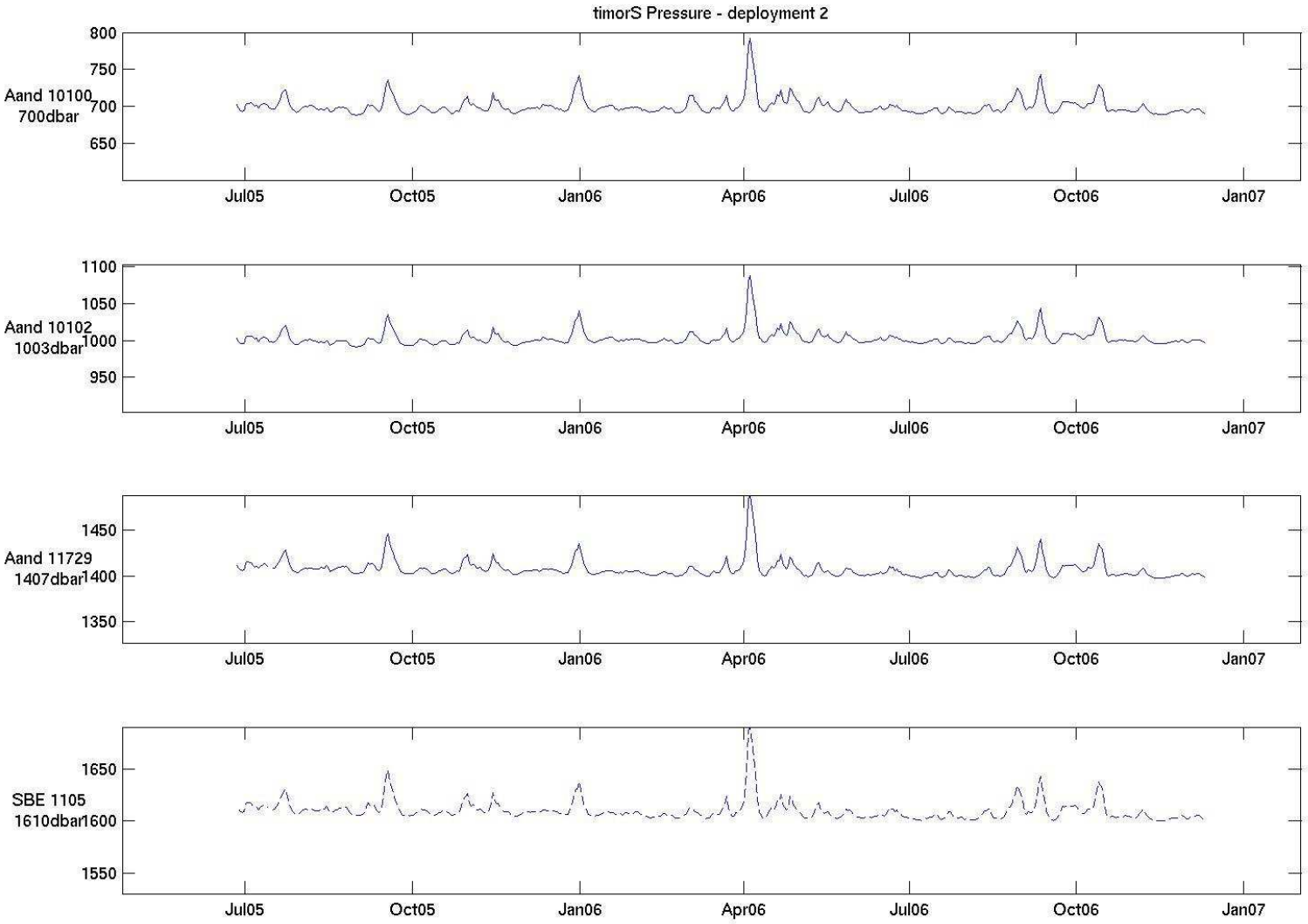

timorS v - deployment 1
lr75 166
101dbar
m/s
0.5
0
-0.5
lr75 166
229dbar
m/s
lr75 166
325dbar
m/s
Aand 7962
457dbar
m/s
0.2
0.1
-0.1
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

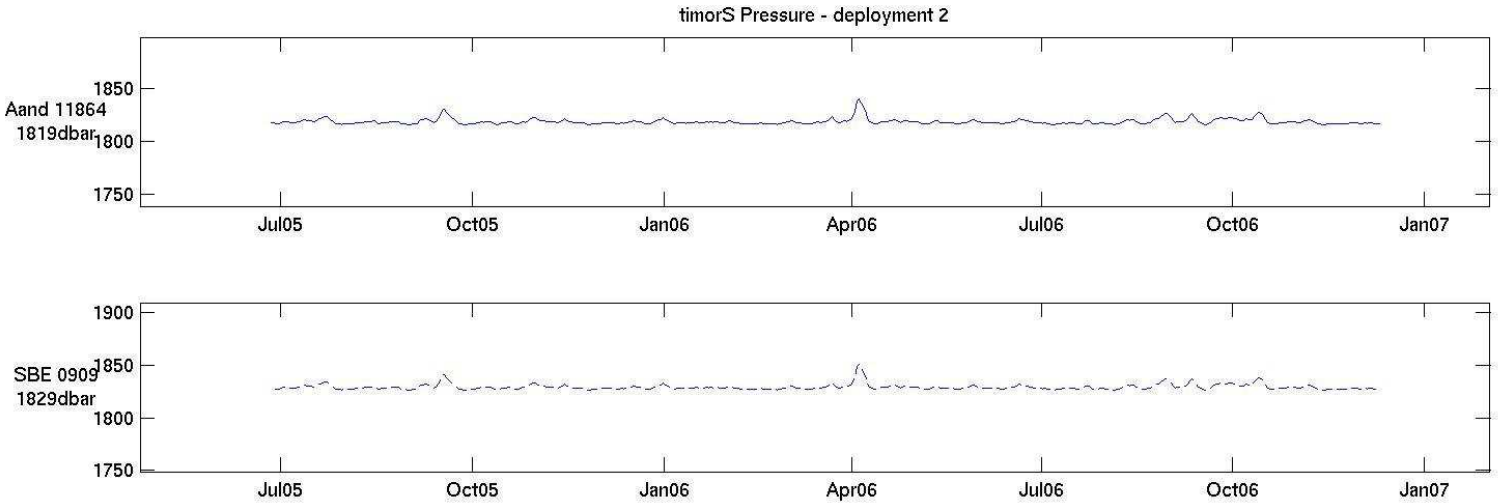

timorS v - deployment 1
Aand 10102
719dbar
m/s
0.2
0
-0.2
Aand 11863
1417dbar
m/s
0.2
0
-0.2
-0.4
Aand 12020
1820dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

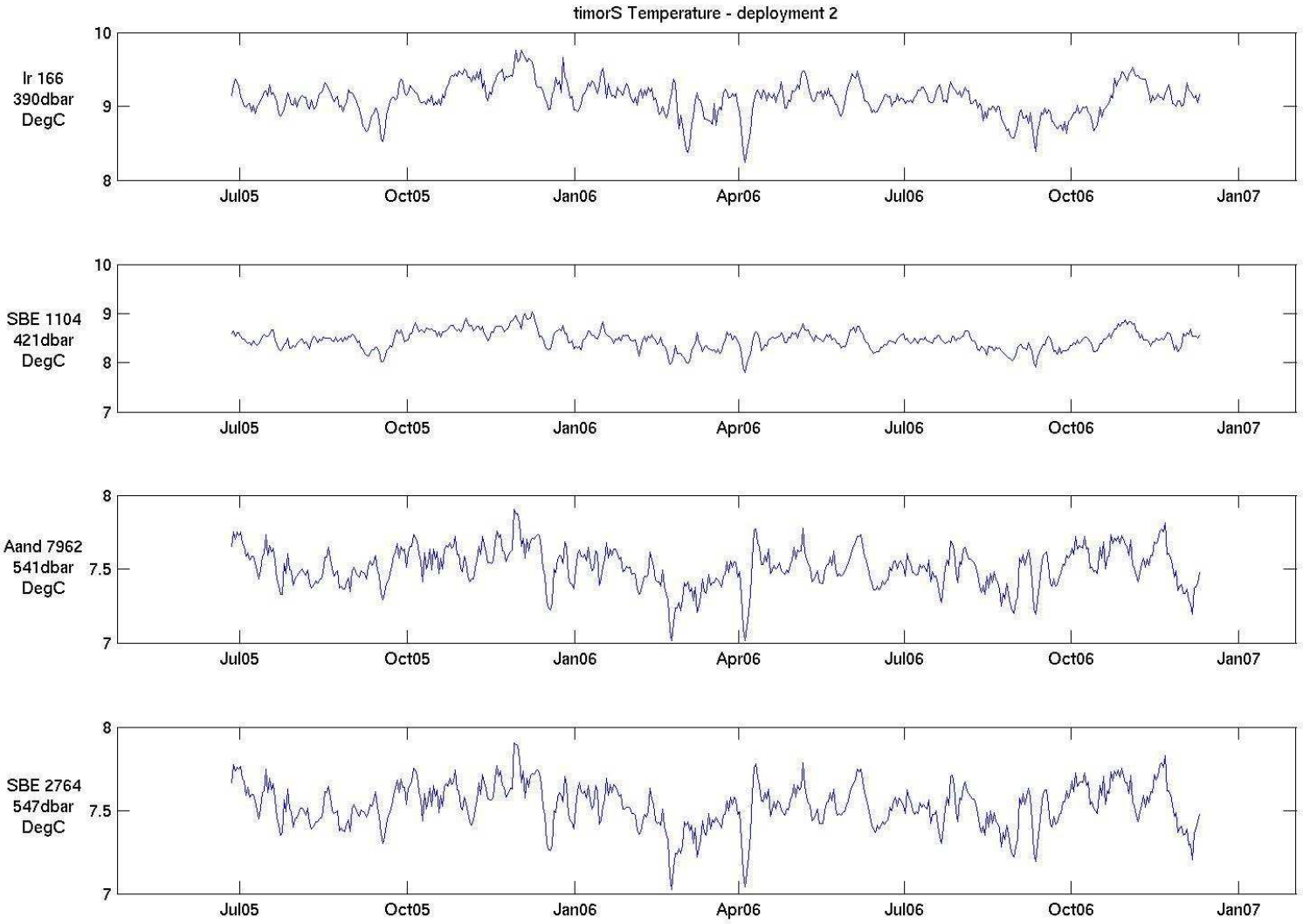

timorS Vector plot - deployment 1
lr75 166
101dbar
cm/s
lr75 166
229dbar
cm/s
lr75 166
325dbar
cm/s
Aand 7962
457dbar
cm/s
20
0
-20
-40
10
-10
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

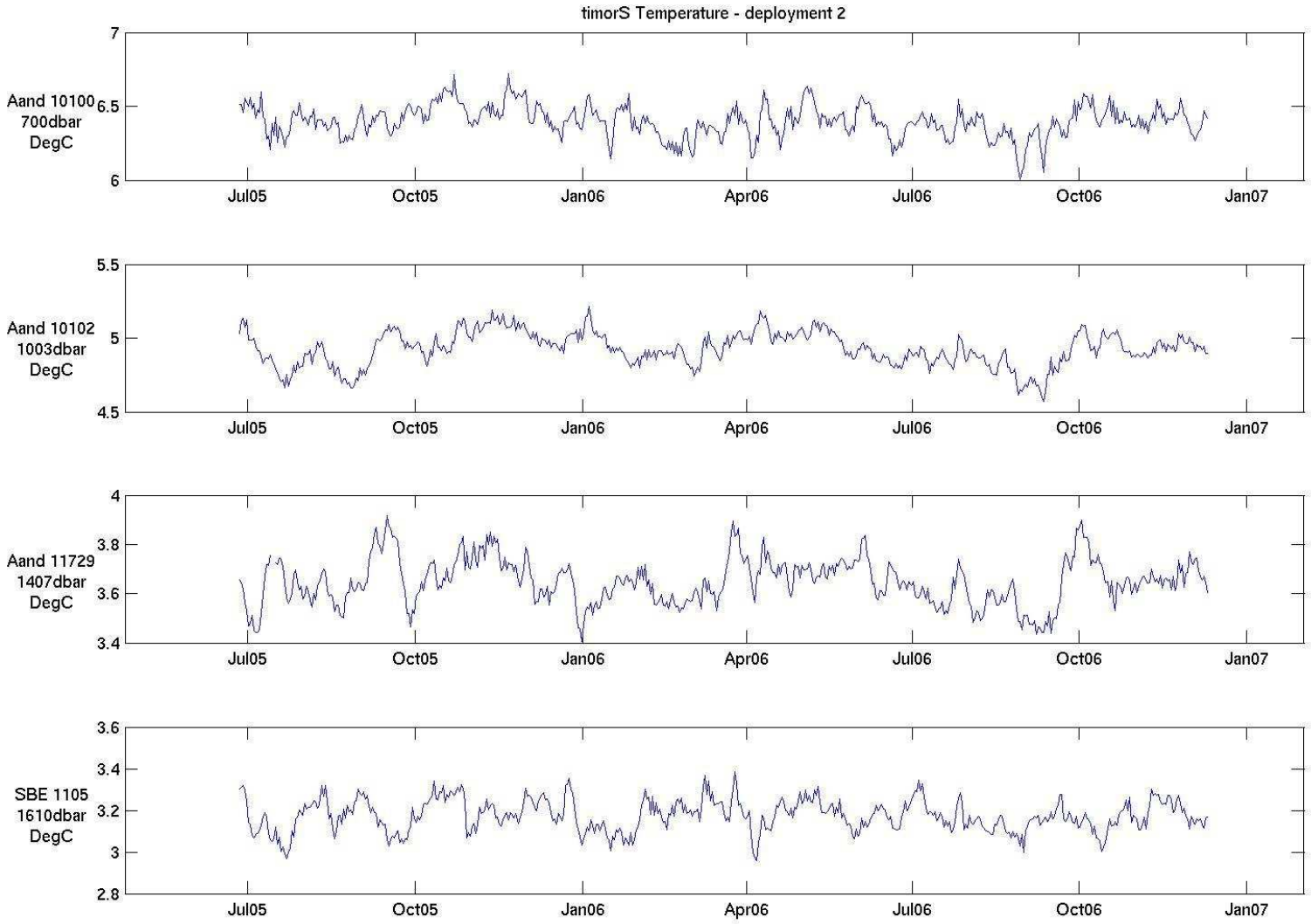

timorS Vector plot - deployment 1
Aand 10102
719dbar
cm/s
10
0
-10
-20
Aand 11863
1417dbar
cm/s
20
0
-20
-40
Aand 12020
1820dbar
cm/s
20
0
-20
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

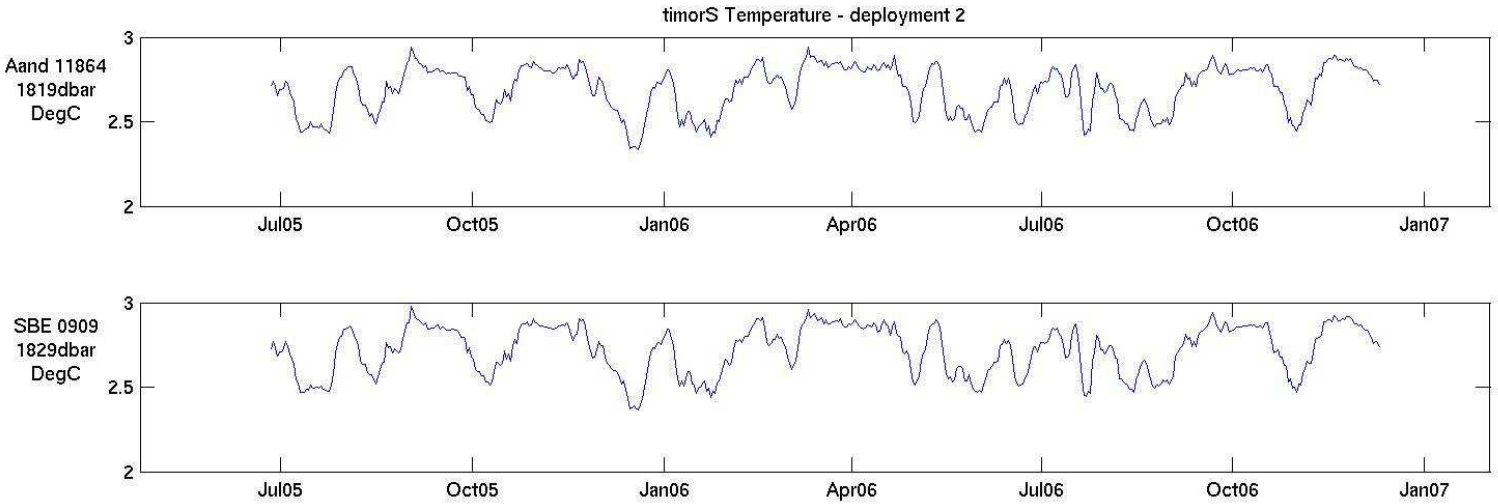

timorS Pressure - deployment 2
Ir 166
390dbar
480
460
440
420
400
380
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
SBE 1104
421dbar
500
450
400
350
Aand 7962
541dbar
600
550
500
450
SBE 2764
547dbar

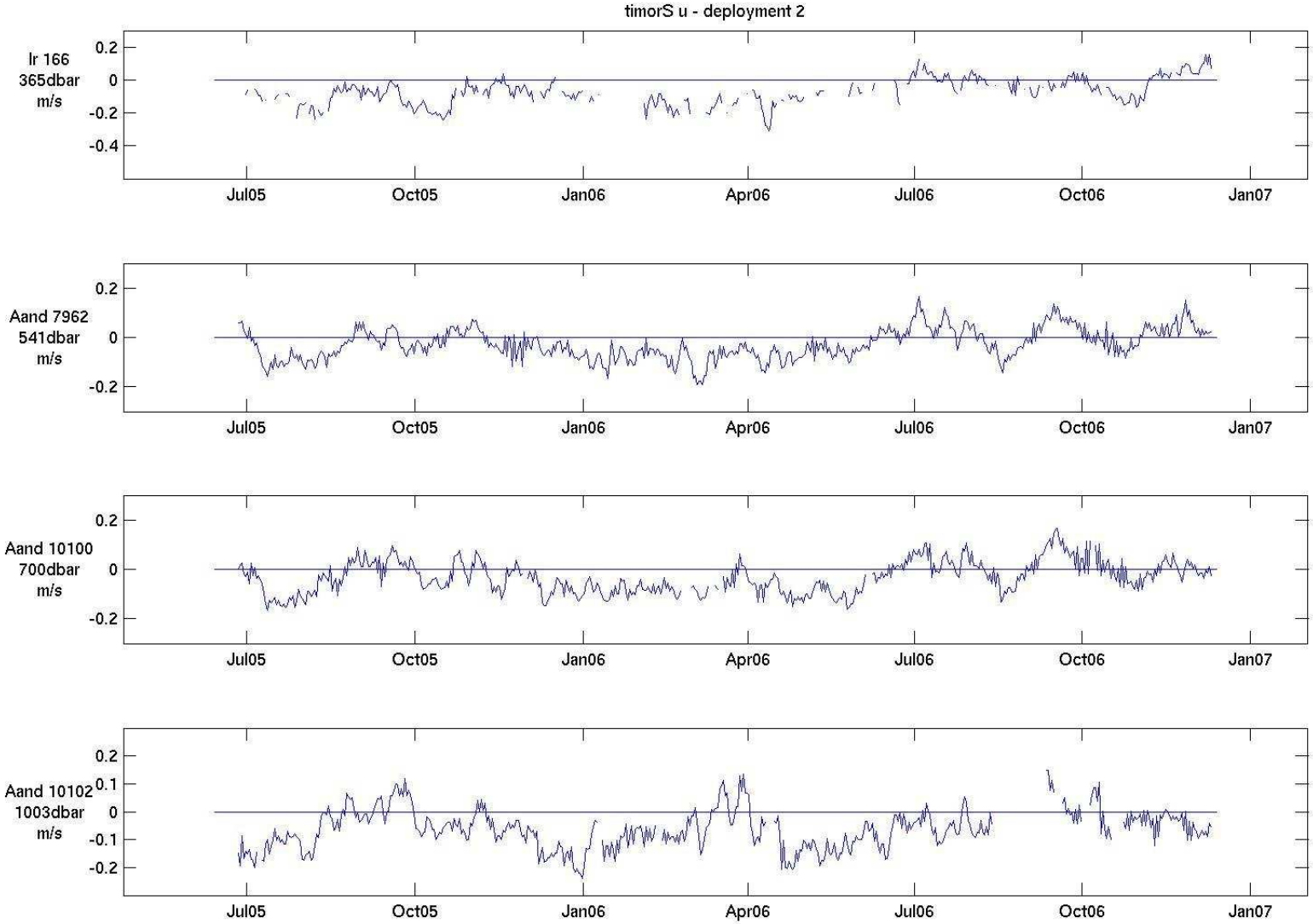

timorS Pressure - deployment 2
Aand 10100
700dbar
800
750
700
650
Aand 10102
1003dbar
1100
1050
1000
950
Aand 11729
1407dbar
1450
1400
1350
SBE 1105
1610dbar
1650
1600
1550
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

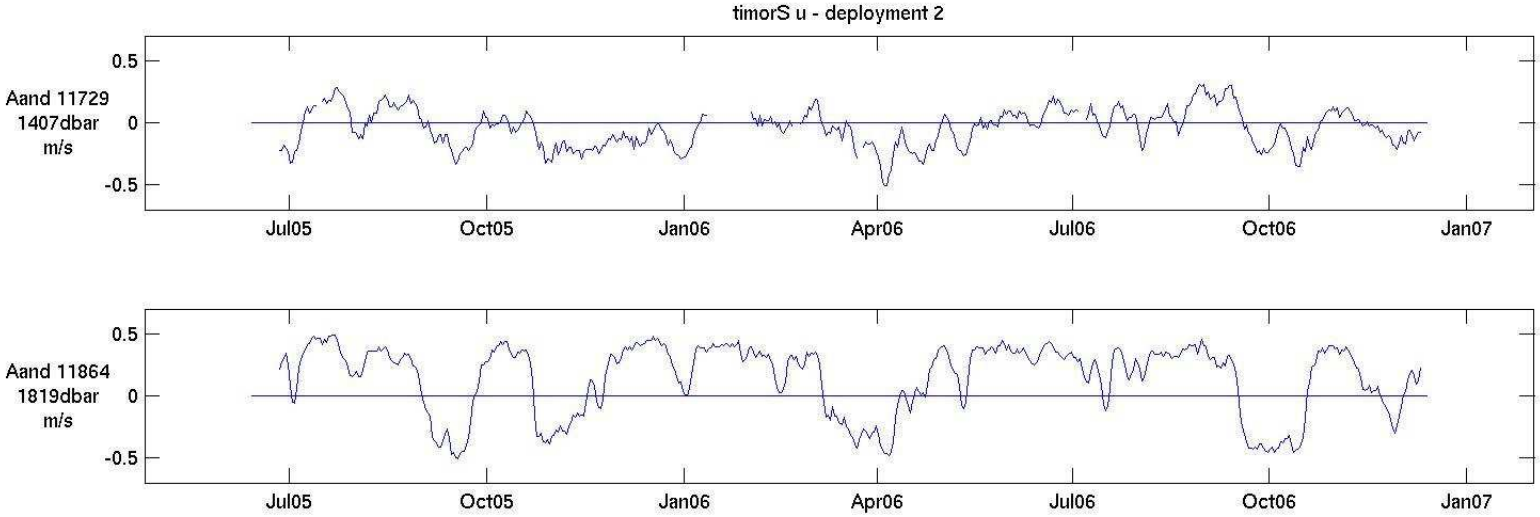

timorS Pressure - deployment 2
Aand 11864
1819dbar
1850
1800
1750
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
SBE 0909
1829dbar
1900
1850
1800
1750
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

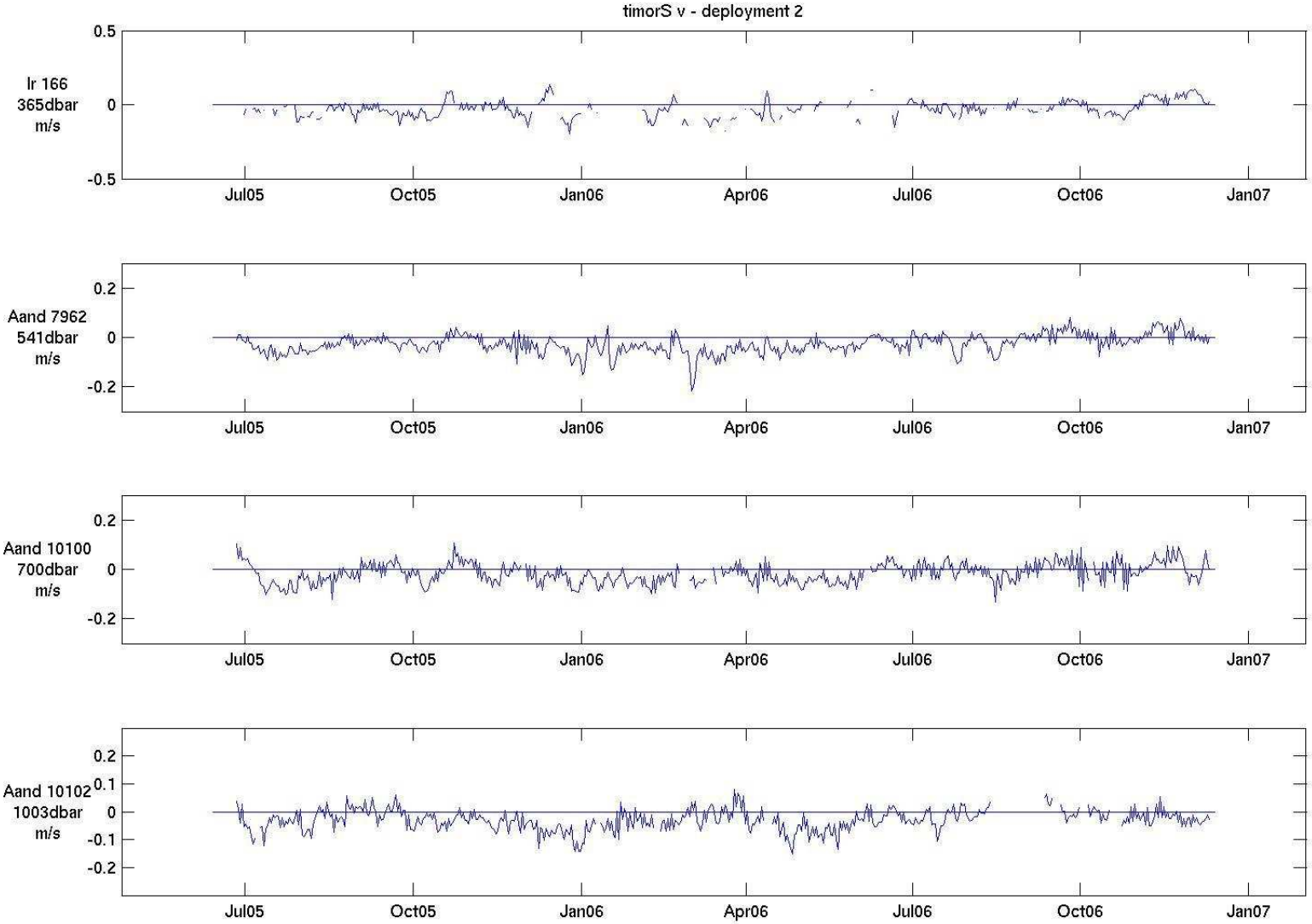

timorS Temperature - deployment 2
Ir 166
390dbar
DegC
SBE 1104
421dbar
DegC
Aand 7962
541dbar
DegC
SBE 2764
547dbar
DegC
10
9
8
7
7.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

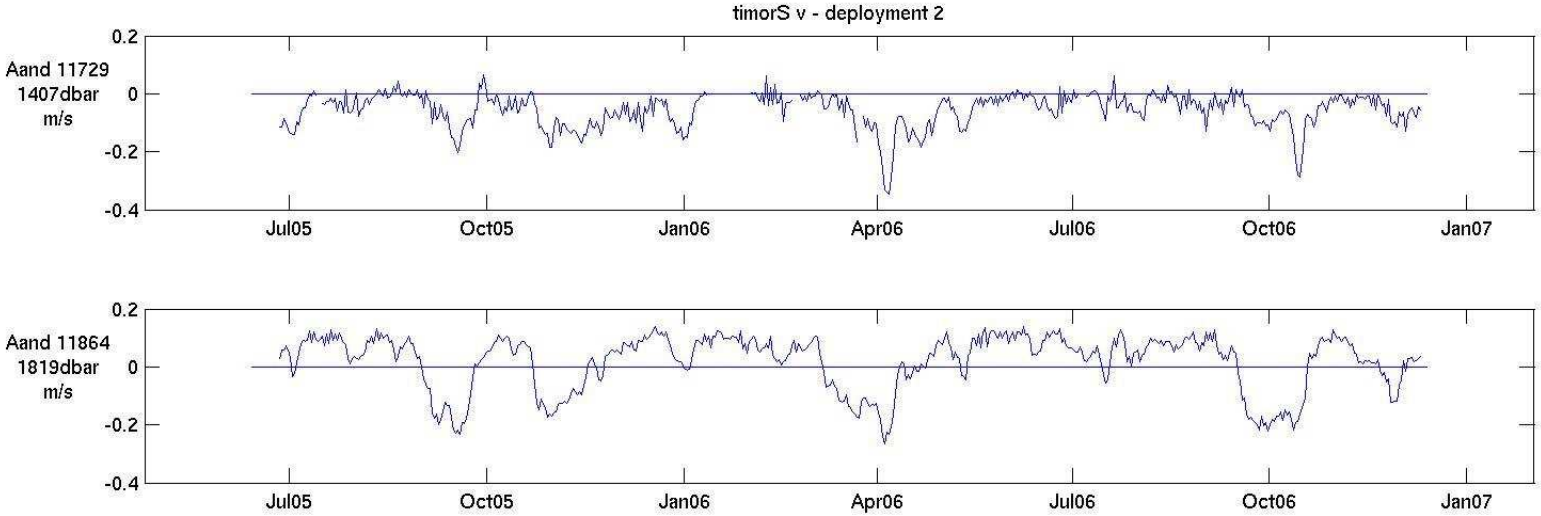

timorS Temperature - deployment 2
Aand 10100
700dbar
DegC
7
6.5
6
Aand 10102
1003dbar
DegC
5.5
5
4.5
Aand 11729
1407dbar
DegC
4
3.8
3.6
3.4
SBE 1105
1610dbar
DegC
3.6
3.4
3.2
3
2.8
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

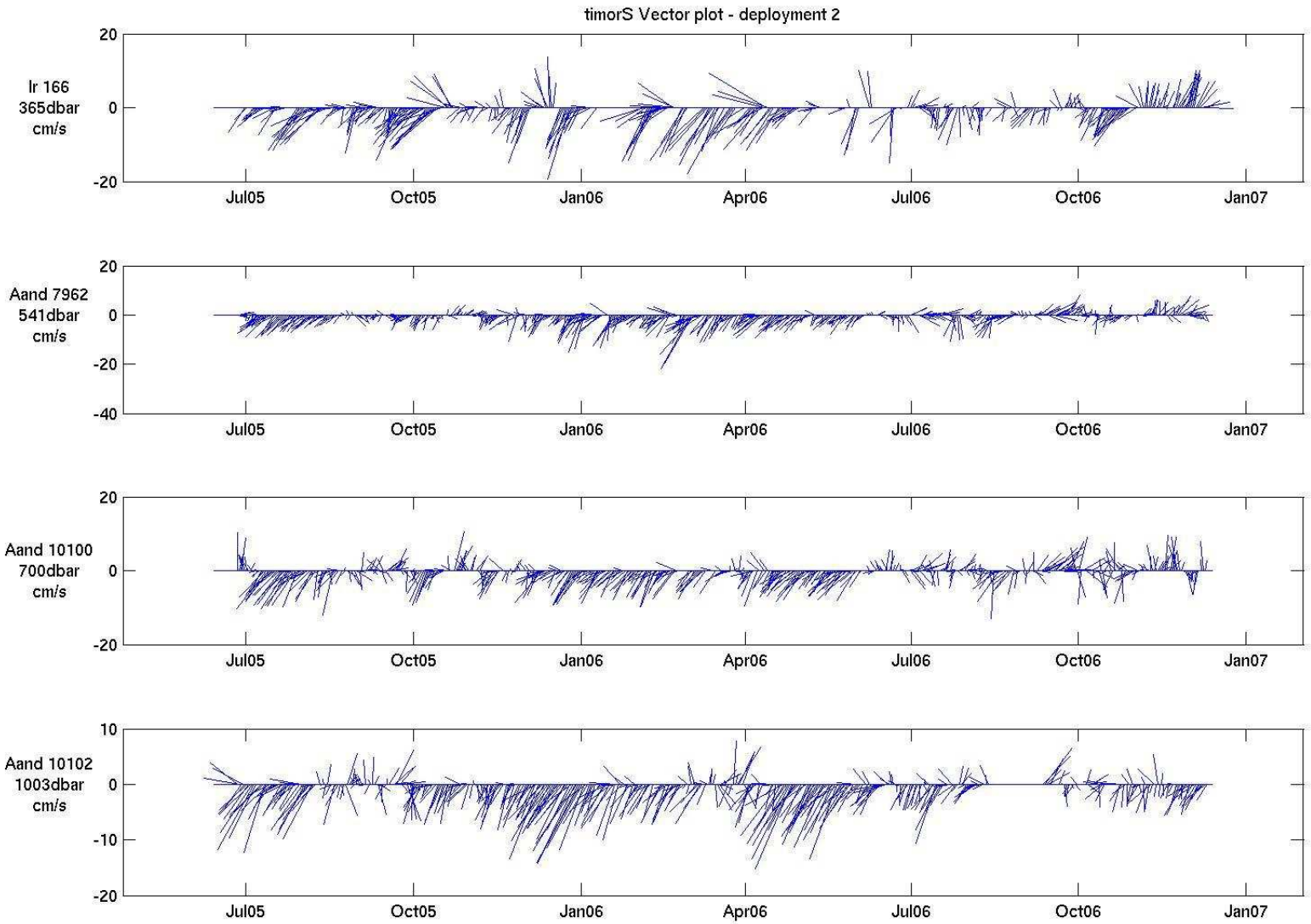

timorS Temperature - deployment 2
Aand 11864
1819dbar
DegC
3
2.5
2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
SBE 0909
1829dbar
DegC
3
2.5
2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorS u - deployment 2
Ir 166
365dbar
m/s
0.2
0
-0.2
-0.4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 7962
541dbar
m/s
0.2
0
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10100
700dbar
m/s
0.2
0
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10102
1003dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorS u - deployment 2
Aand 11729
1407dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 11864
1819dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorS v - deployment 2
Ir 166
365dbar
m/s
0.5
0
-0.5
Aand 7962
541dbar
m/s
0.2
0
-0.2
Aand 10100
700dbar
m/s
0.2
0
-0.2
Aand 10102
1003dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorS v - deployment 2
Aand 11729
1407dbar
m/s
0.2
0
-0.2
-0.4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 11864
1819dbar
m/s
0.2
0
-0.2
-0.4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorS Vector plot - deployment 2
Ir 166
365dbar
cm/s
20
0
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 7962
541dbar
cm/s
20
0
-20
-40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10100
700dbar
cm/s
20
0
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10102
1003dbar
cm/s
10
0
-10
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

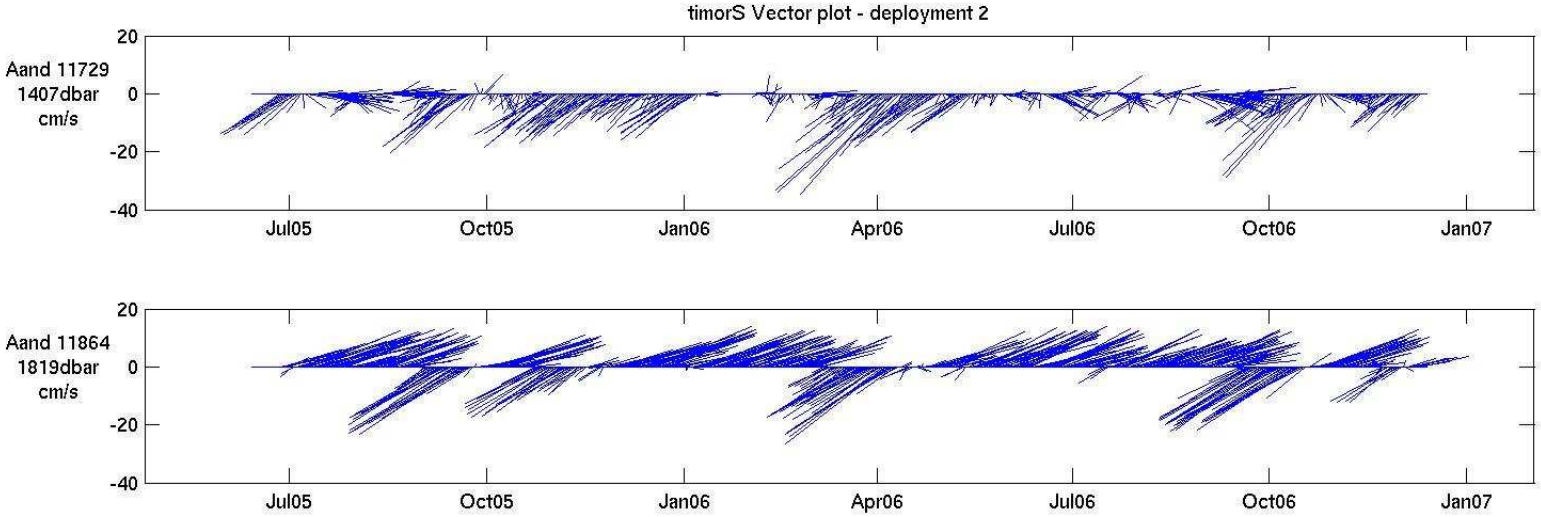
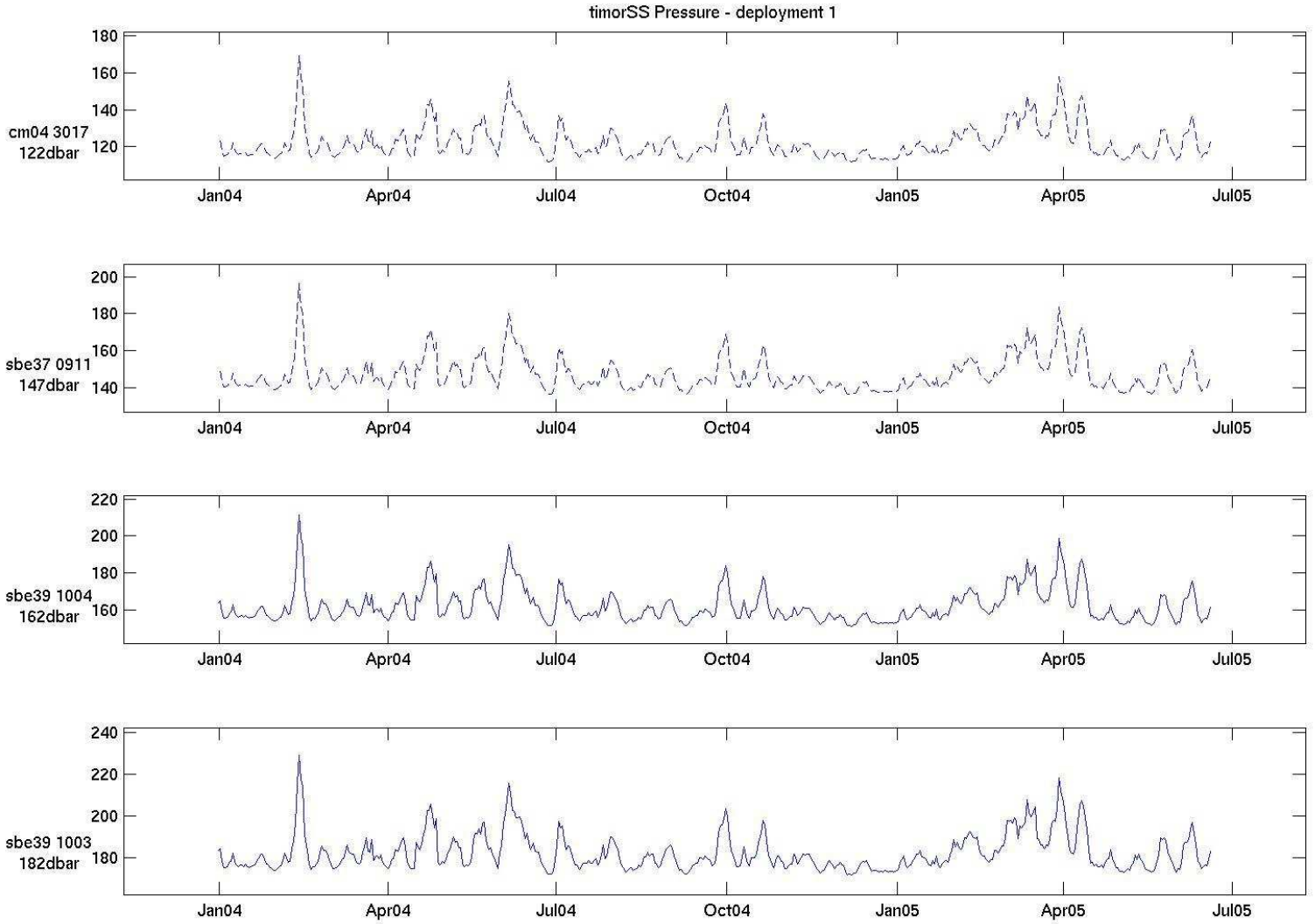
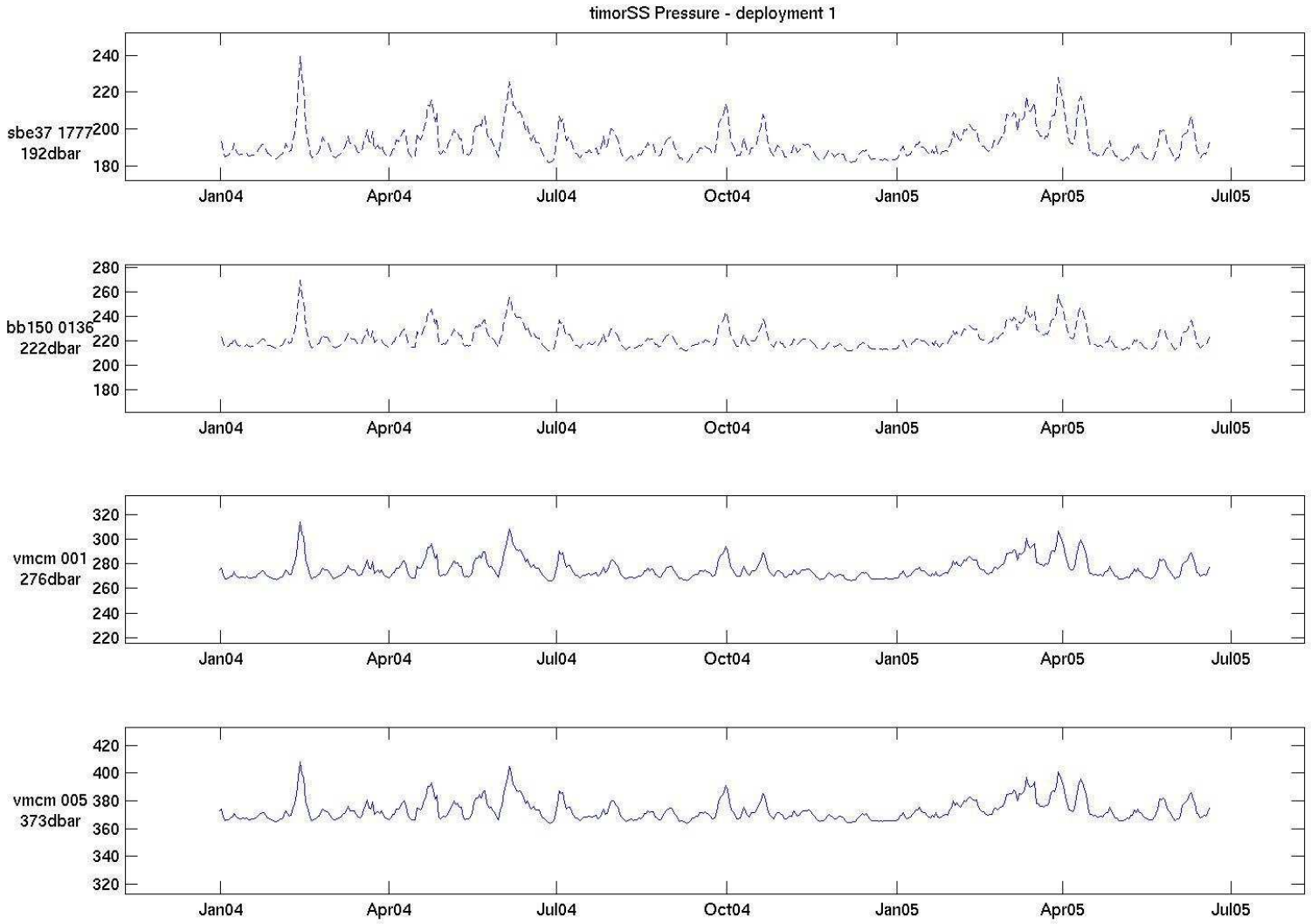
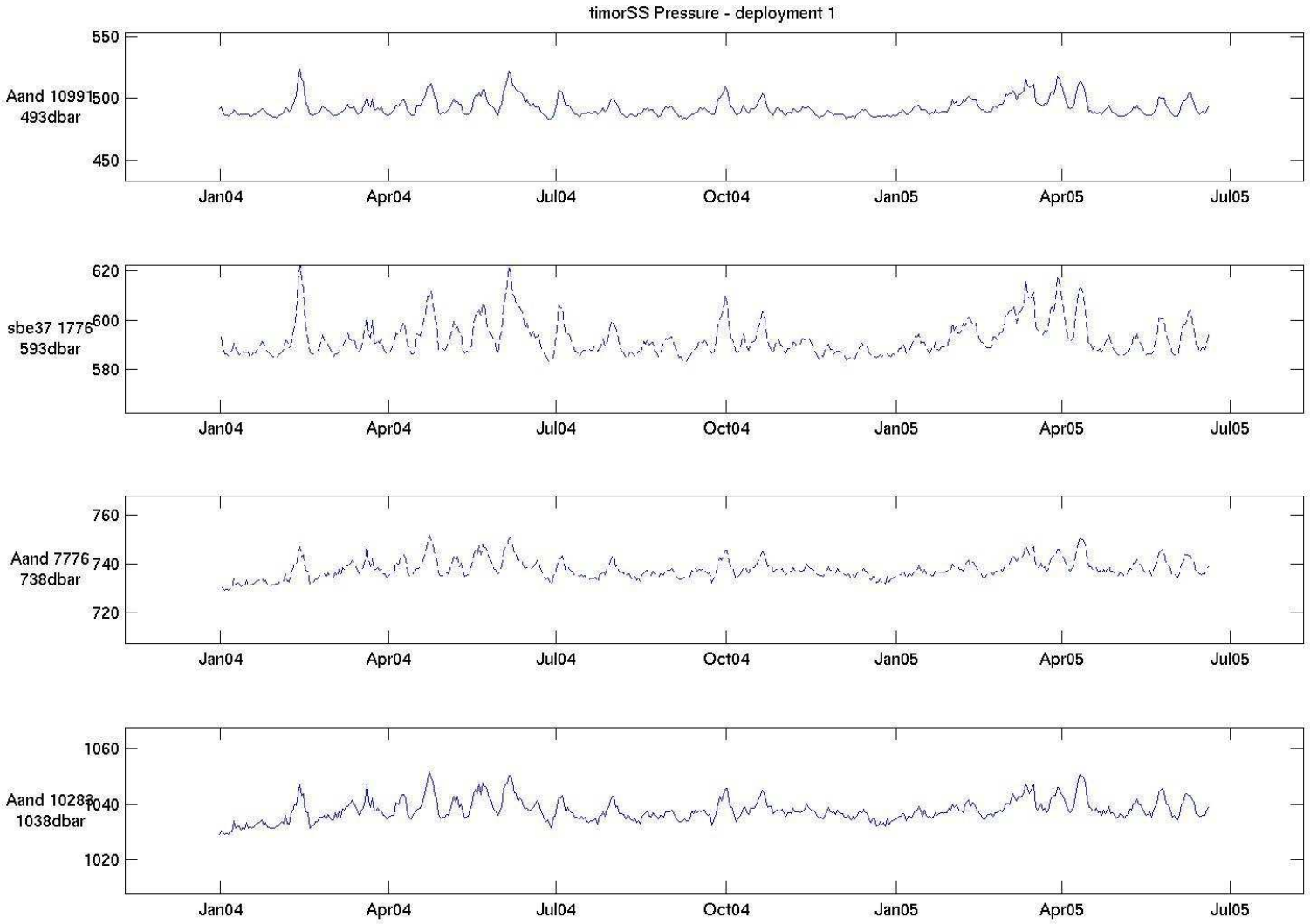
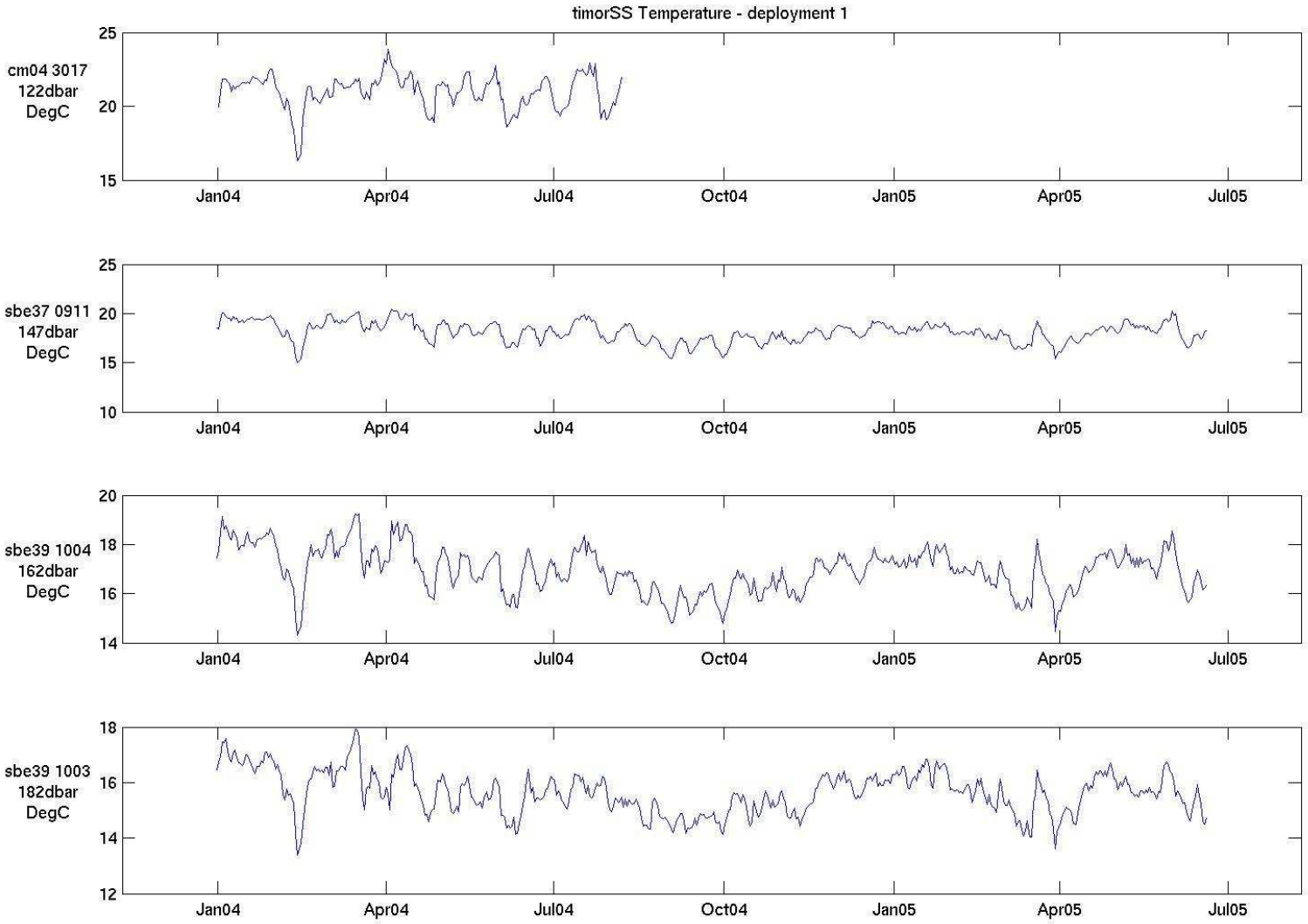

timorS Vector plot - deployment 2
Aand 11729
1407dbar
cm/s
20
0
-20
-40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 11864
1819dbar
cm/s
20
0
-20
-40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

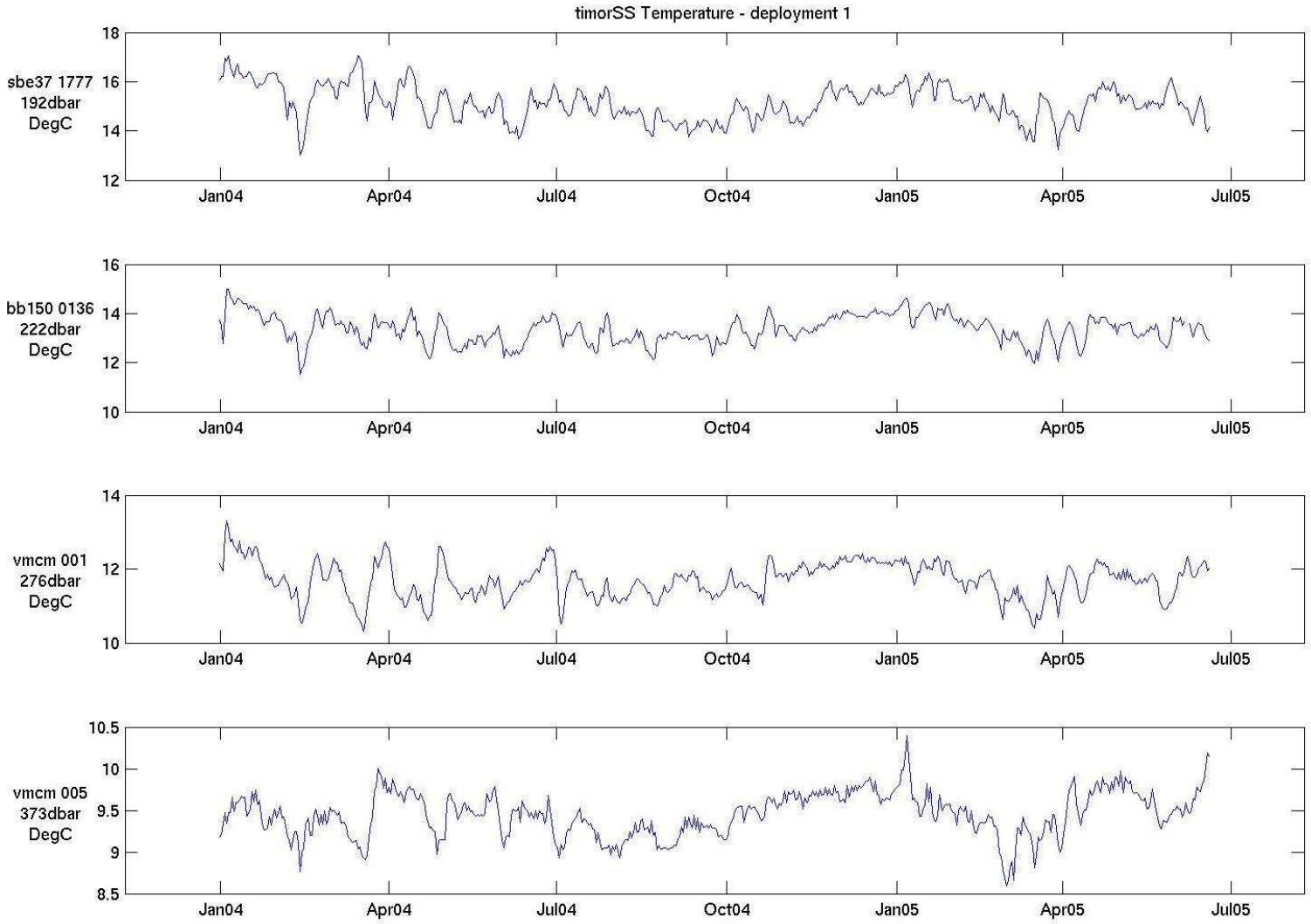
Figure 23. Low pass (1-day) plots of data for Timor South Slope mooring. **DOTTED LINES INDICATE INFERRED PRESSURE.**

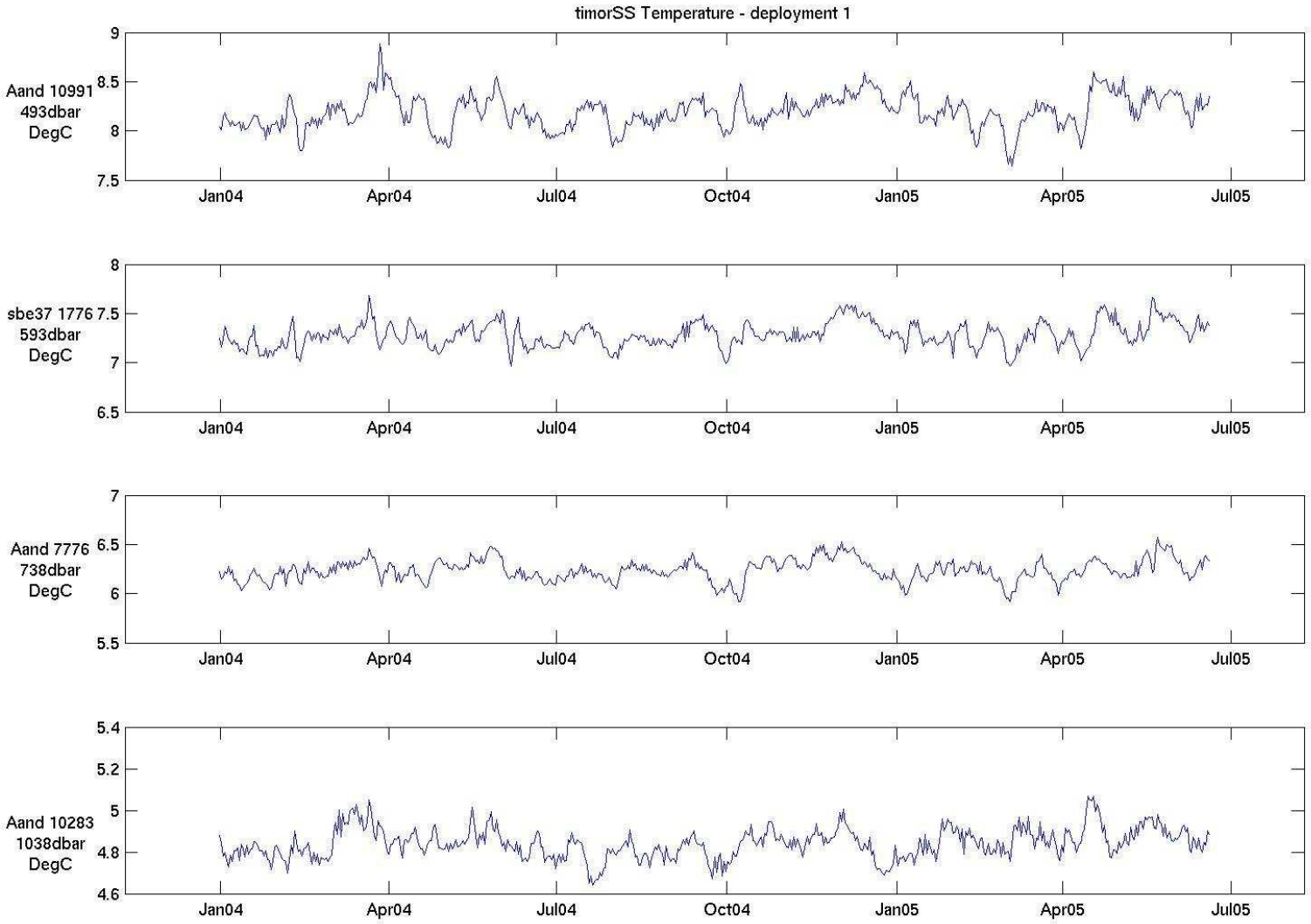


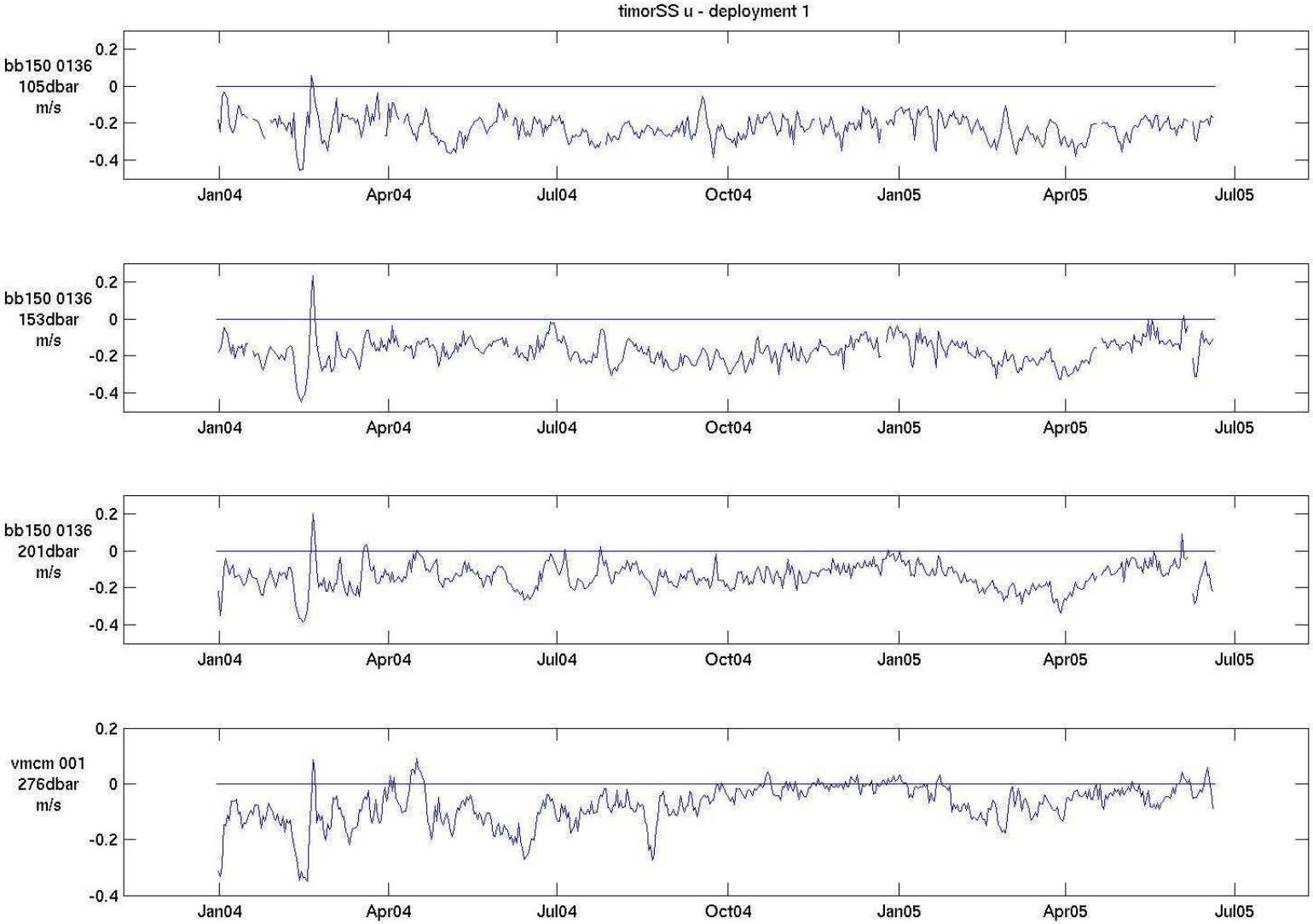

timorSS Pressure - deployment 1
sbe37 1777
192dbar
240
220
200
180
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
bb150 0136
222dbar
280
260
240
220
200
180
vmcm 001
276dbar
320
300
280
260
240
220
vmcm 005
373dbar
420
400
380
360
340
320

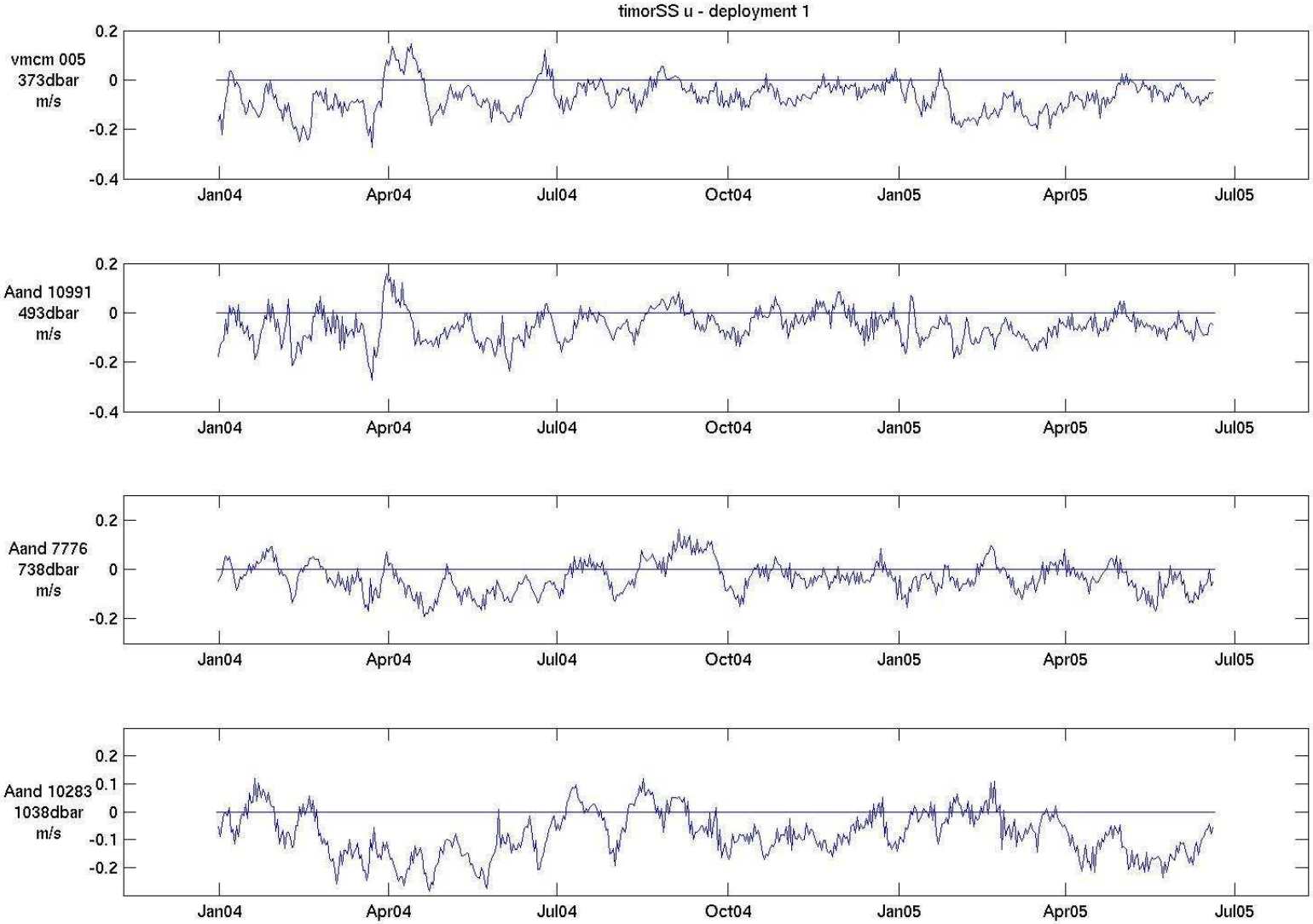

timorSS Pressure - deployment 1
Aand 10991
493dbar
550
500
450
sbe37 1776
593dbar
620
600
580
Aand 7776
738dbar
760
740
720
Aand 10283
1038dbar
1060
1040
1020
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

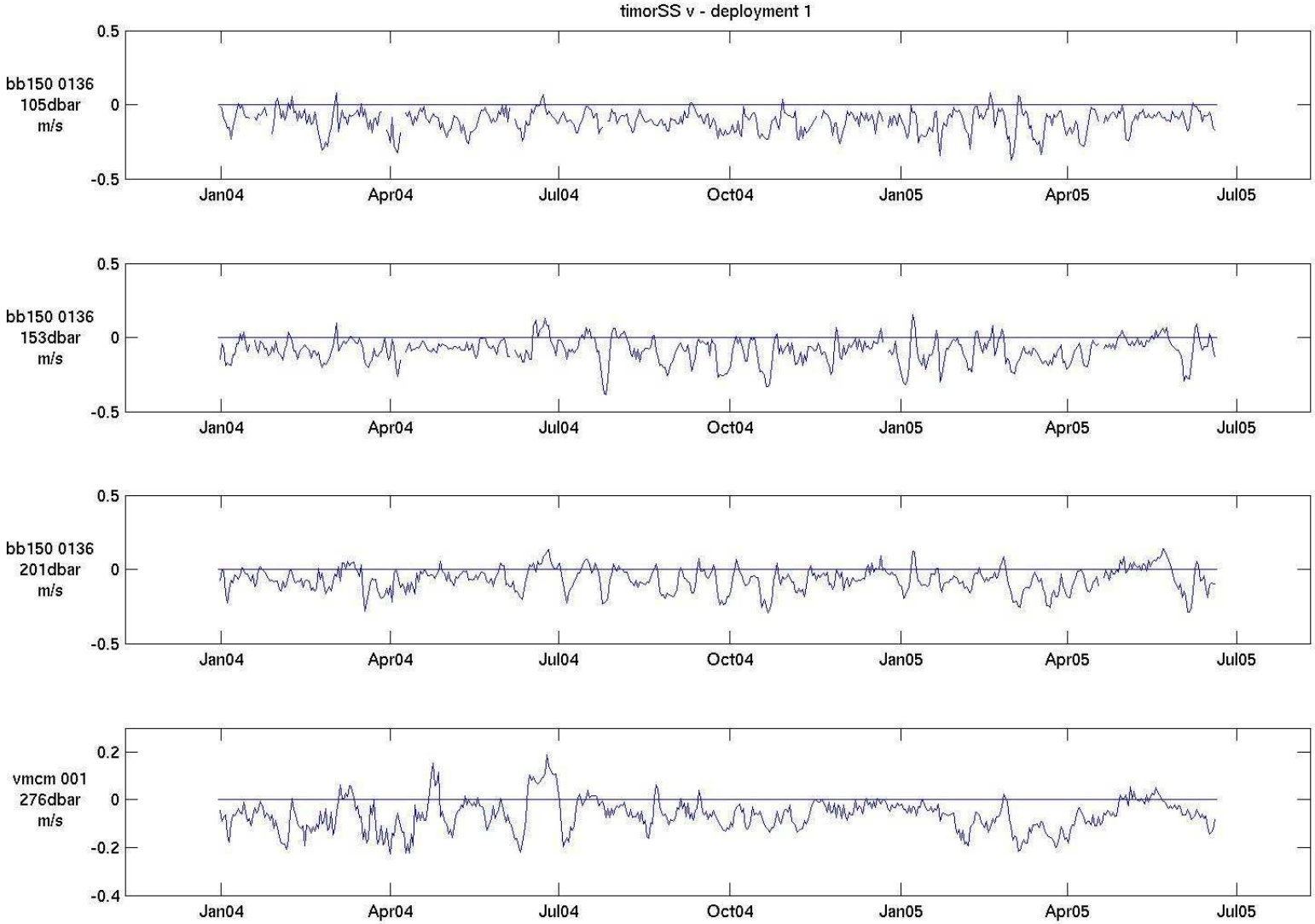

timorSS Temperature - deployment 1
cm04 3017
122dbar
DegC
sbe37 0911
147dbar
DegC
sbe39 1004
162dbar
DegC
sbe39 1003
182dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

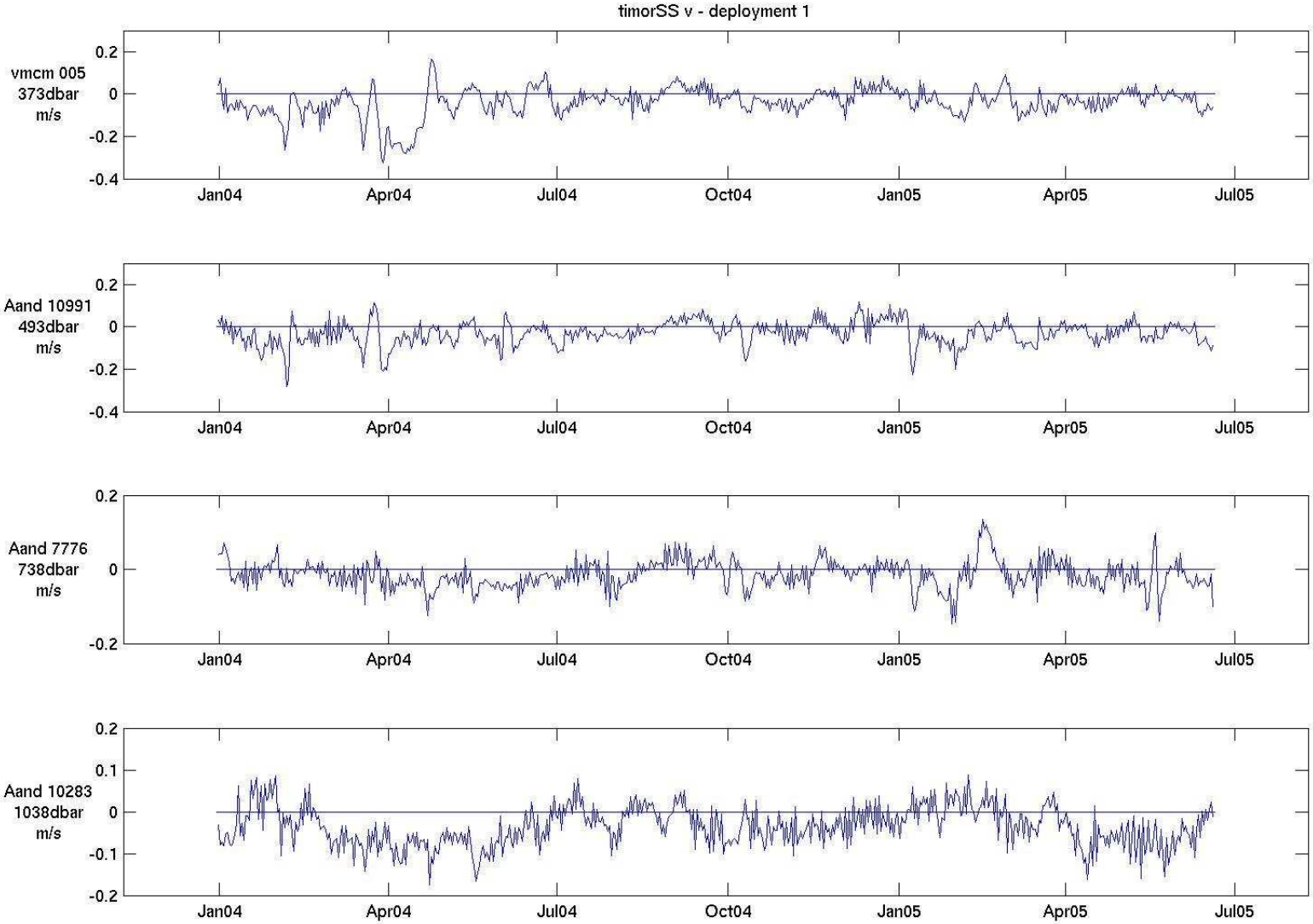

timorSS Temperature - deployment 1
sbe37 1777
192dbar
DegC
bb150 0136
222dbar
DegC
vmcm 001
276dbar
DegC
vmcm 005
373dbar
DegC
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

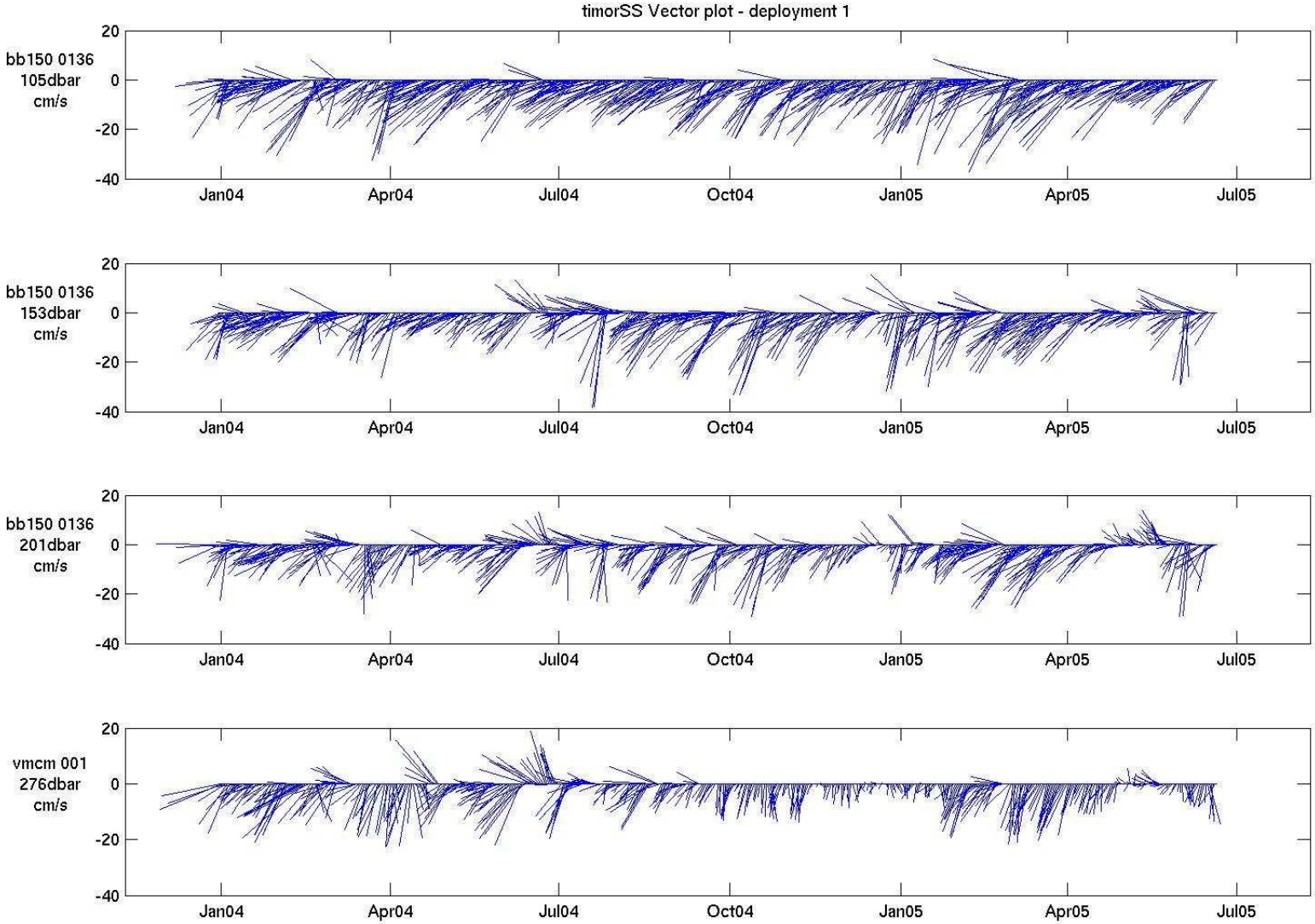

timorSS Temperature - deployment 1
Aand 10991
493dbar
DegC
9
8.5
8
7.5
sbe37 1776
593dbar
DegC
8
7.5
7
6.5
Aand 7776
738dbar
DegC
7
6.5
6
5.5
Aand 10283
1038dbar
DegC
5.4
5.2
5
4.8
4.6
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

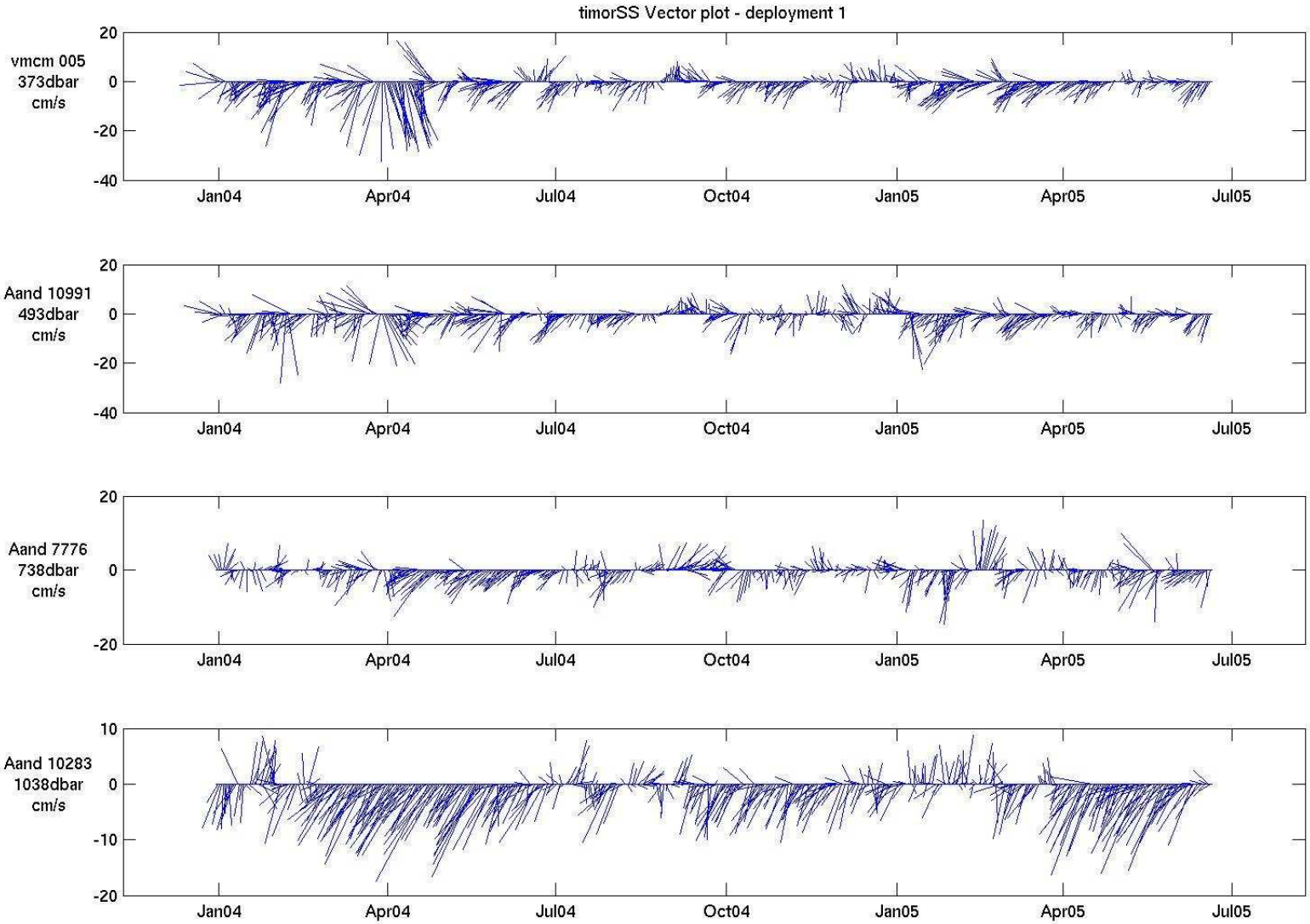

timorSS u - deployment 1
bb150 0136
105dbar
m/s
bb150 0136
153dbar
m/s
bb150 0136
201dbar
m/s
vmcm 001
276dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

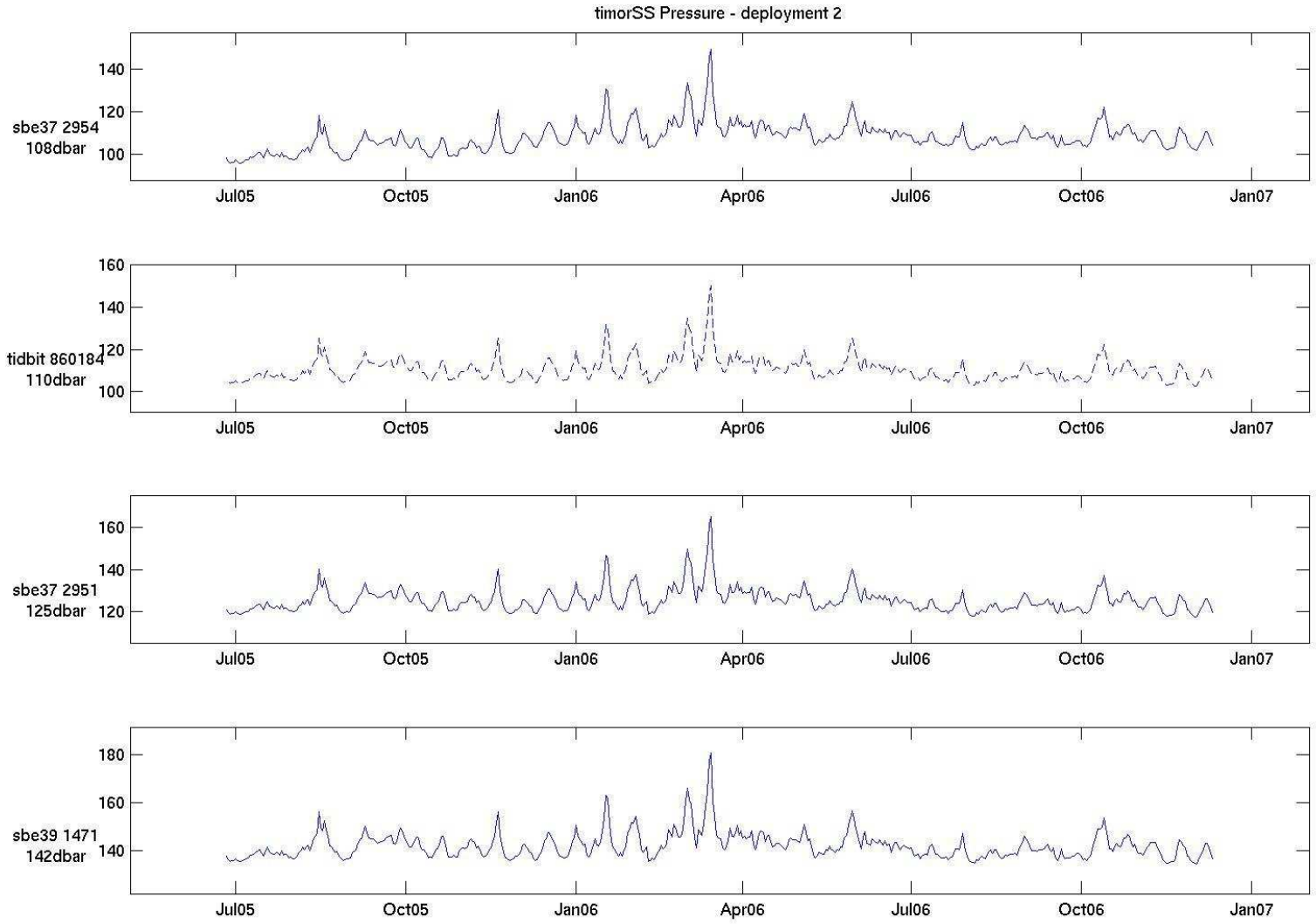

timorSS u - deployment 1
vmcm 005
373dbar
m/s
Aand 10991
493dbar
m/s
Aand 7776
738dbar
m/s
Aand 10283
1038dbar
m/s
0.2
0.1
0
-0.1
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

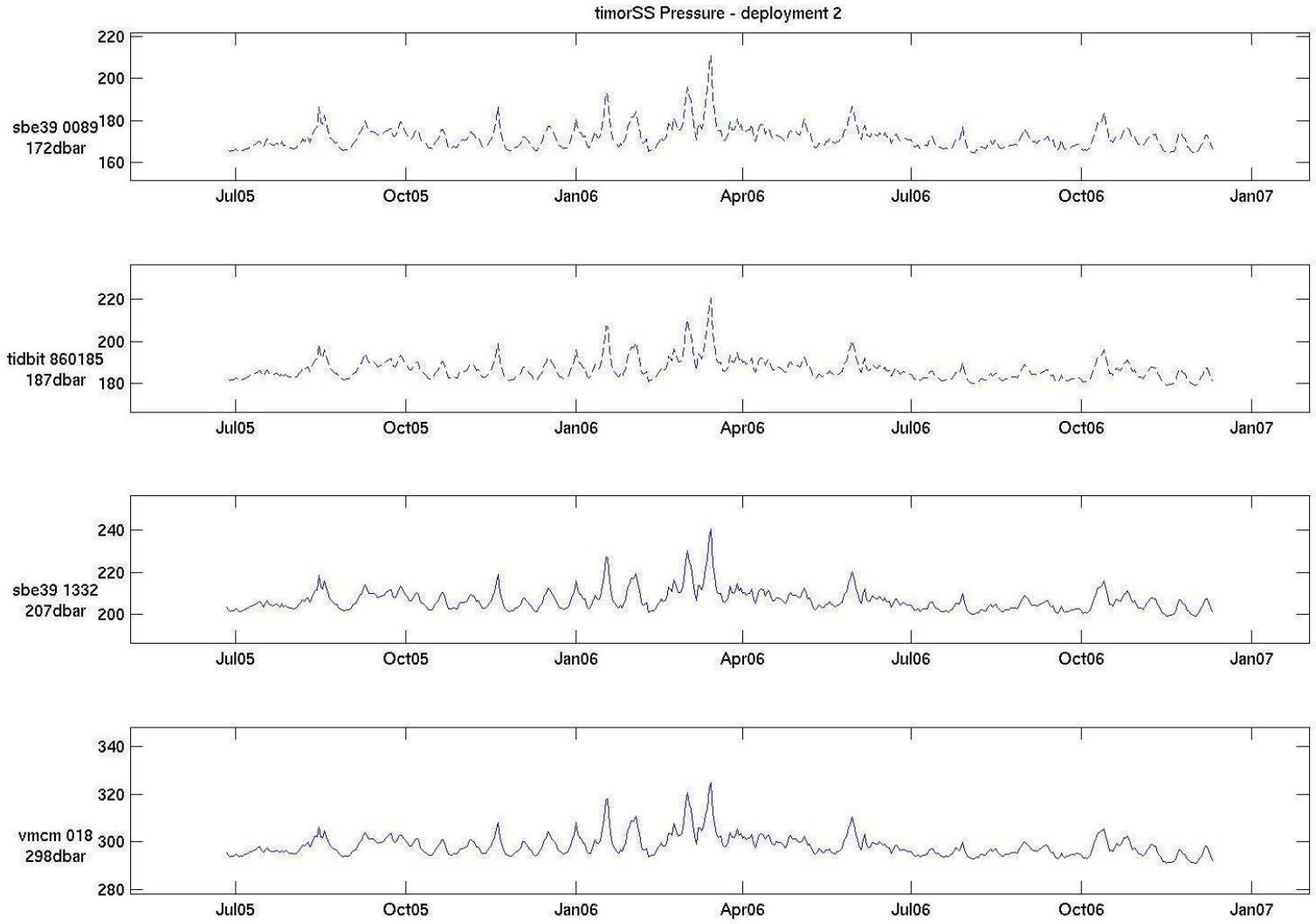

timorSS v - deployment 1
bb150 0136
105dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
bb150 0136
153dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
bb150 0136
201dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
vmcm 001
276dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

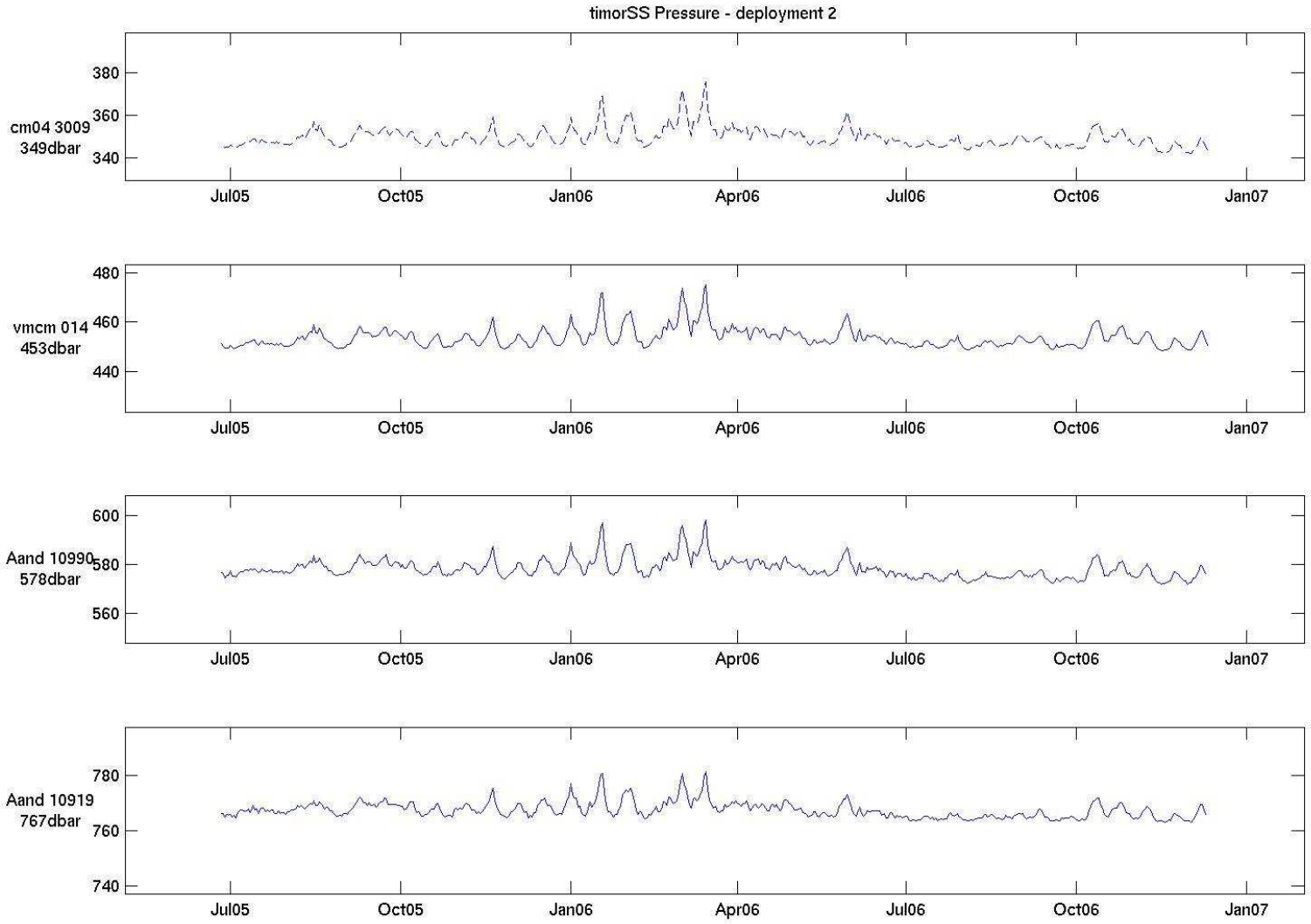

timorSS v - deployment 1
vmcm 005
373dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 10991
493dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 7776
738dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 10283
1038dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

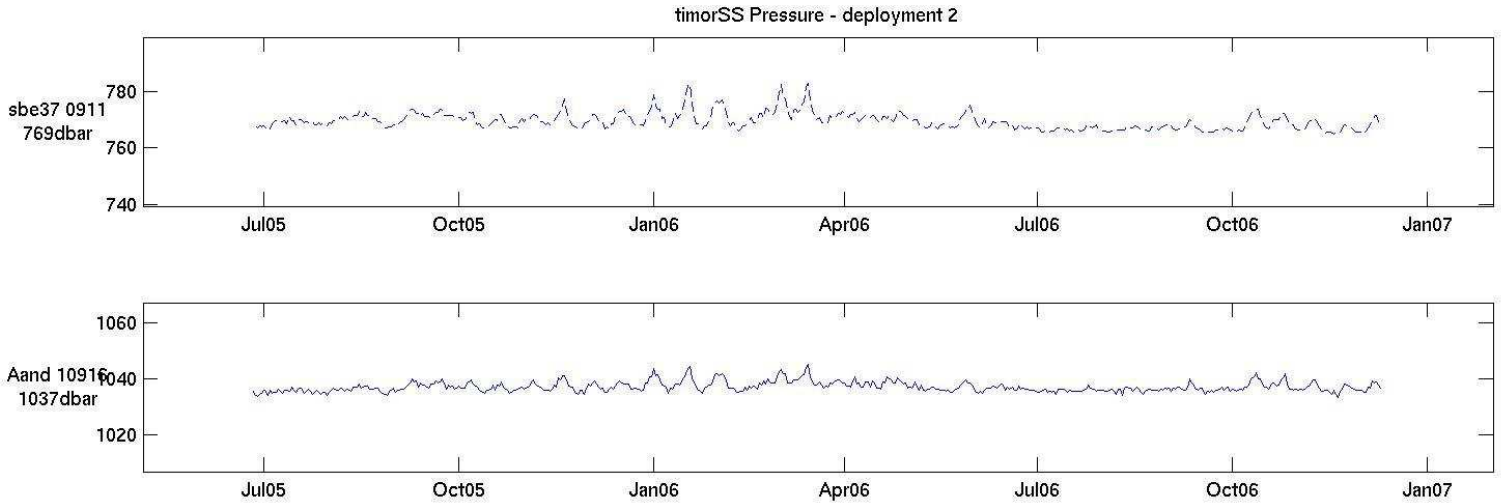

timorSS Vector plot - deployment 1
bb150 0136
105dbar
cm/s
bb150 0136
153dbar
cm/s
bb150 0136
201dbar
cm/s
vmcm 001
276dbar
cm/s
20
0
-20
-40
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

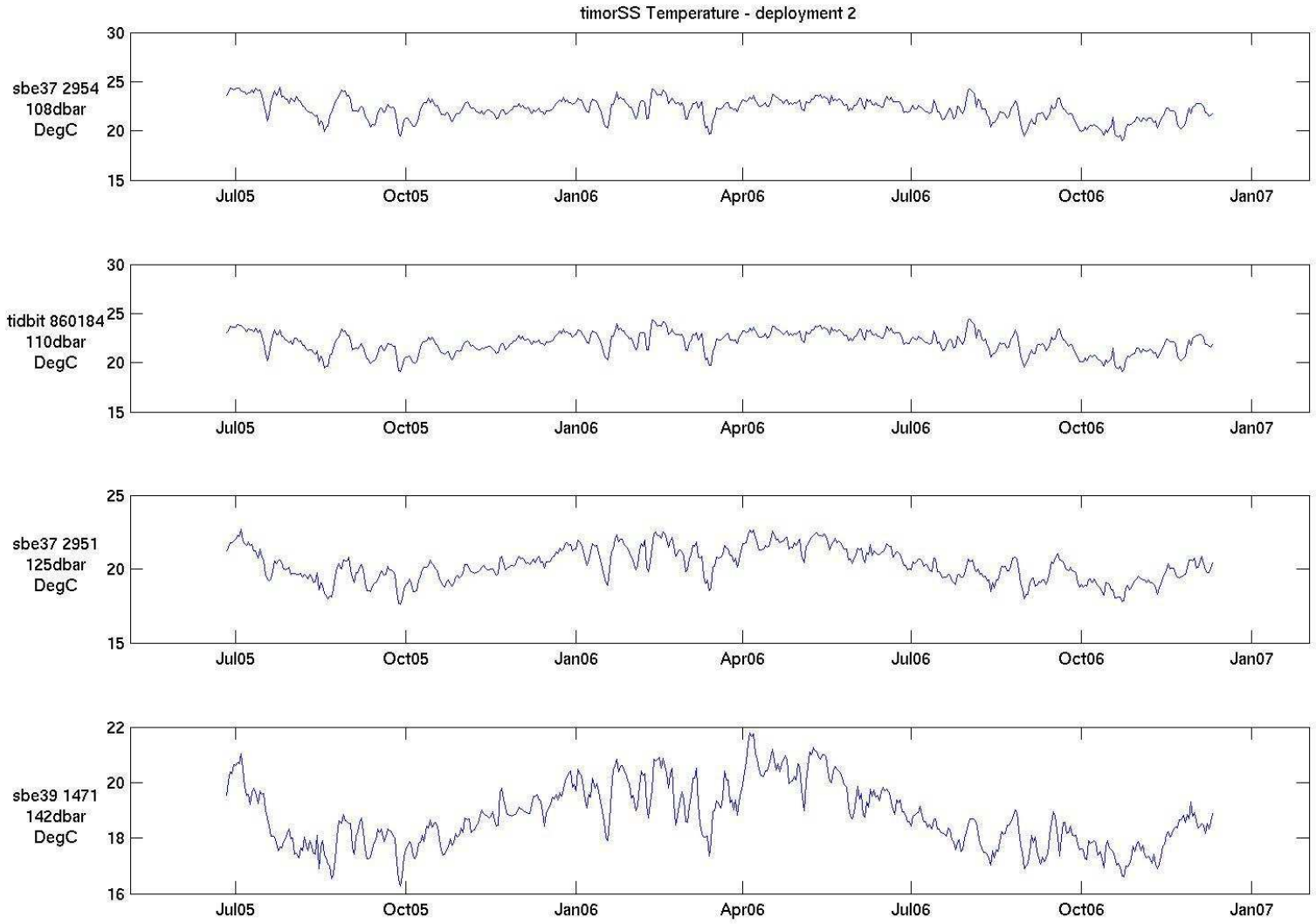

timorSS Vector plot - deployment 1
vmcm 005
373dbar
cm/s
20
0
-20
-40
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 10991
493dbar
cm/s
20
0
-20
-40
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 7776
738dbar
cm/s
20
0
-20
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 10283
1038dbar
cm/s
10
0
-10
-20
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

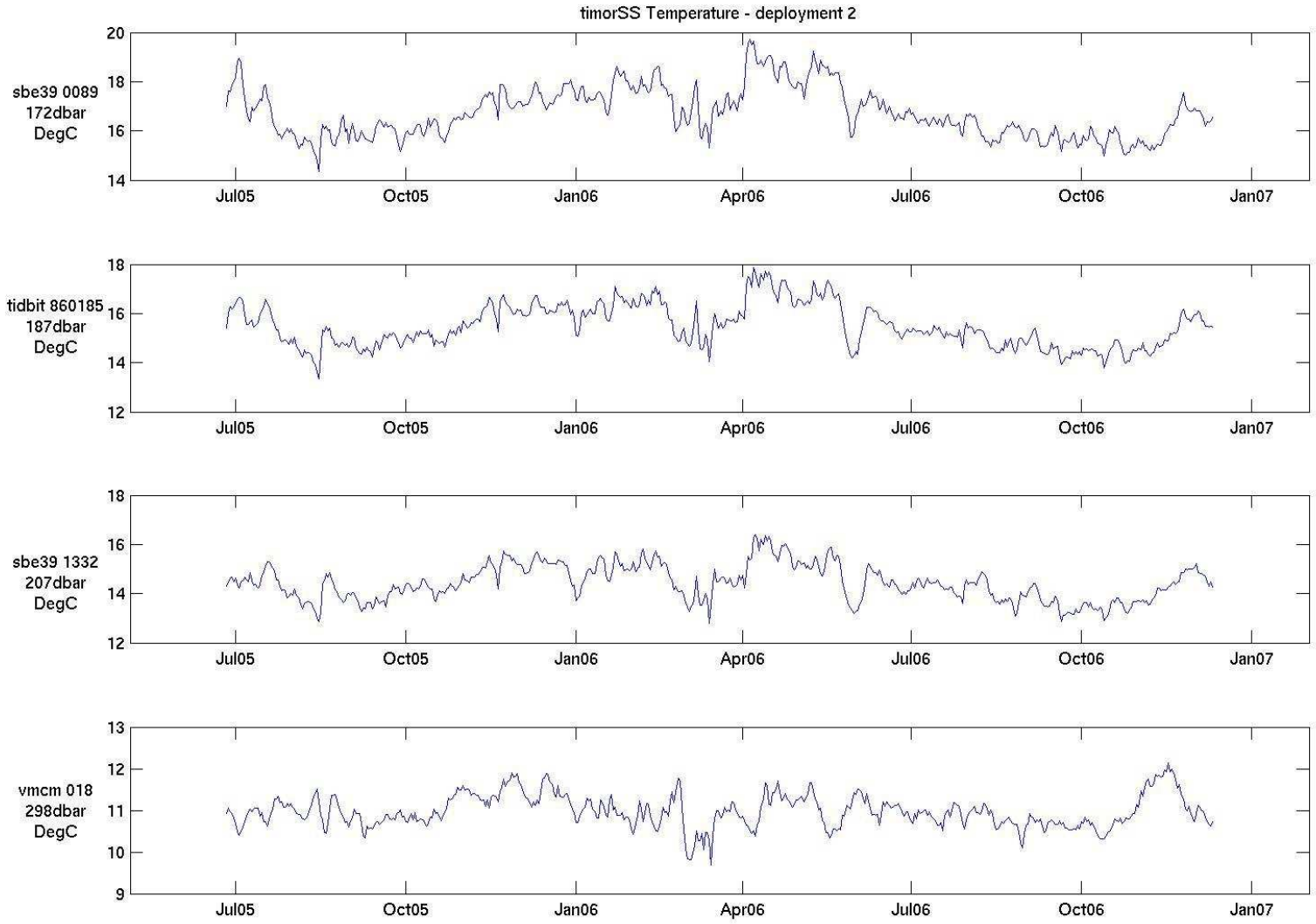

timorSS Pressure - deployment 2
sbe37 2954
108dbar
140
120
100
tidbit 860184
110dbar
160
140
120
100
sbe37 2951
125dbar
160
140
120
sbe39 1471
142dbar
180
160
140
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

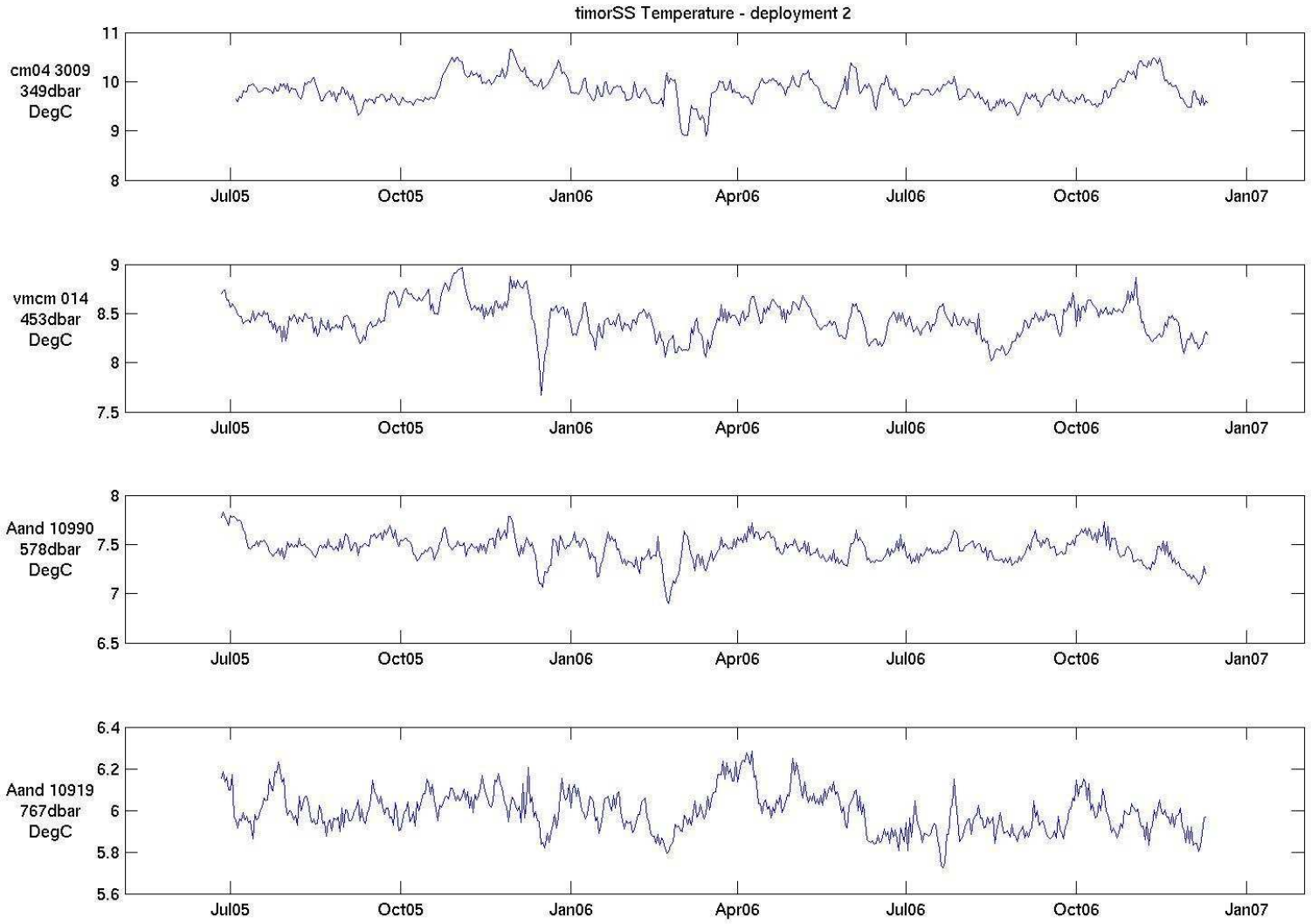

timorSS Pressure - deployment 2
sbe39 0089
172dbar
220
200
180
160
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
tidbit 860185
187dbar
220
200
180
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
sbe39 1332
207dbar
240
220
200
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
vmcm 018
298dbar
340
320
300
280
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

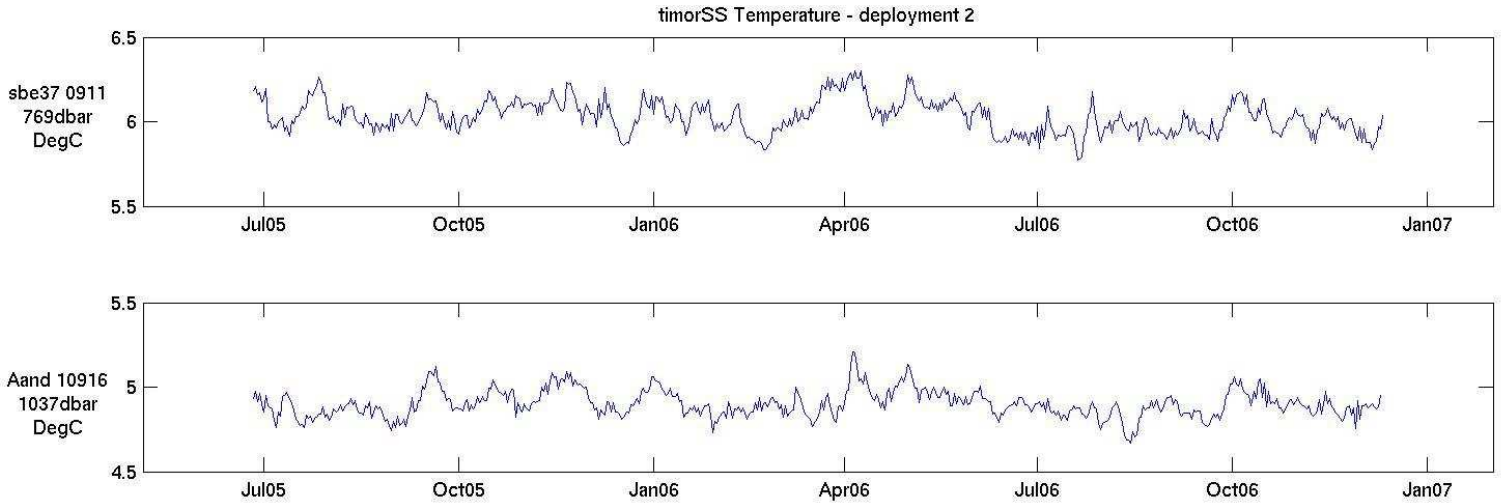

timorSS Pressure - deployment 2
cm04 3009
349dbar
380
360
340
vmcm 014
453dbar
480
460
440
Aand 10990
578dbar
600
580
560
Aand 10919
767dbar
780
760
740
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

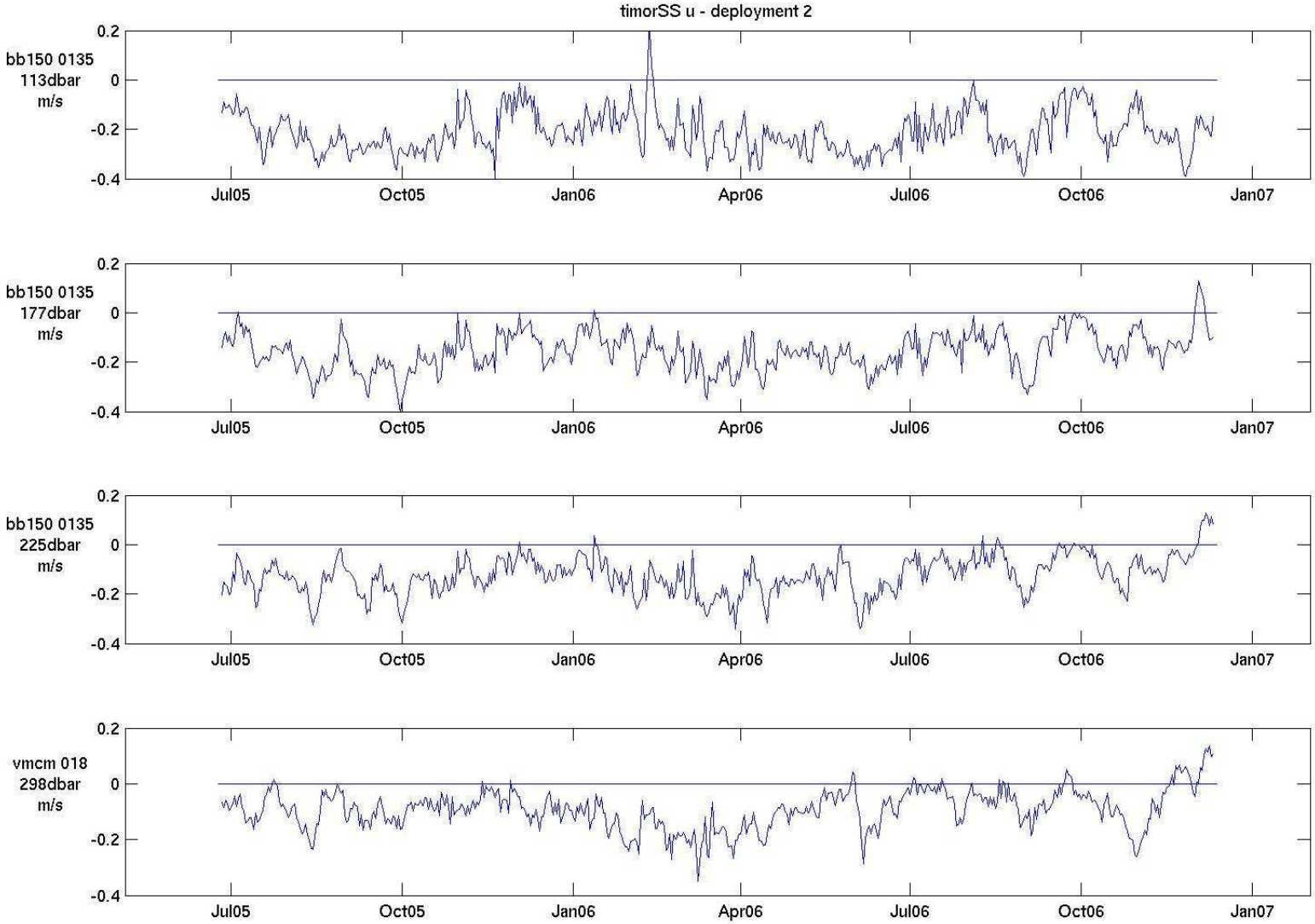

timorSS Pressure - deployment 2
sbe37 0911
769dbar
780
760
740
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10916
1037dbar
1060
1040
1020
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

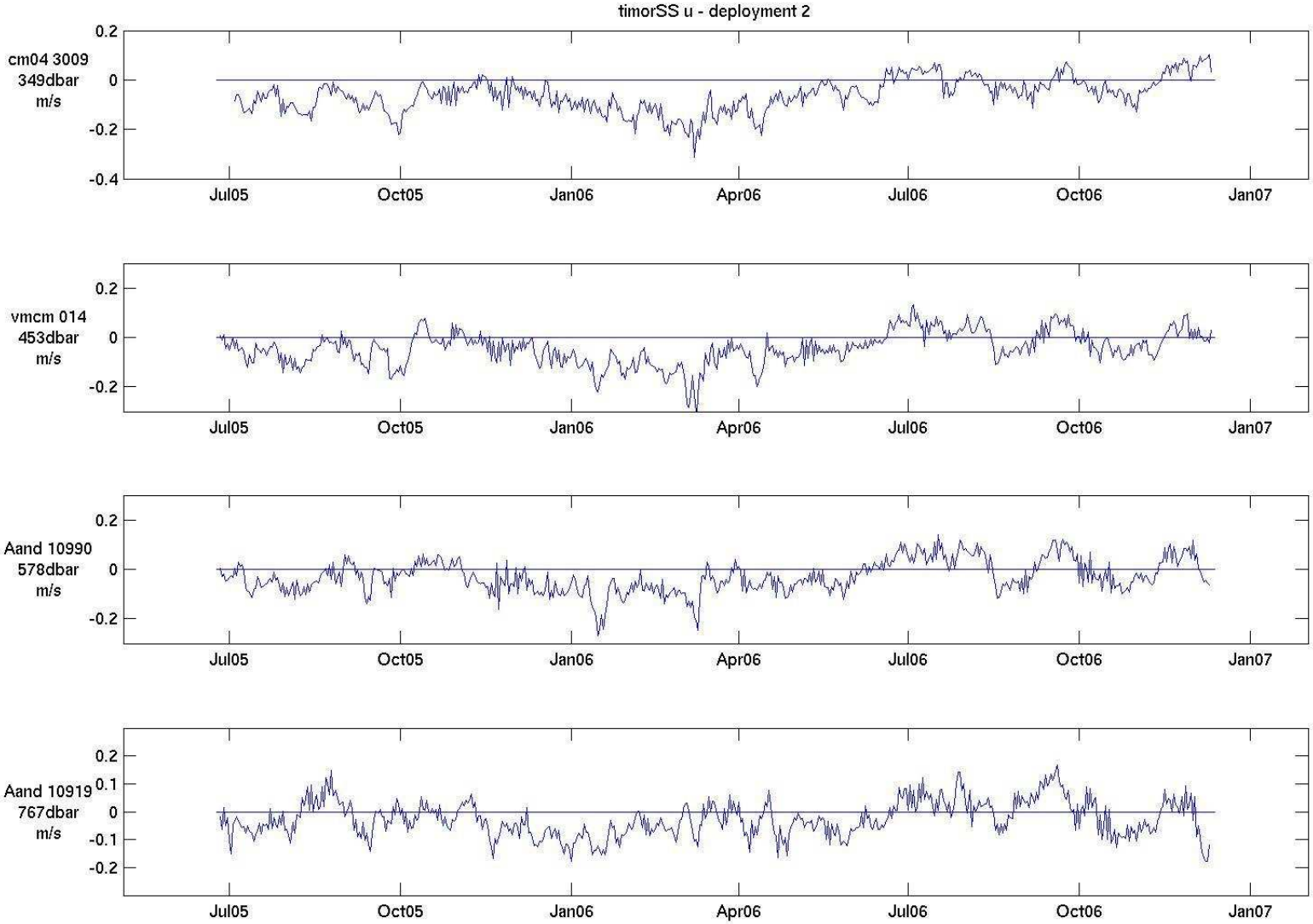

timorSS Temperature - deployment 2
sbe37 2954
108dbar
DegC
tidbit 860184
110dbar
DegC
sbe37 2951
125dbar
DegC
sbe39 1471
142dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

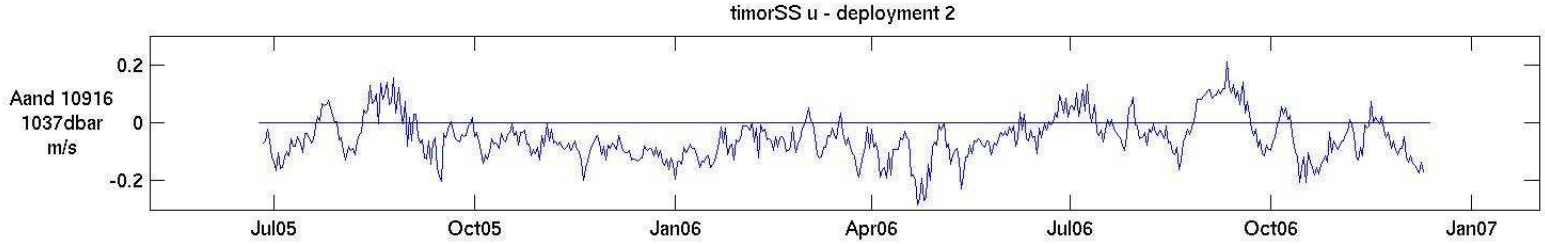

timorSS Temperature - deployment 2
sbe39 0089
172dbar
DegC
tidbit 860185
187dbar
DegC
sbe39 1332
207dbar
DegC
vmcm 018
298dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

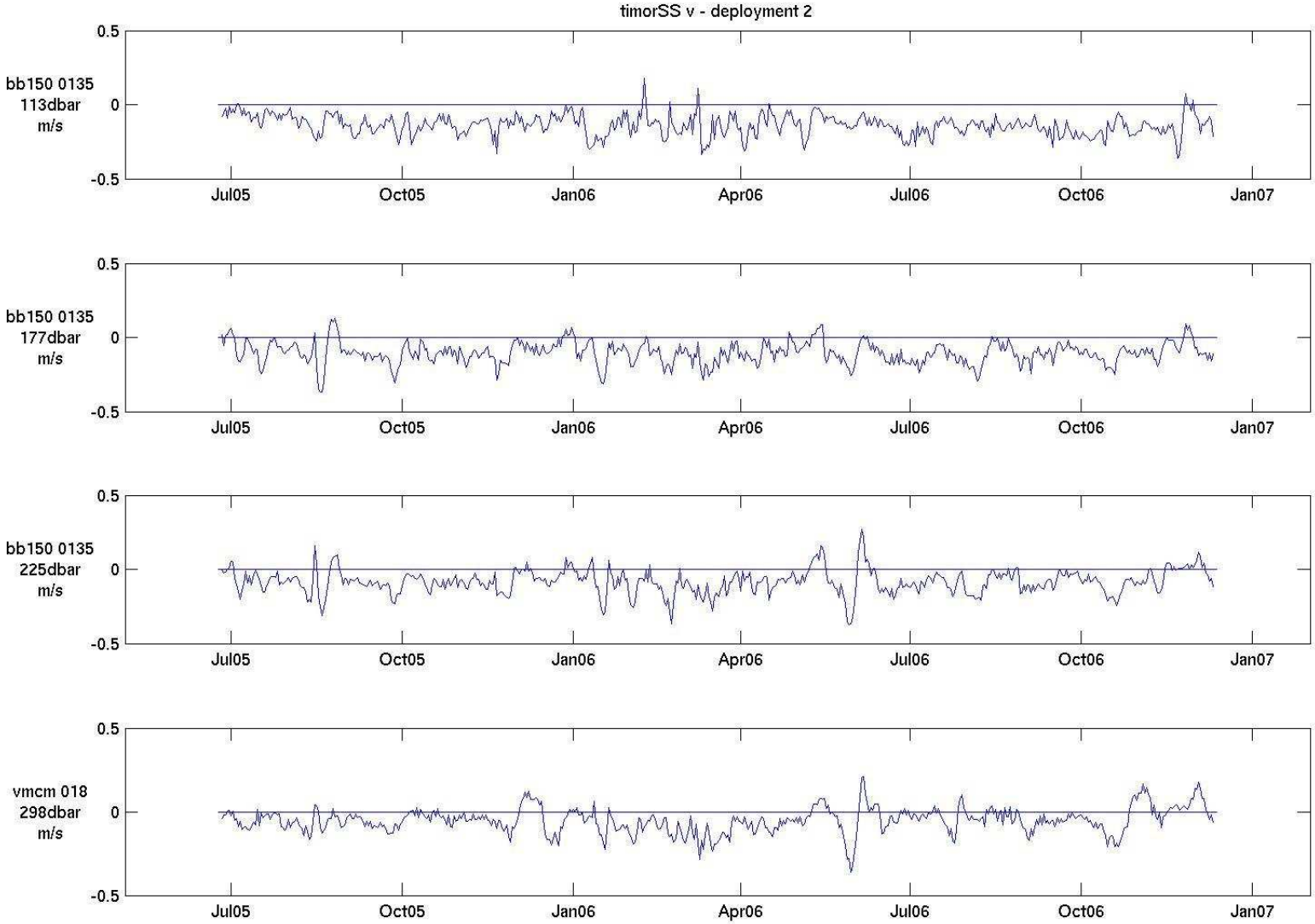

timorSS Temperature - deployment 2
cm04 3009
349dbar
DegC
11
10
9
8
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
vmcm 014
453dbar
DegC
9
8.5
8
7.5
Aand 10990
578dbar
DegC
8
7.5
7
6.5
Aand 10919
767dbar
DegC
6.4
6.2
6
5.8
5.6

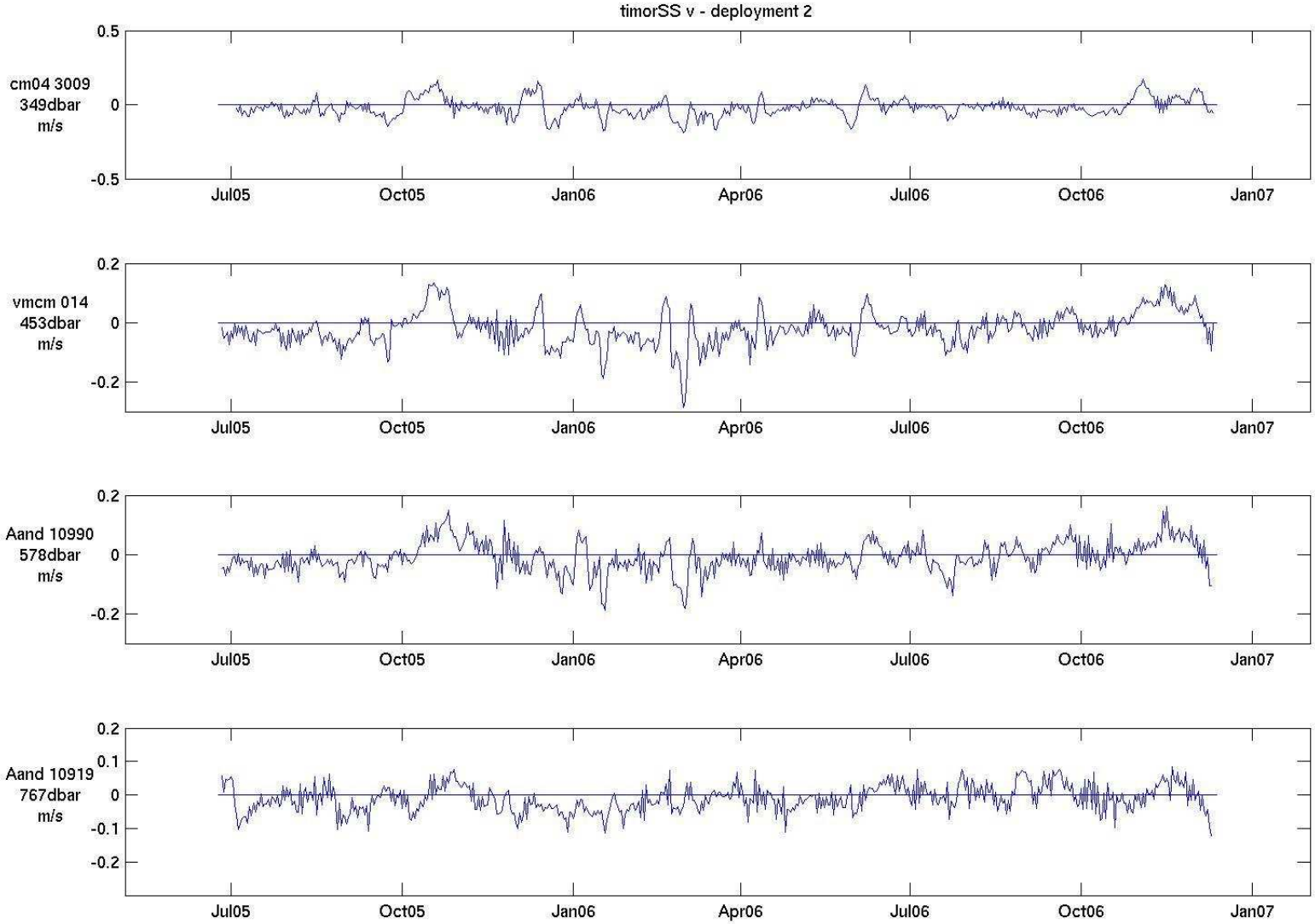

timorSS Temperature - deployment 2
sbe37 0911
769dbar
DegC
6.5
6
5.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10916
1037dbar
DegC
5.5
5
4.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

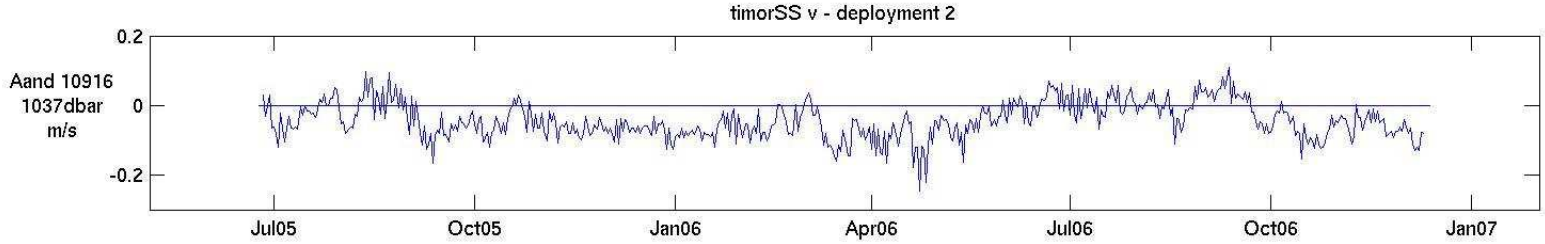

timorSS u - deployment 2
bb150 0135
113dbar
m/s
bb150 0135
177dbar
m/s
bb150 0135
225dbar
m/s
vmcm 018
298dbar
m/s
0.2
0
-0.2
-0.4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

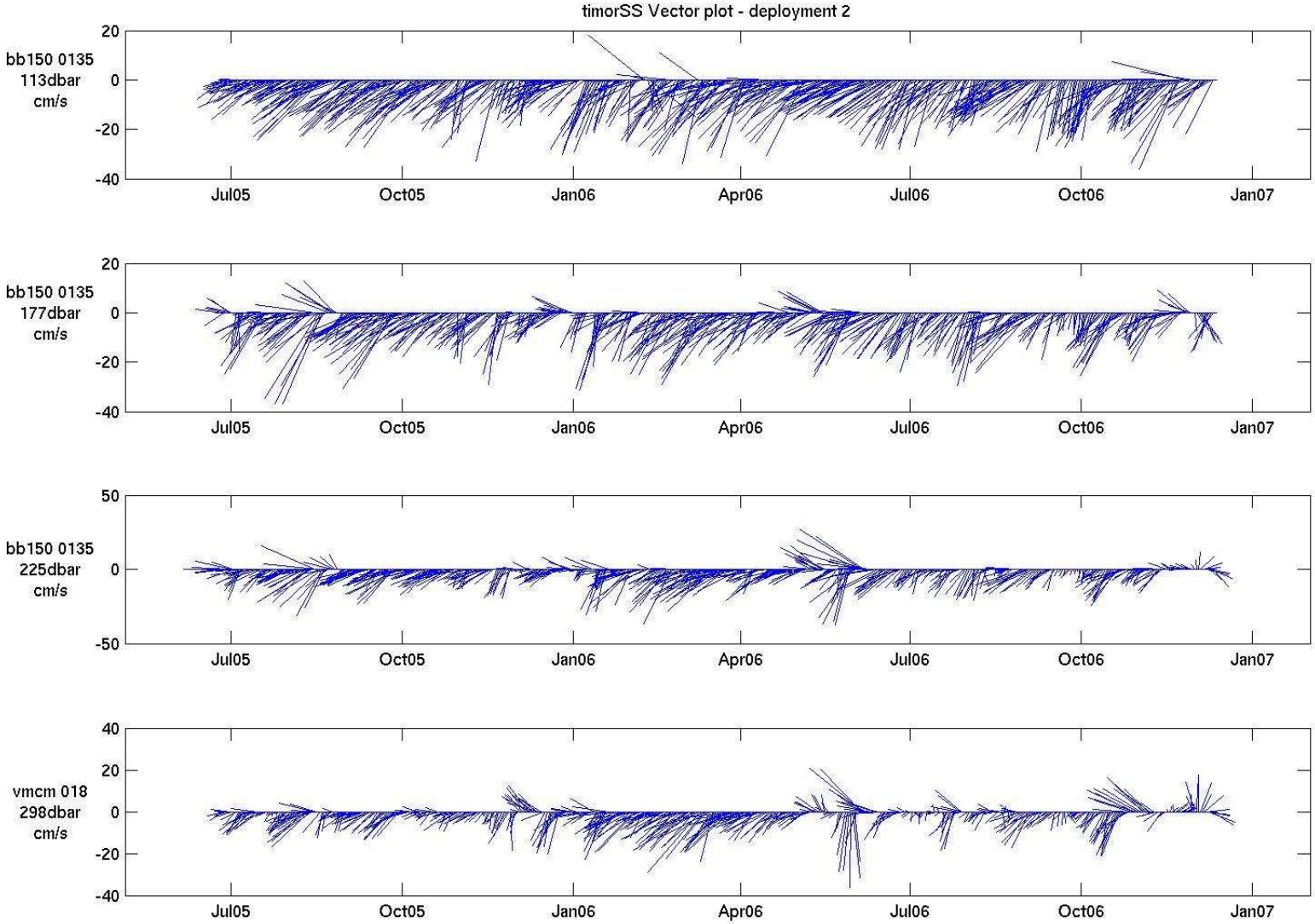

timorSS u - deployment 2
cm04 3009
349dbar
m/s
vmcm 014
453dbar
m/s
Aand 10990
578dbar
m/s
Aand 10919
767dbar
m/s
0.2
0.1
0
-0.1
-0.2
-0.4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

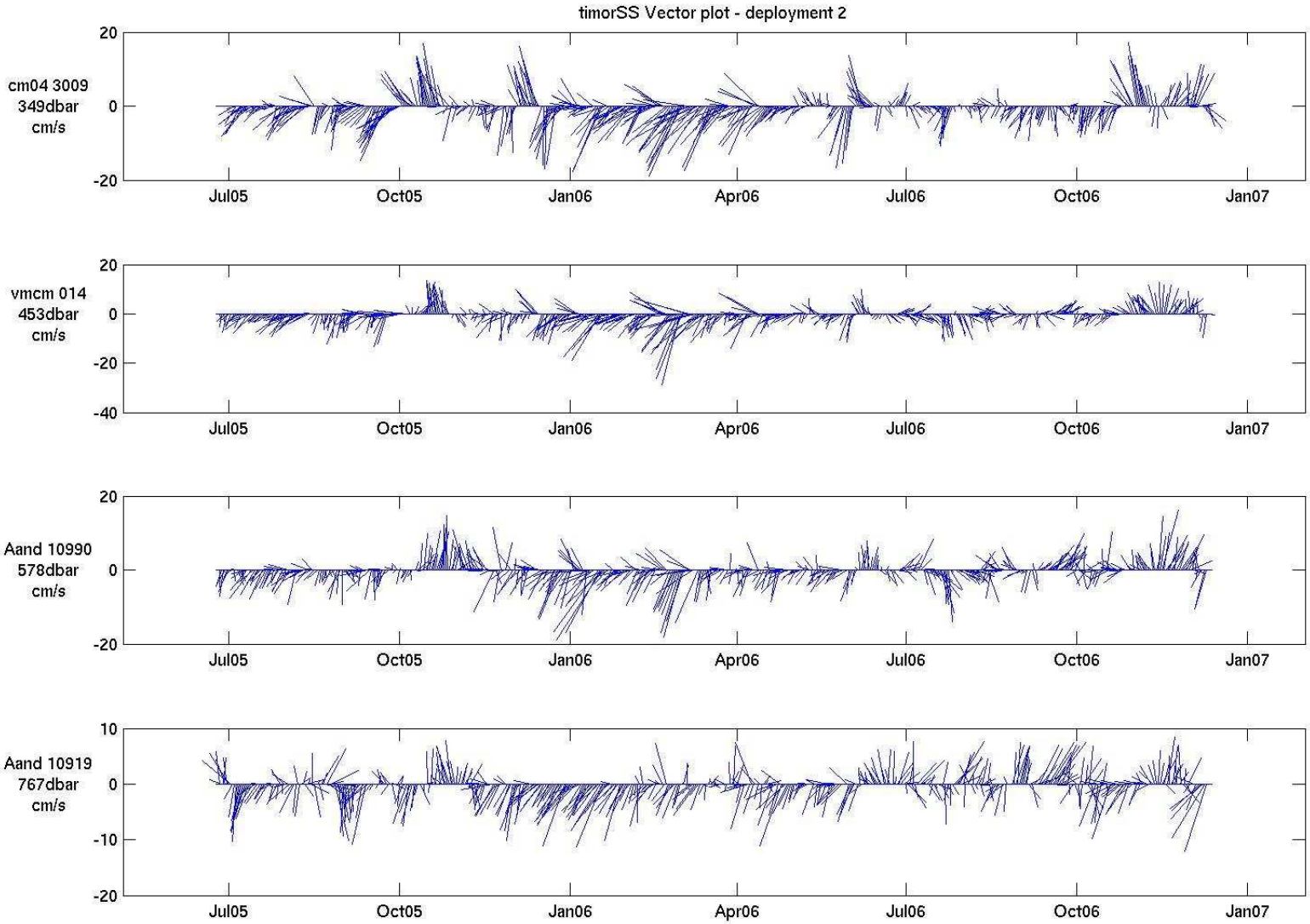

timorSS u - deployment 2
Aand 10916
1037dbar
m/s
0.2
0
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorSS v - deployment 2
bb150 0135
113dbar
m/s
bb150 0135
177dbar
m/s
bb150 0135
225dbar
m/s
vmcm 018
298dbar
m/s
0.5
0
-0.5
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorSS v - deployment 2
cm04 3009
349dbar
m/s
0.5
0
-0.5
vmcm 014
453dbar
m/s
0.2
0
-0.2
Aand 10990
578dbar
m/s
0.2
0
-0.2
Aand 10919
767dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorSS v - deployment 2
Aand 10916
1037dbar
m/s
0.2
0
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorSS Vector plot - deployment 2
bb150 0135
113dbar
cm/s
bb150 0135
177dbar
cm/s
bb150 0135
225dbar
cm/s
vmcm 018
298dbar
cm/s
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorSS Vector plot - deployment 2
cm04 3009
349dbar
cm/s
20
0
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
vmcm 014
453dbar
cm/s
20
0
-20
-40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10990
578dbar
cm/s
20
0
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
Aand 10919
767dbar
cm/s
10
0
-10
-20
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

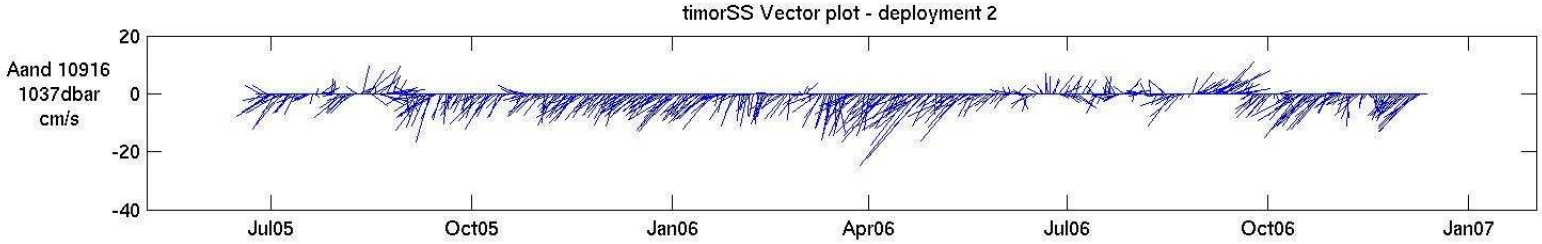
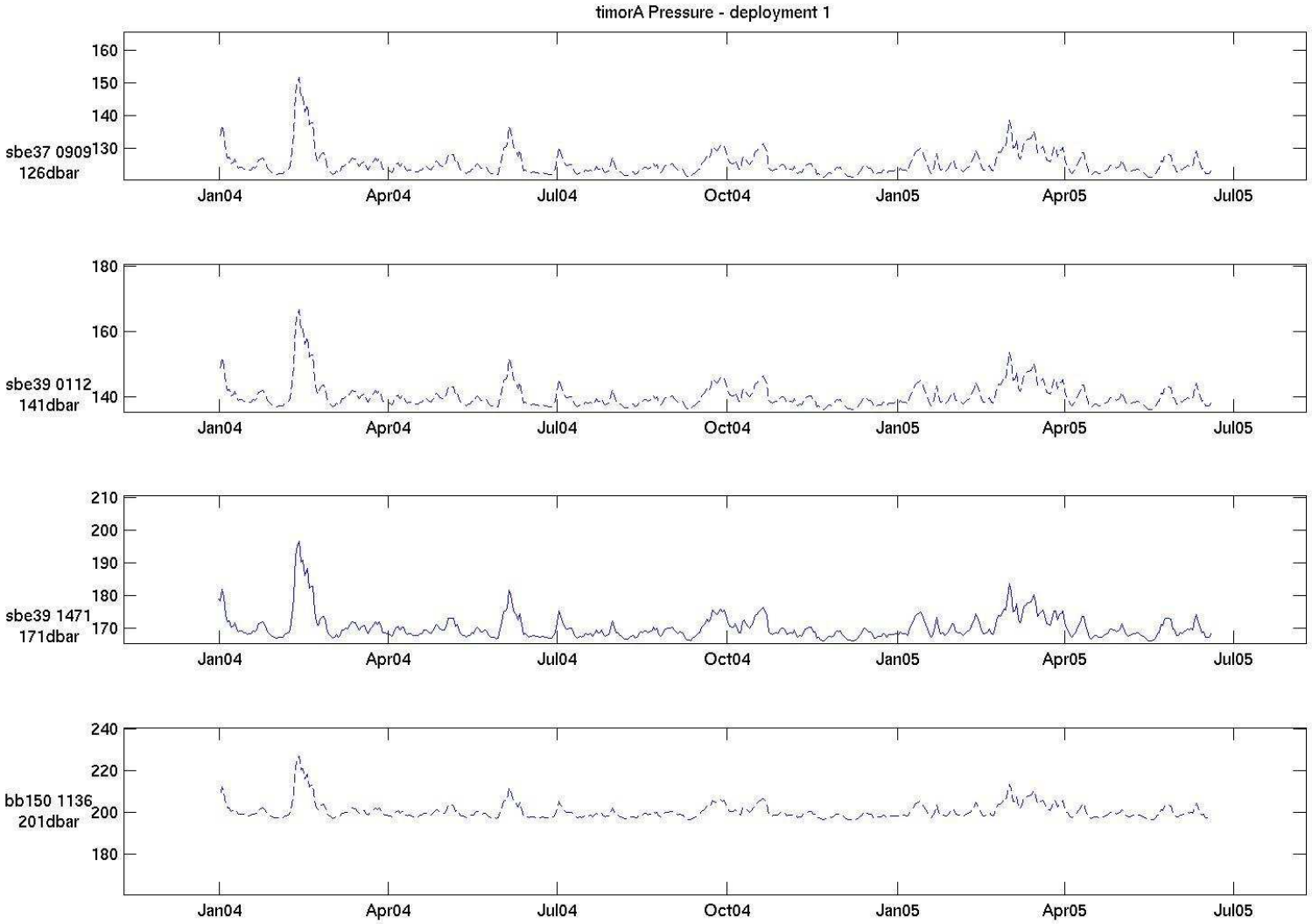
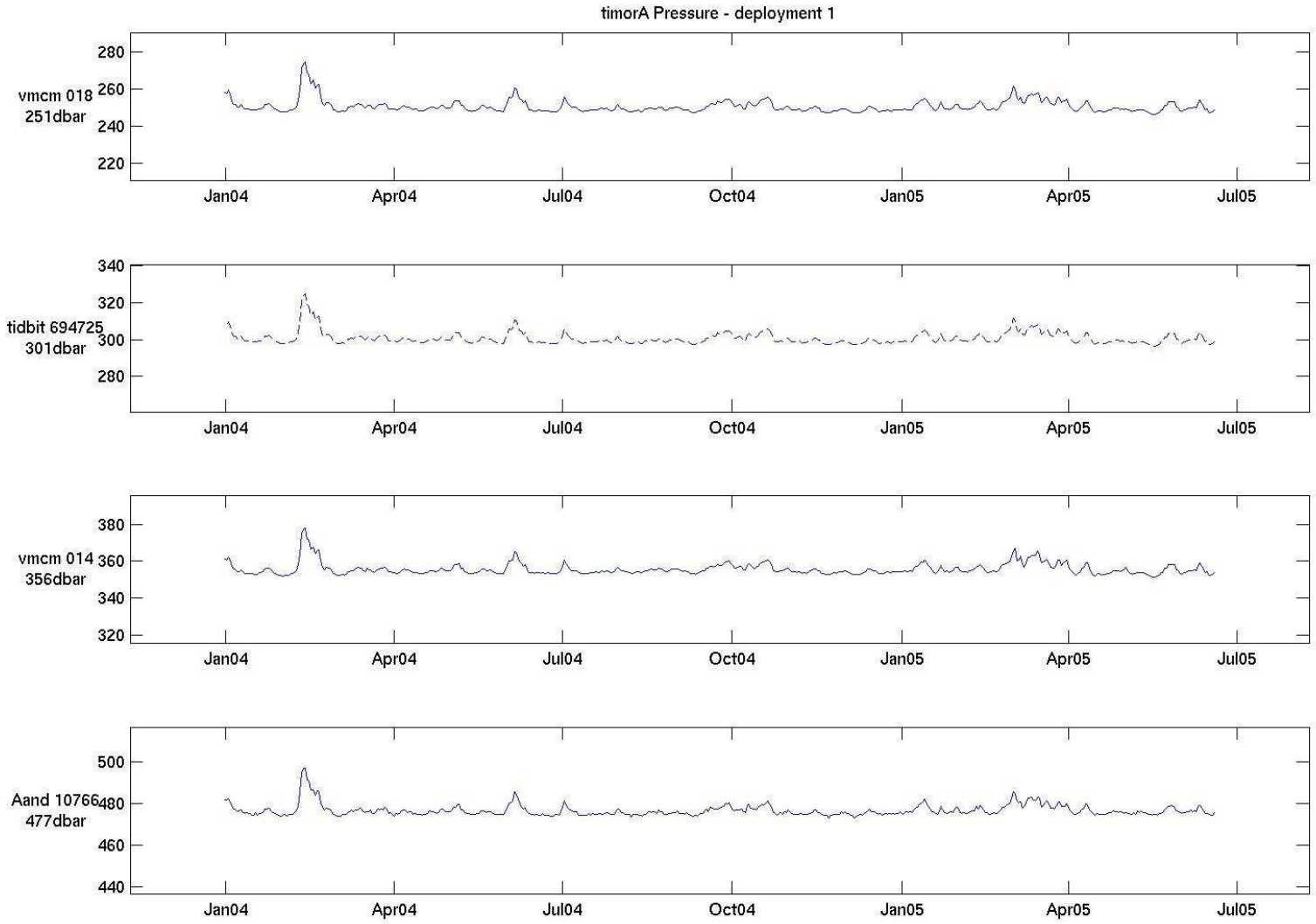
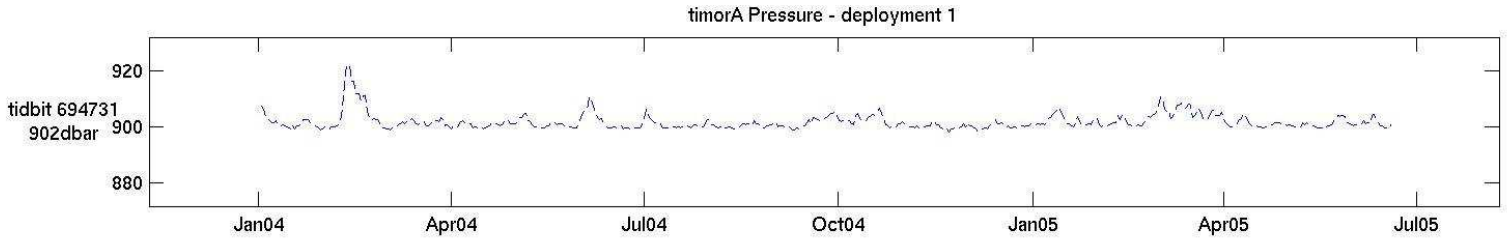
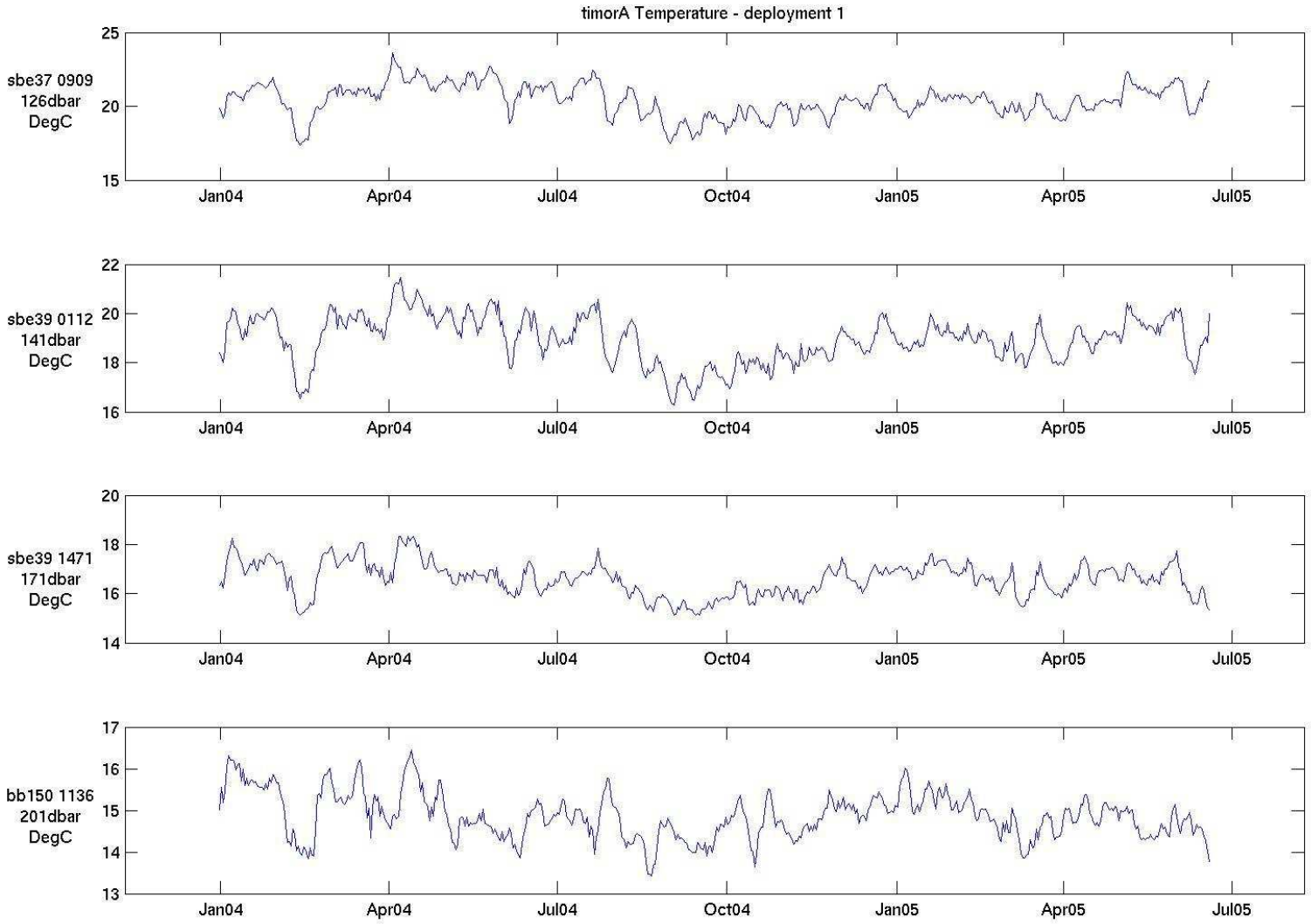

timorSS Vector plot - deployment 2
Aand 10916
1037dbar
cm/s
20
0
-20
-40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

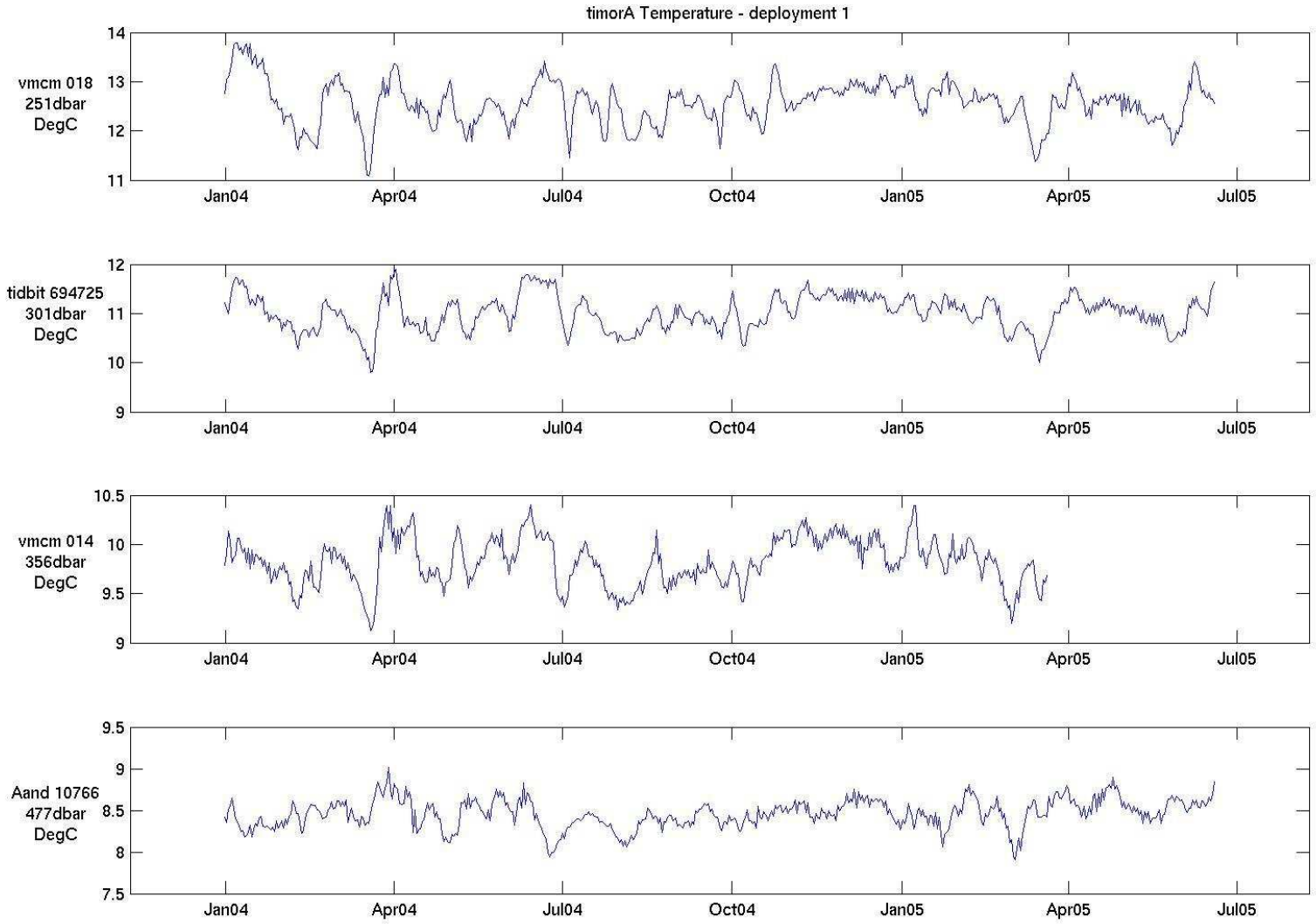
Figure 24. Low pass (1-day) plots of data for Timor Ashmore mooring. **DOTTED LINES INDICATE INFERRED PRESSURE.**

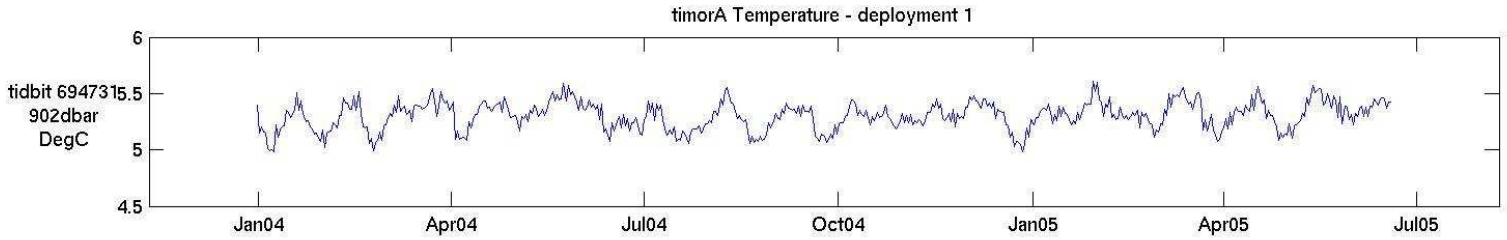


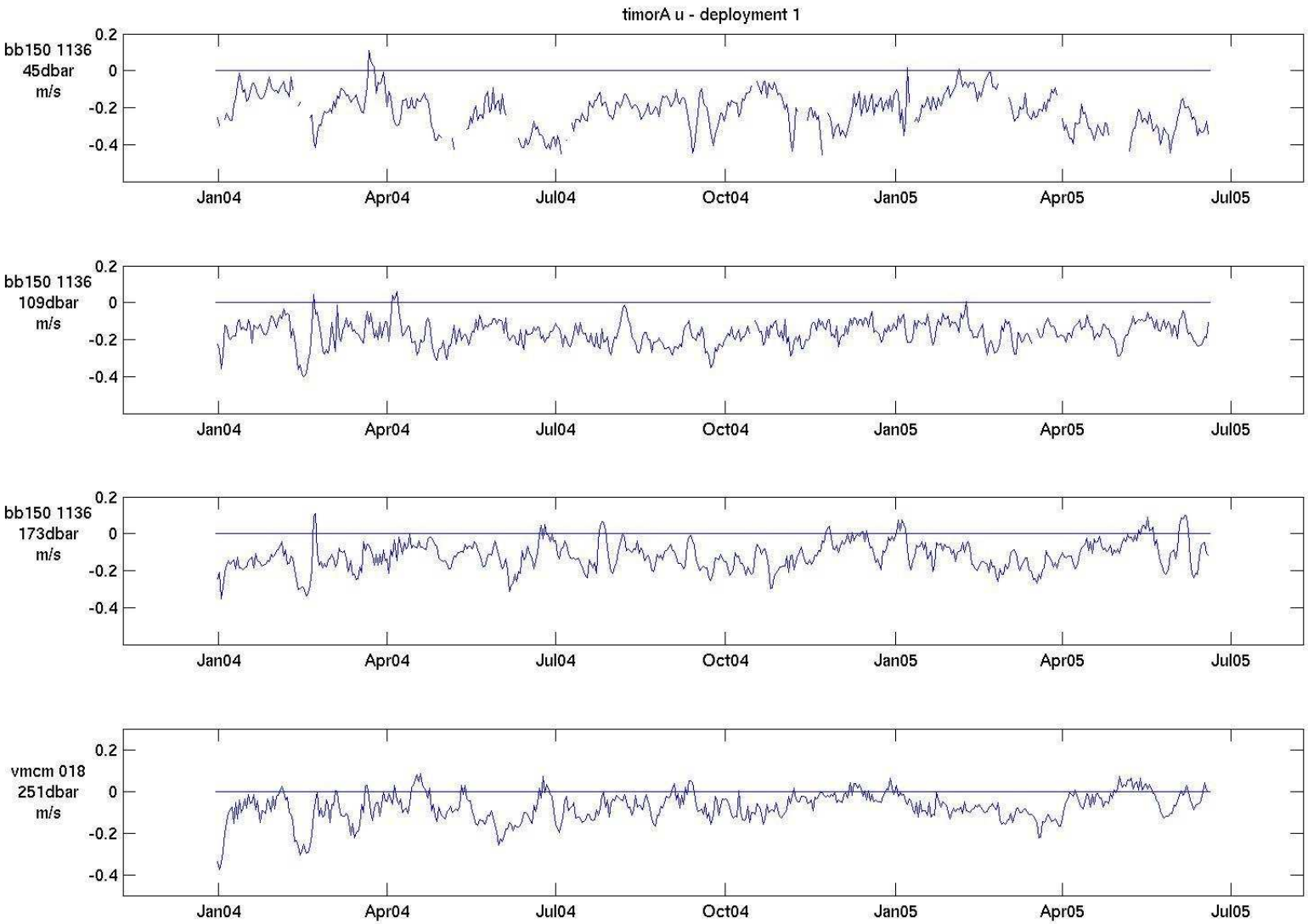

timorA Pressure - deployment 1
vmcm 018
251dbar
280
260
240
220
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
tidbit 694725
301dbar
340
320
300
280
vmcm 014
356dbar
380
360
340
320
Aand 10766
477dbar
500
480
460
440

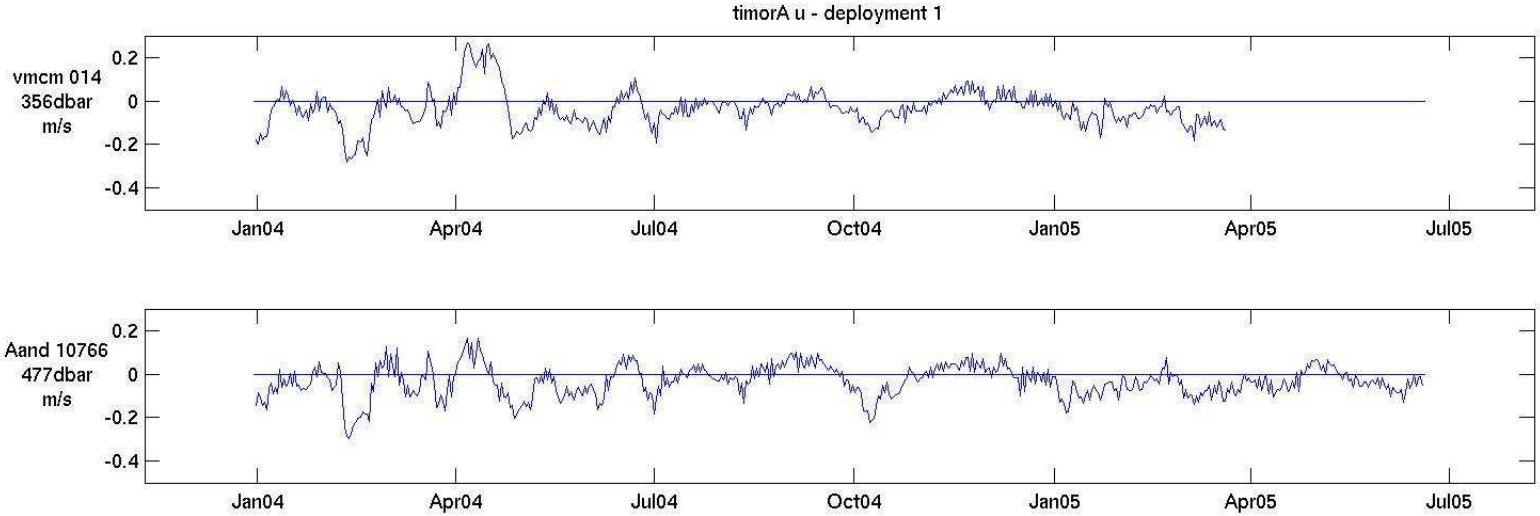

timorA Pressure - deployment 1
tidbit 694731
902dbar
920
900
880
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

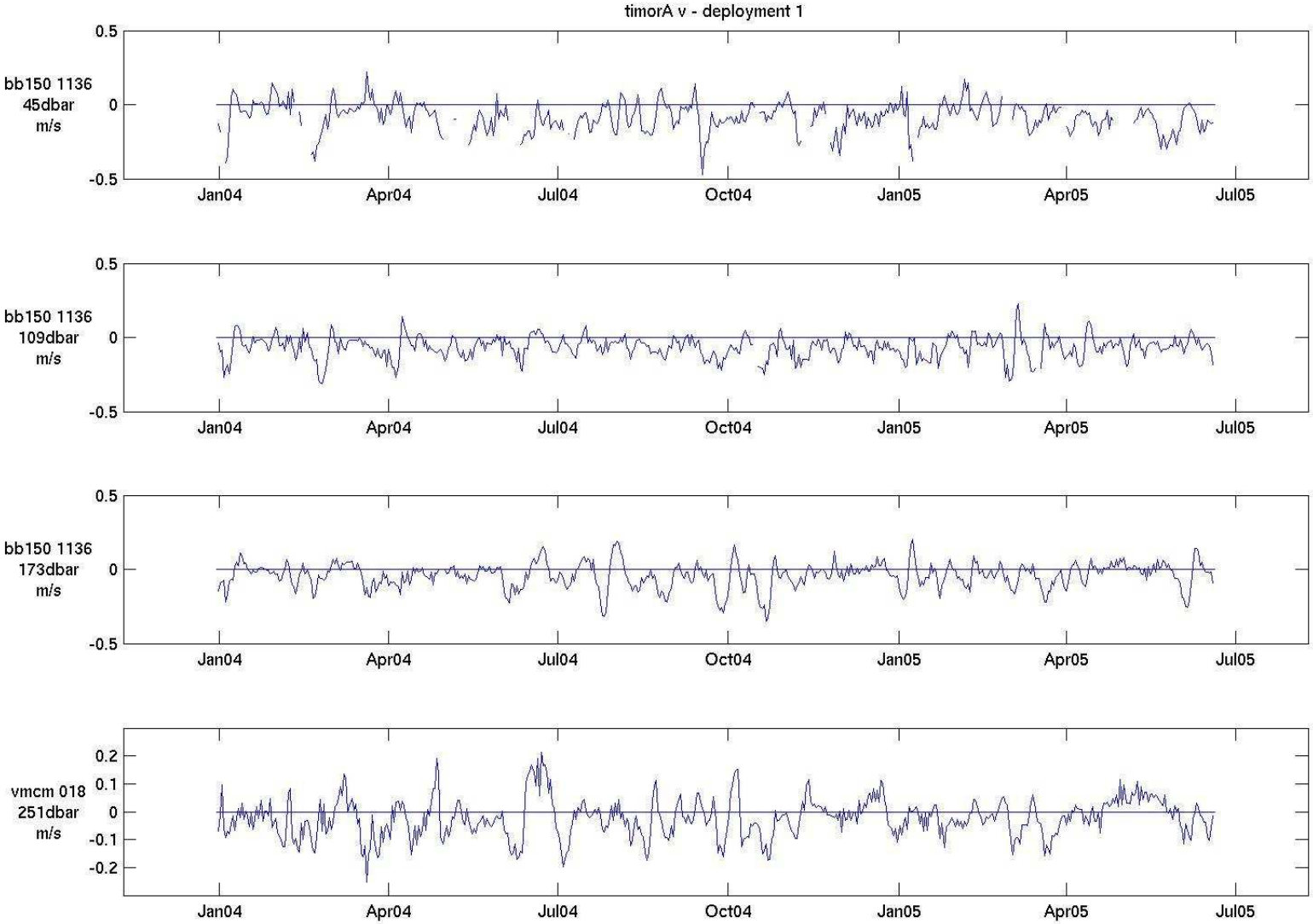

timorA Temperature - deployment 1
sbe37 0909
126dbar
DegC
25
20
15
sbe39 0112
141dbar
DegC
22
20
18
16
sbe39 1471
171dbar
DegC
20
18
16
14
bb150 1136
201dbar
DegC
17
16
15
14
13
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

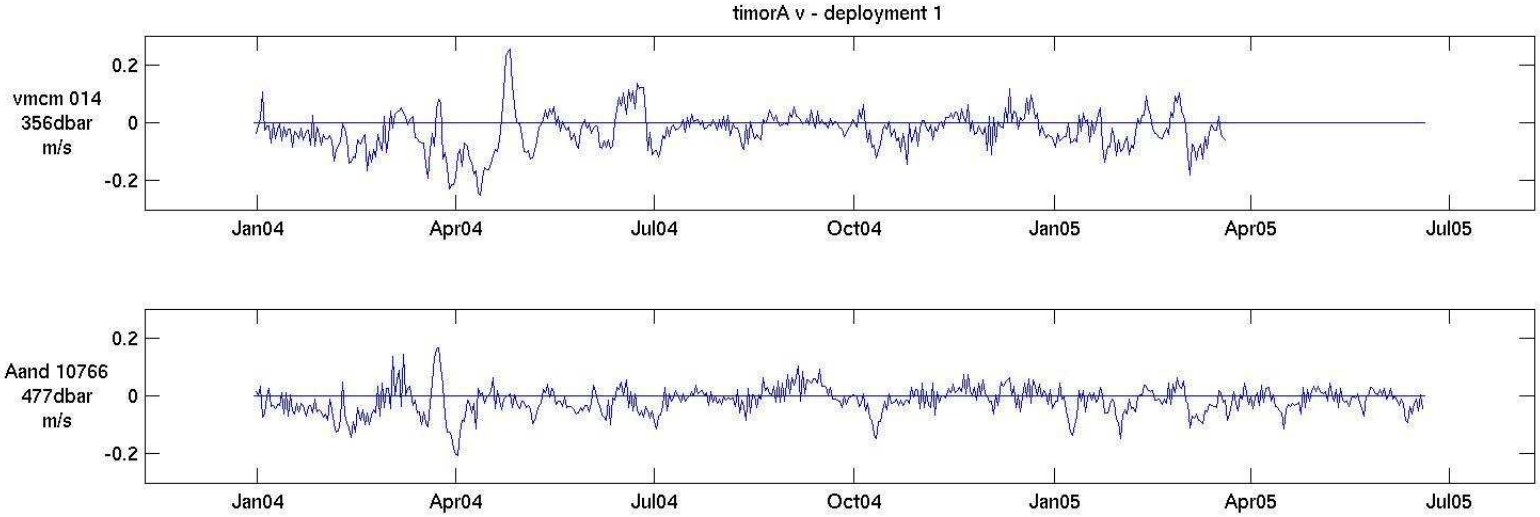

timorA Temperature - deployment 1
vmcm 018
251dbar
DegC
14
13
12
11
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
tidbit 694725
301dbar
DegC
12
11
10
9
vmcm 014
356dbar
DegC
10.5
10
9.5
9
Aand 10766
477dbar
DegC
9.5
9
8.5
8
7.5

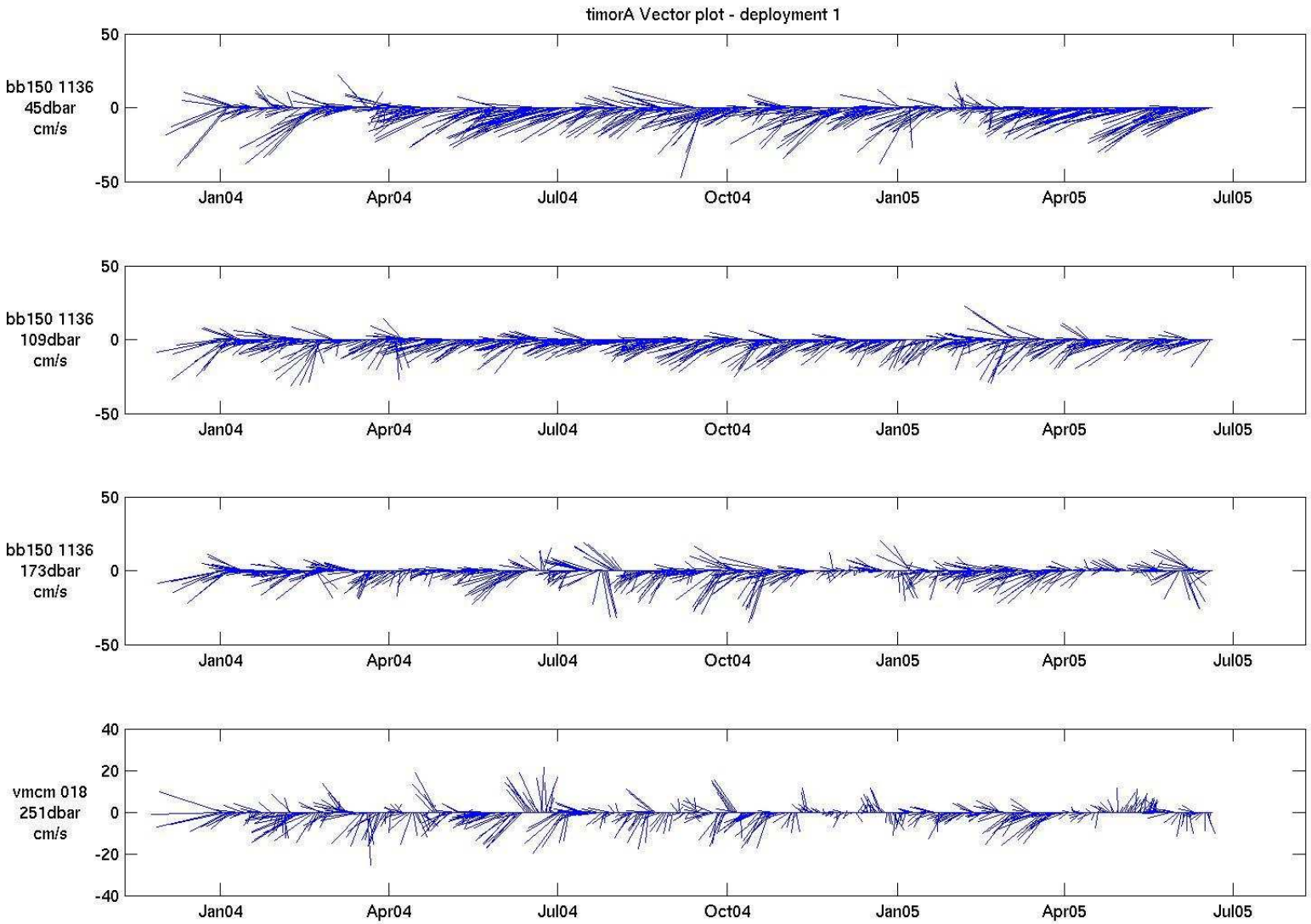

timorA Temperature - deployment 1
tidbit 6947315
902dbar
DegC
6
5.5
5
4.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

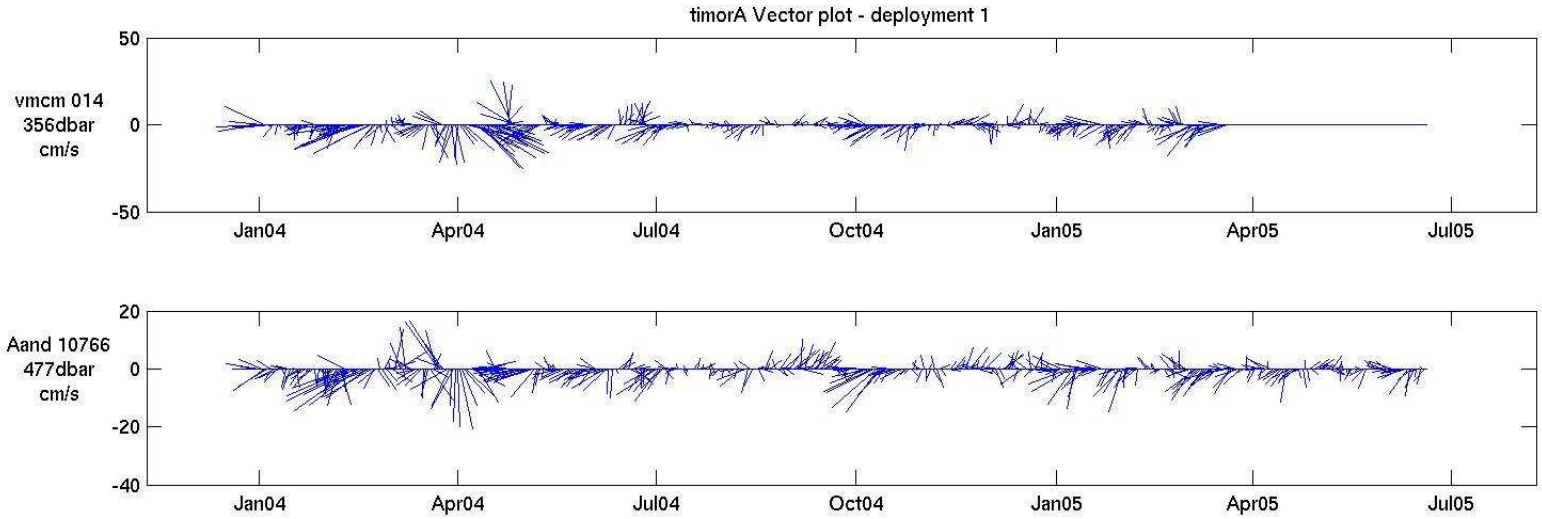

timorA u - deployment 1
bb150 1136
45dbar
m/s
bb150 1136
109dbar
m/s
bb150 1136
173dbar
m/s
vmcm 018
251dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

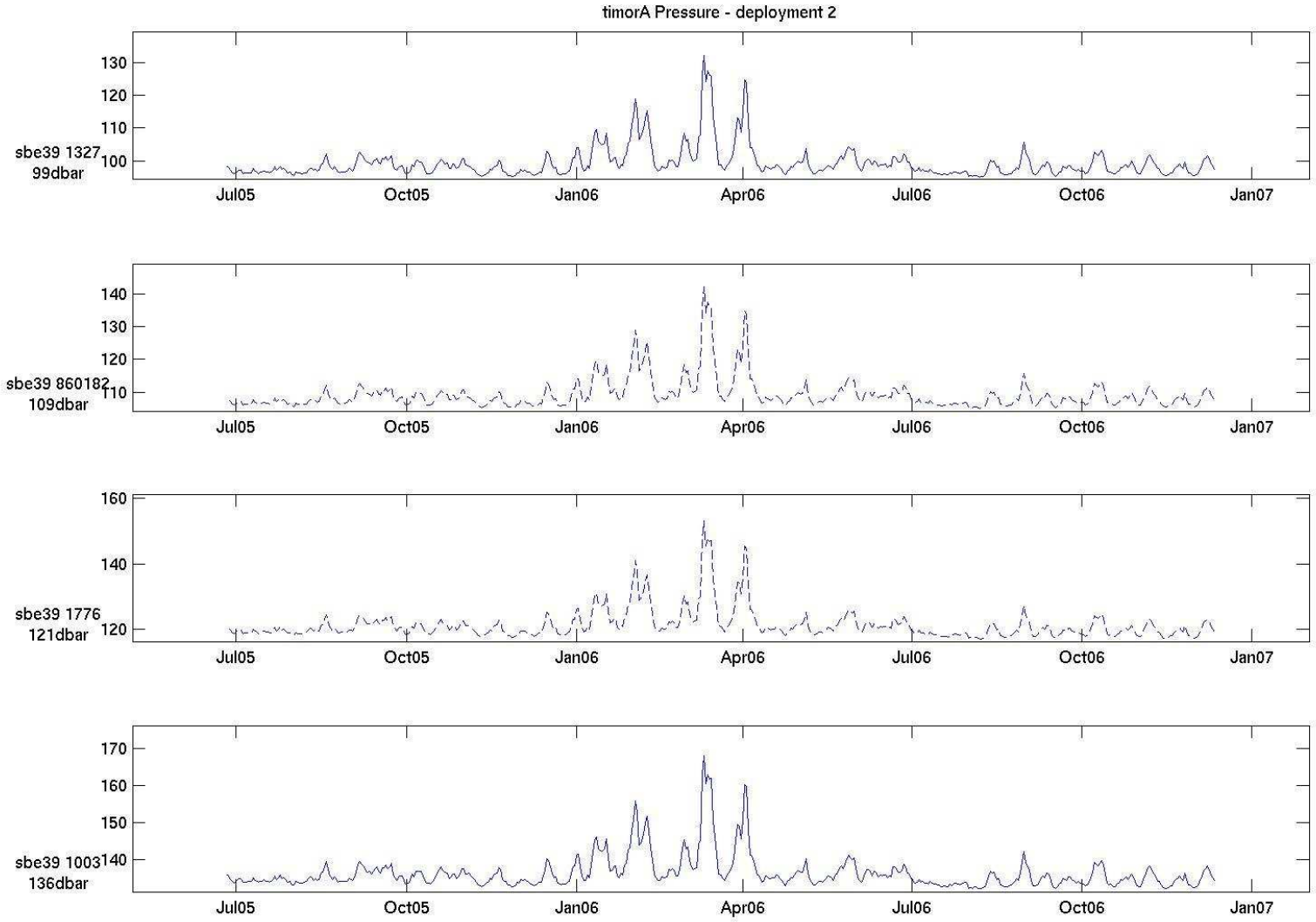

timorA u - deployment 1
vmcm 014
356dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 10766
477dbar
m/s
0.2
0
-0.2
-0.4
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

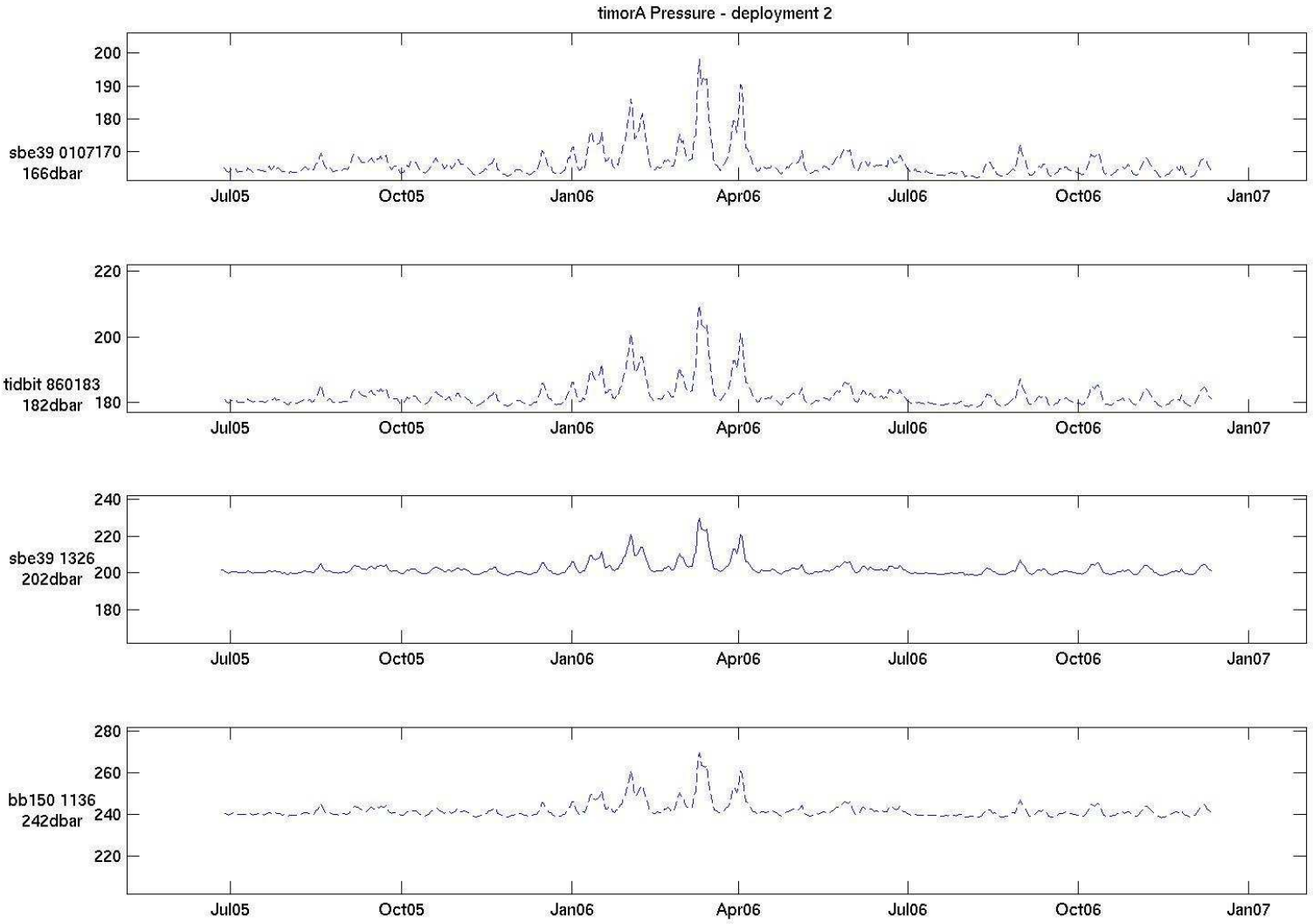

timorA v - deployment 1
bb150 1136
45dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
bb150 1136
109dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
bb150 1136
173dbar
m/s
0.5
0
-0.5
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
vmcm 018
251dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

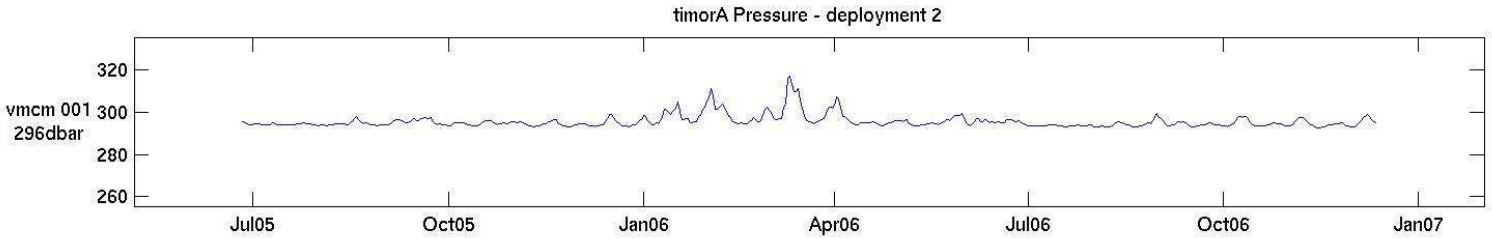

timorA v - deployment 1
vmcm 014
356dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 10766
477dbar
m/s
0.2
0
-0.2
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

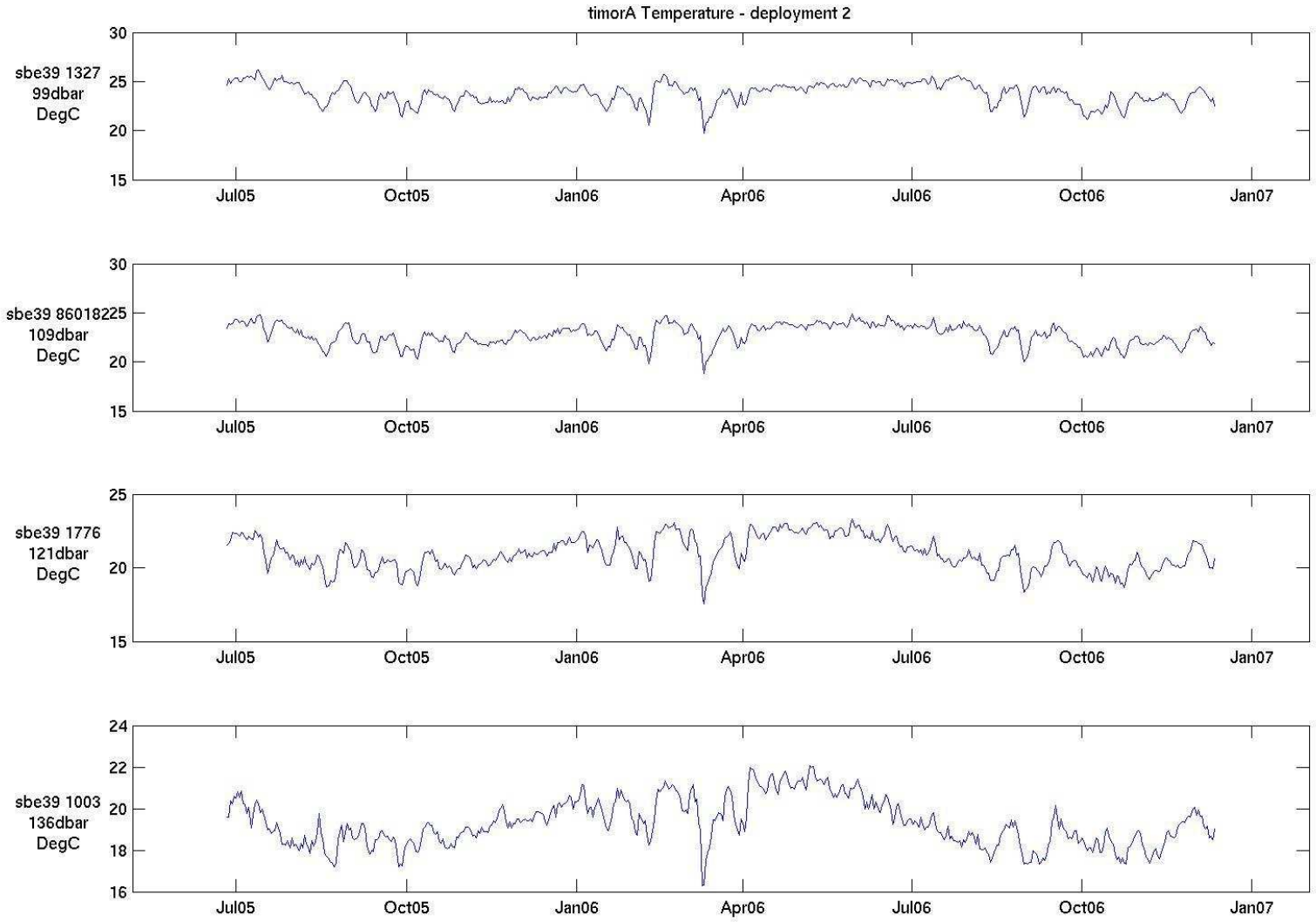

timorA Vector plot - deployment 1
bb150 1136
45dbar
cm/s
bb150 1136
109dbar
cm/s
bb150 1136
173dbar
cm/s
vmcm 018
251dbar
cm/s
50
0
-50
40
20
-20
-40
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

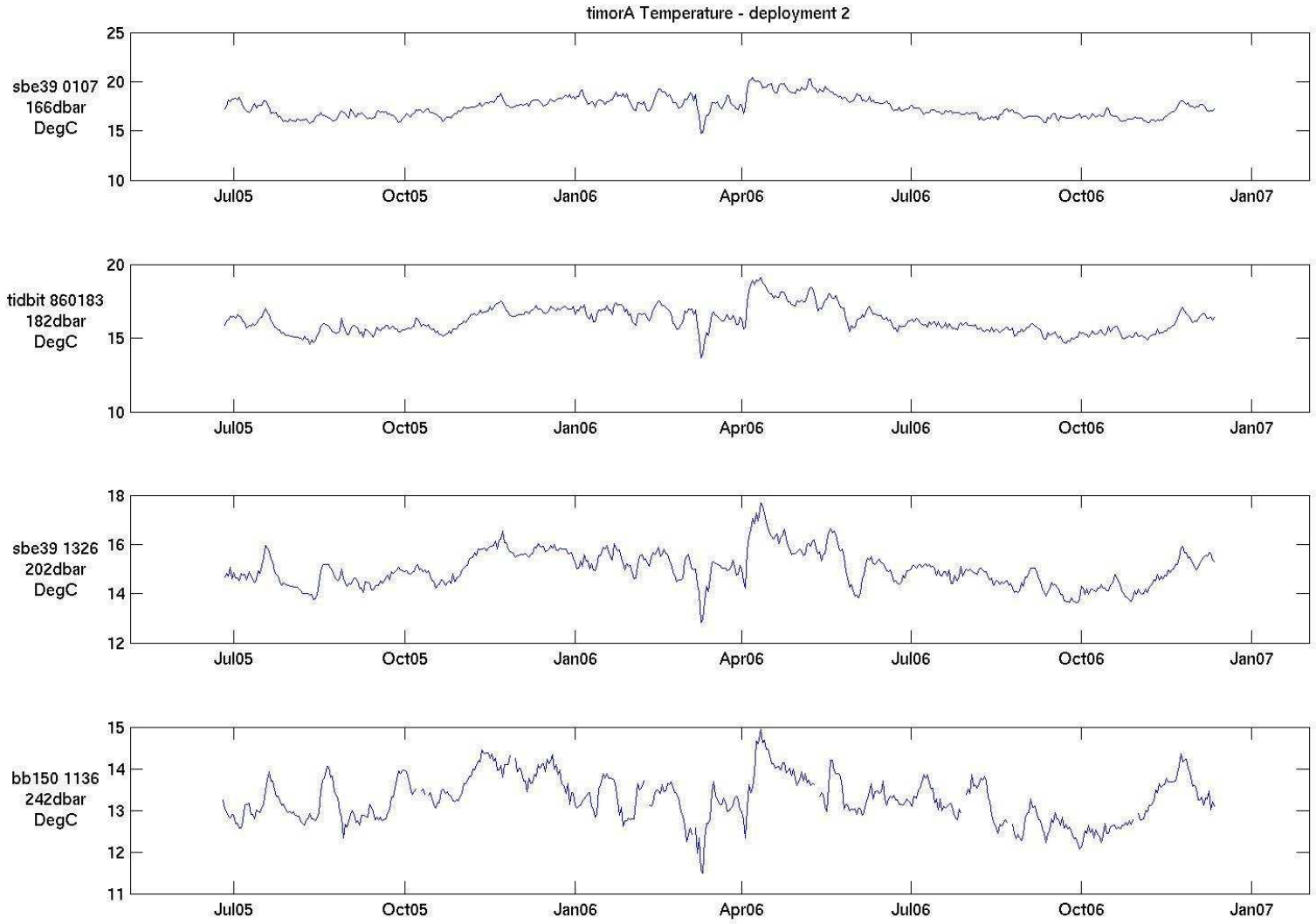

timorA Vector plot - deployment 1
vmcm 014
356dbar
cm/s
50
0
-50
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05
Aand 10766
477dbar
cm/s
20
0
-20
-40
Jan04
Apr04
Jul04
Oct04
Jan05
Apr05
Jul05

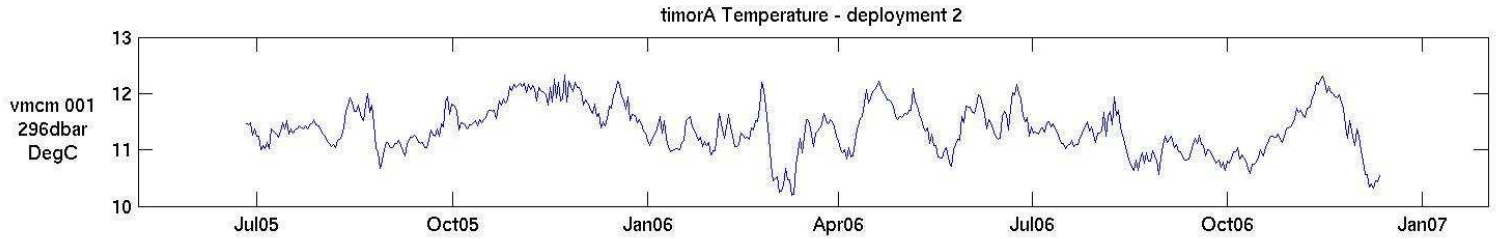

timorA Pressure - deployment 2
sbe39 1327
99dbar
130
120
110
100
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
sbe39 860182
109dbar
140
130
120
110
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
sbe39 1776
121dbar
160
140
120
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07
sbe39 1003
136dbar
170
160
150
140
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

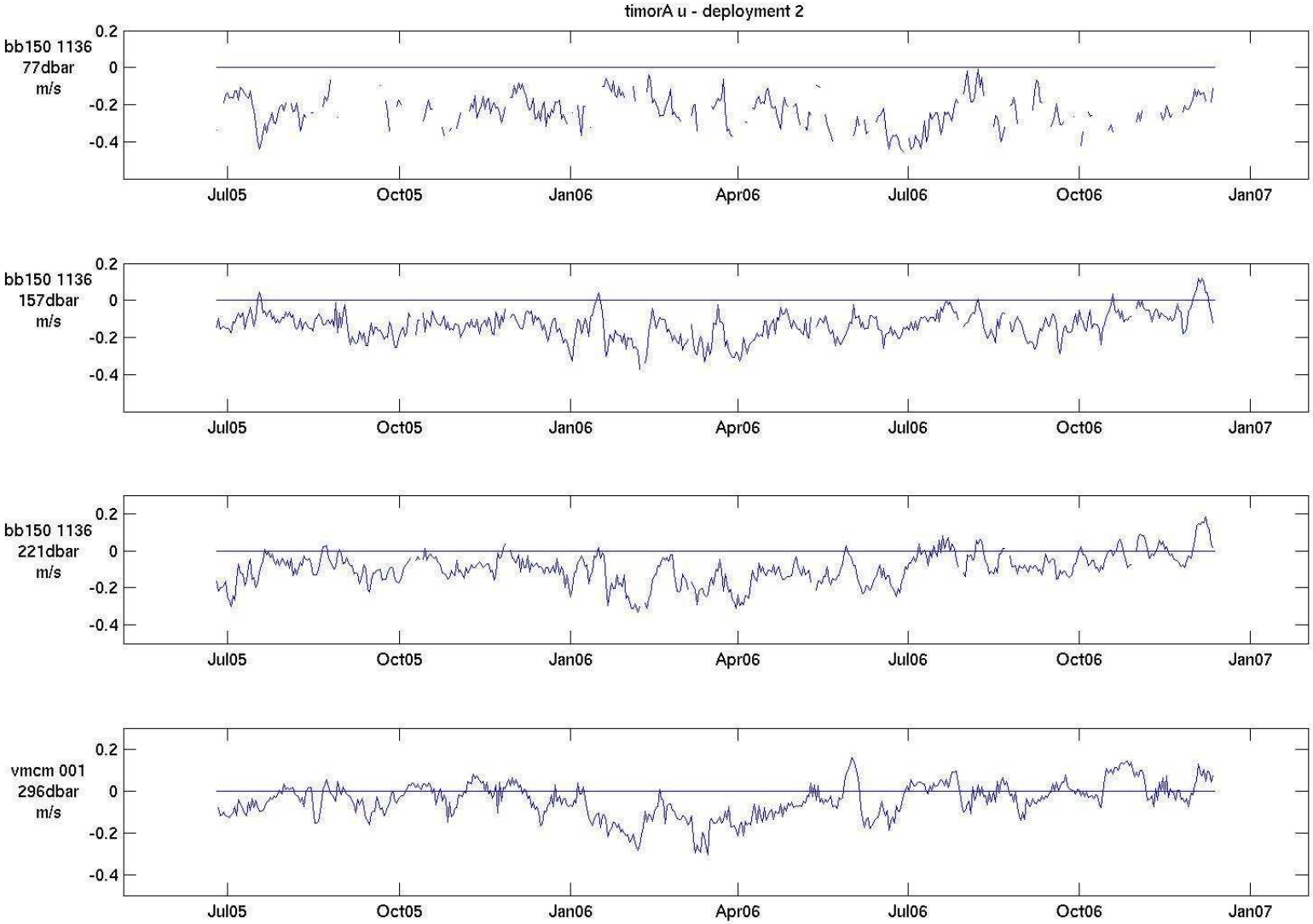

timorA Pressure - deployment 2
sbe39 0107170
166dbar
tidbit 860183
182dbar
sbe39 1326
202dbar
bb150 1136
242dbar
200
190
180
220
240
260
280
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

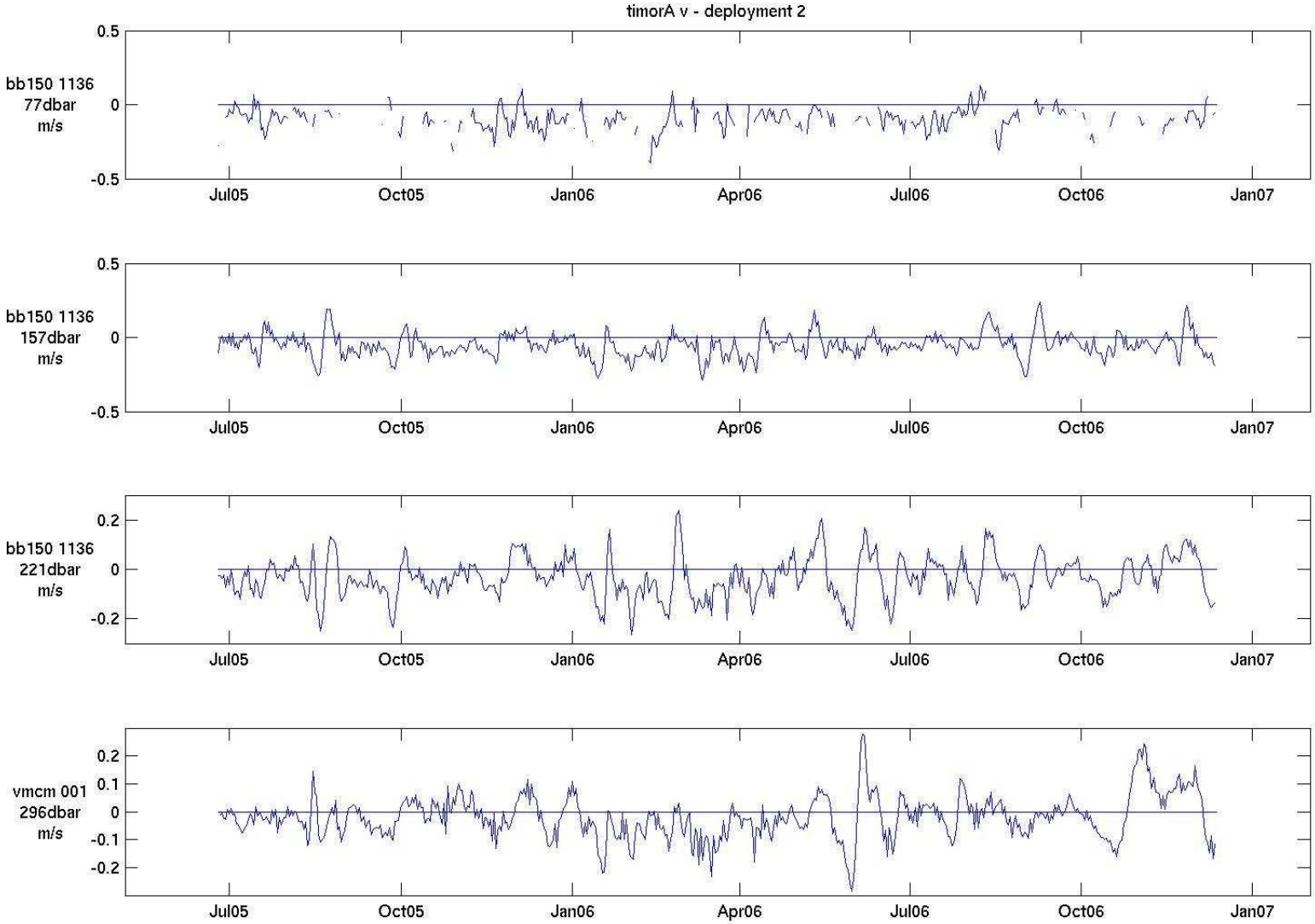

timorA Pressure - deployment 2
vmcm 001
296dbar
320
300
280
260
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

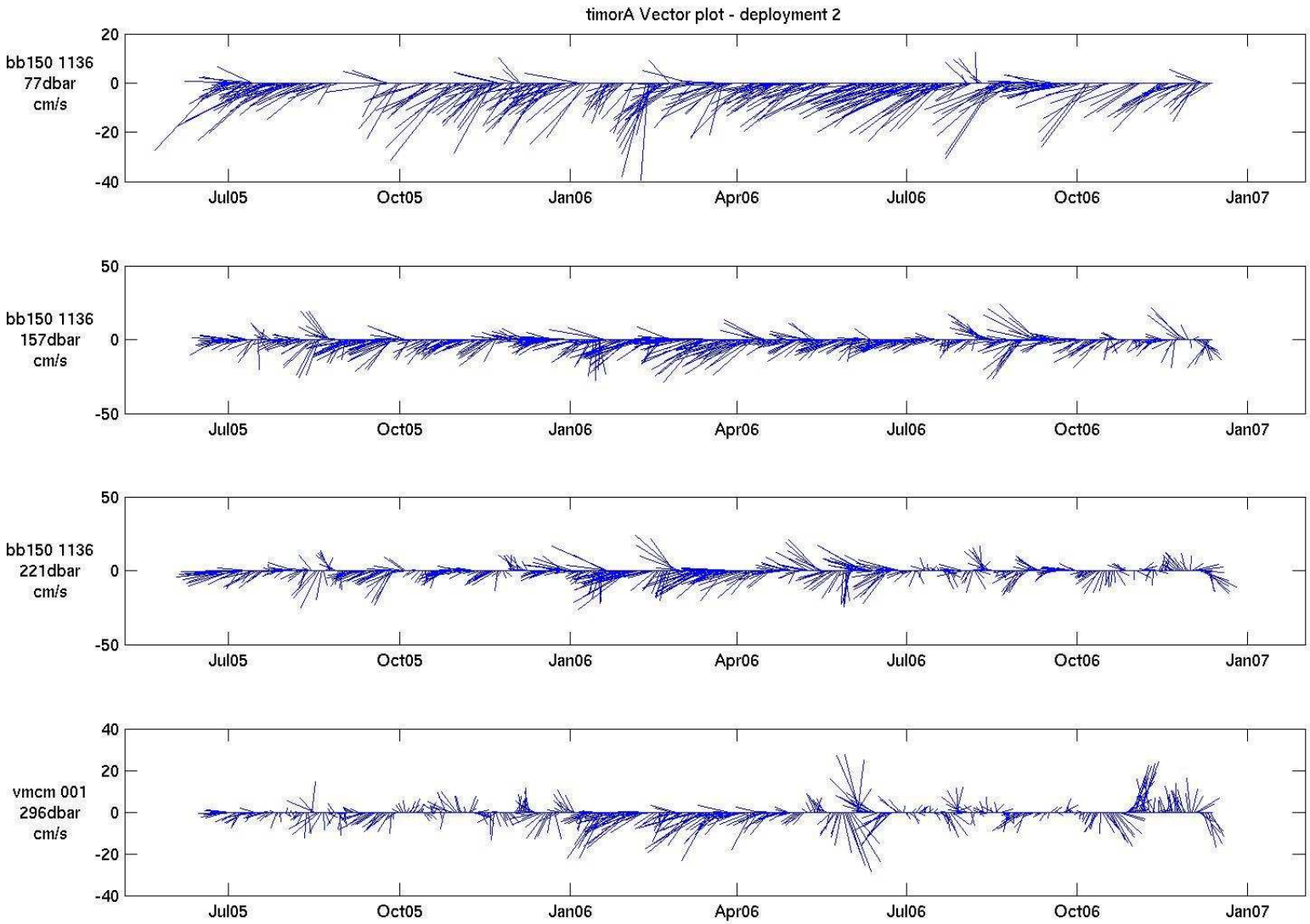

timorA Temperature - deployment 2
sbe39 1327
99dbar
DegC
sbe39 8601822
109dbar
DegC
sbe39 1776
121dbar
DegC
sbe39 1003
136dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorA Temperature - deployment 2
sbe39 0107
166dbar
DegC
tidbit 860183
182dbar
DegC
sbe39 1326
202dbar
DegC
bb150 1136
242dbar
DegC
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorA Temperature - deployment 2
vmcm 001
296dbar
DegC
13
12
11
10
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorA u - deployment 2
bb150 1136
77dbar
m/s
bb150 1136
157dbar
m/s
bb150 1136
221dbar
m/s
vmcm 001
296dbar
m/s
0.2
0
-0.2
-0.4
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorA v - deployment 2
bb150 1136
77dbar
m/s
0.5
0
-0.5
bb150 1136
157dbar
m/s
0.5
0
-0.5
bb150 1136
221dbar
m/s
0.2
0
-0.2
vmcm 001
296dbar
m/s
0.2
0.1
0
-0.1
-0.2
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07


timorA Vector plot - deployment 2
bb150 1136
77dbar
cm/s
20
0
-20
-40
bb150 1136
157dbar
cm/s
50
0
-50
bb150 1136
221dbar
cm/s
50
0
-50
vmcm 001
296dbar
cm/s
40
20
0
-20
-40
Jul05
Oct05
Jan06
Apr06
Jul06
Oct06
Jan07

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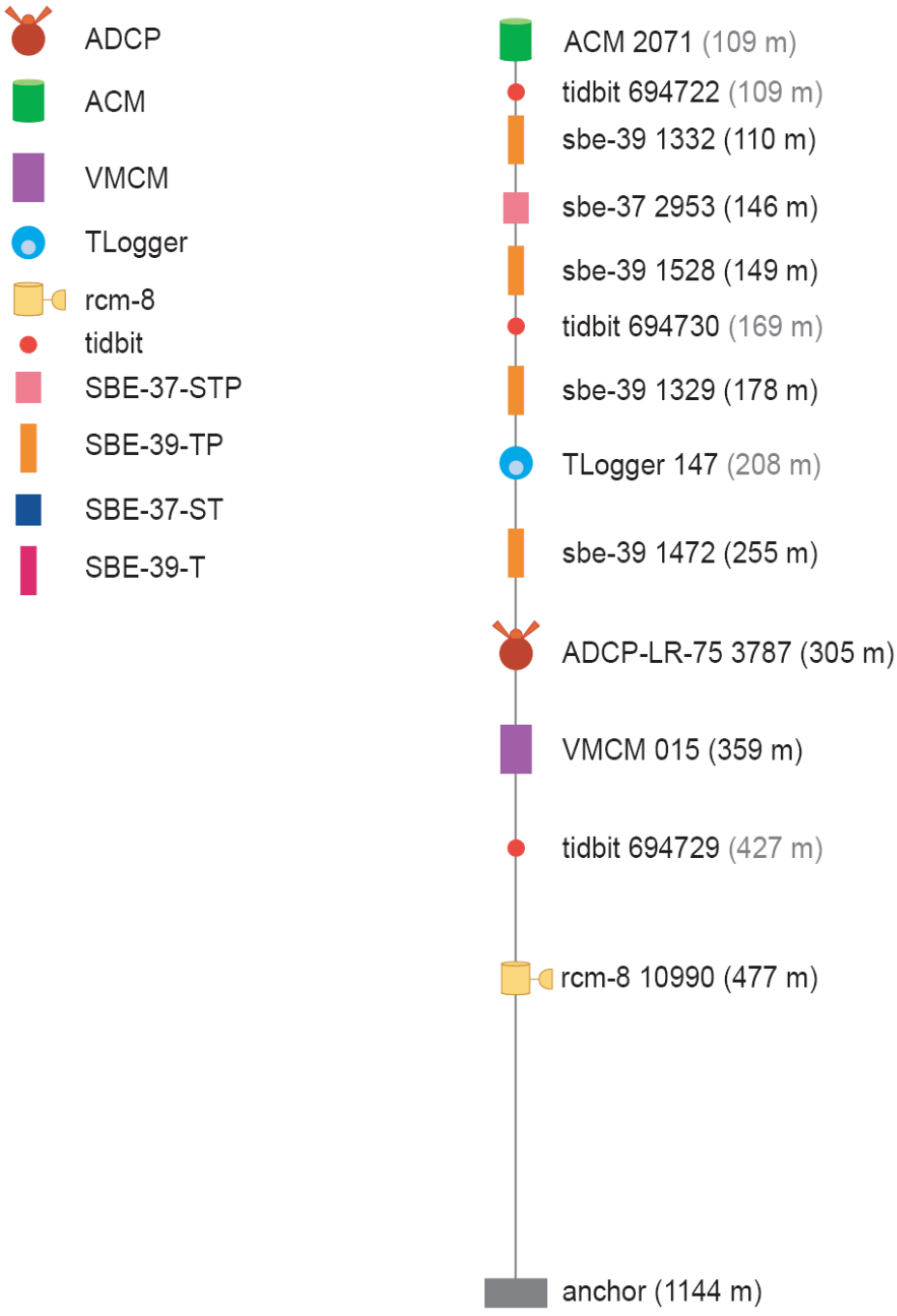
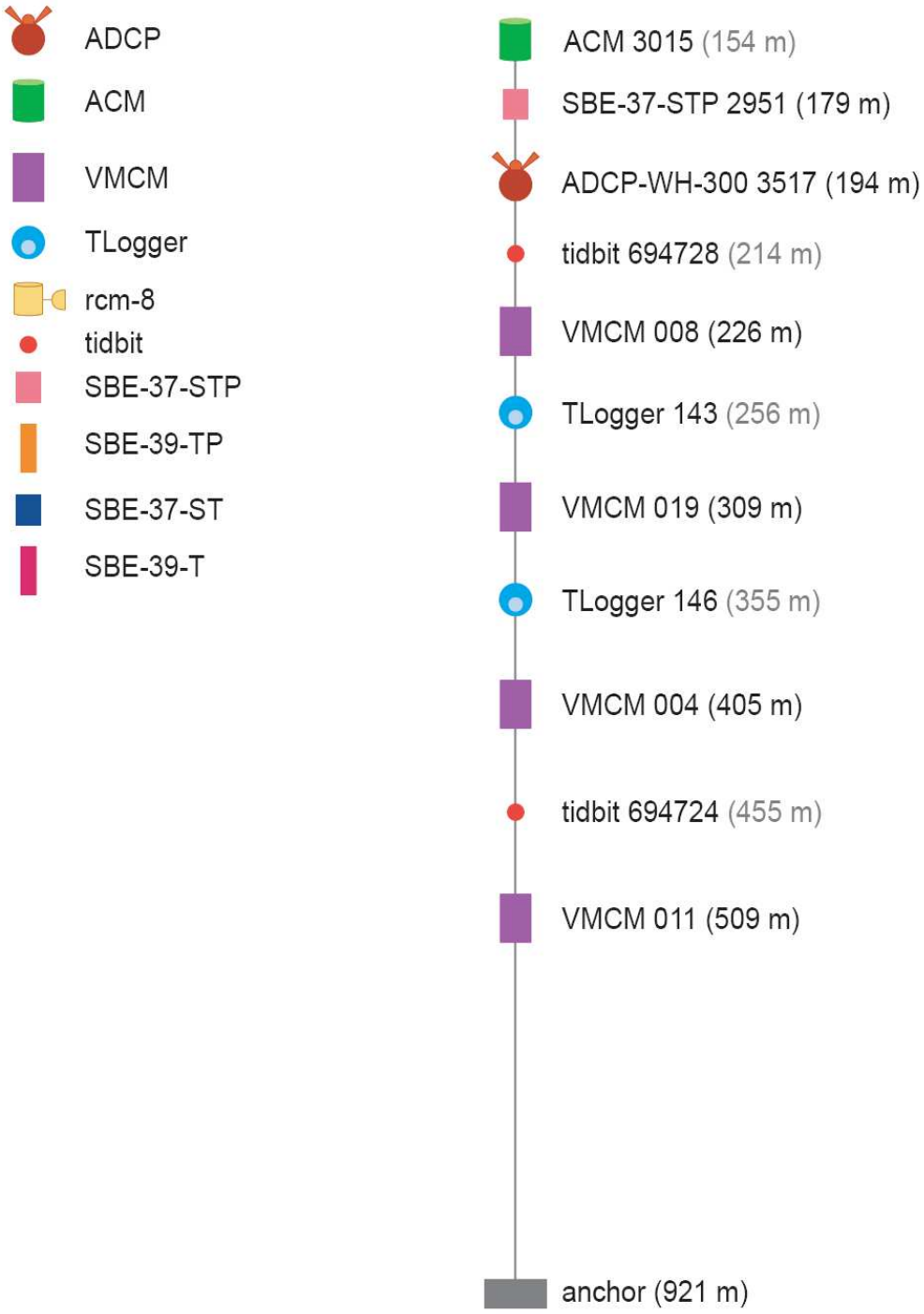
APPENDIX 1A – MOORING CONFIGURATIONS FOR DEPLOYMENT 1

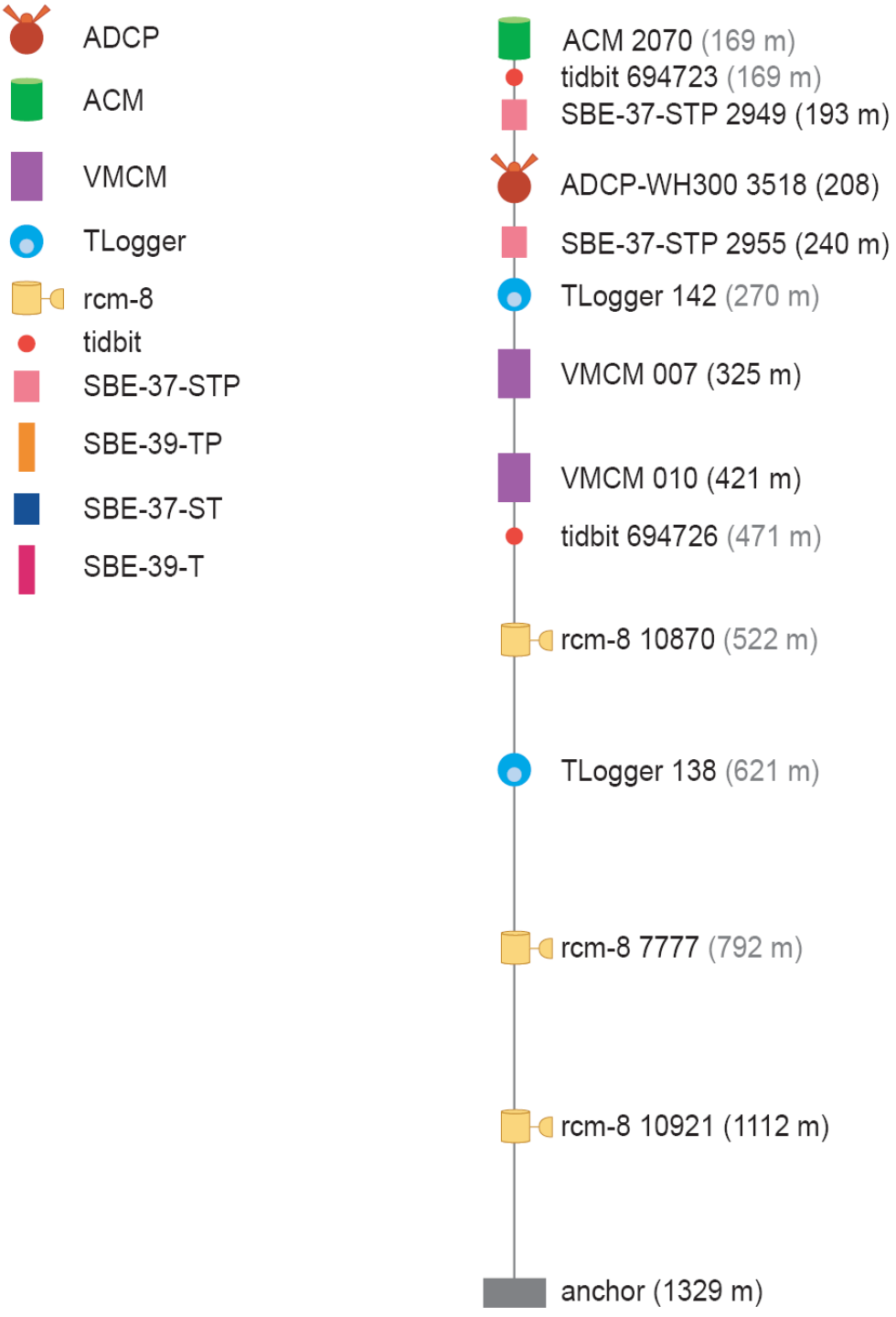
Lombok East deployment 1



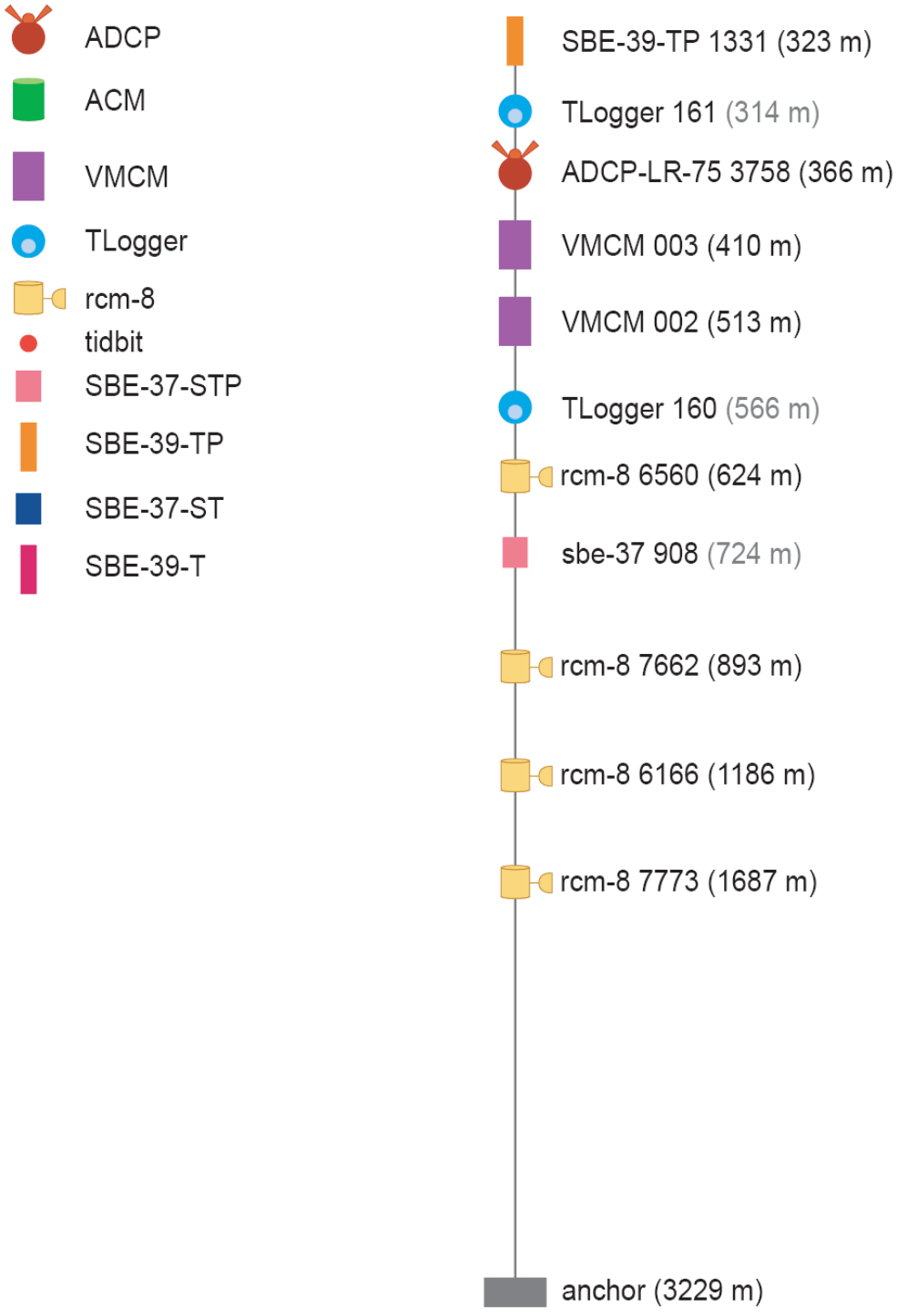
Lombok West deployment 1



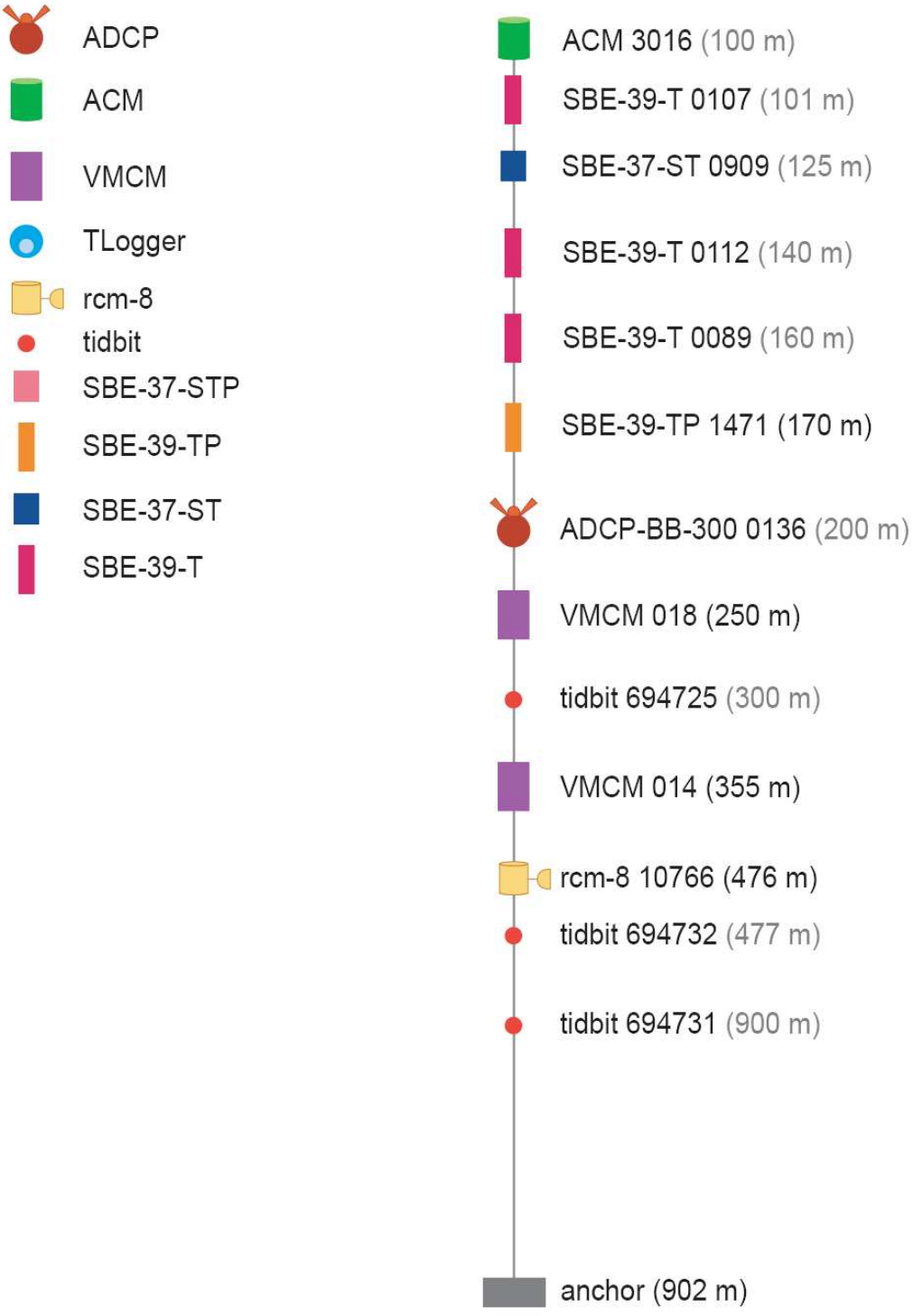
Ombai North deployment 1



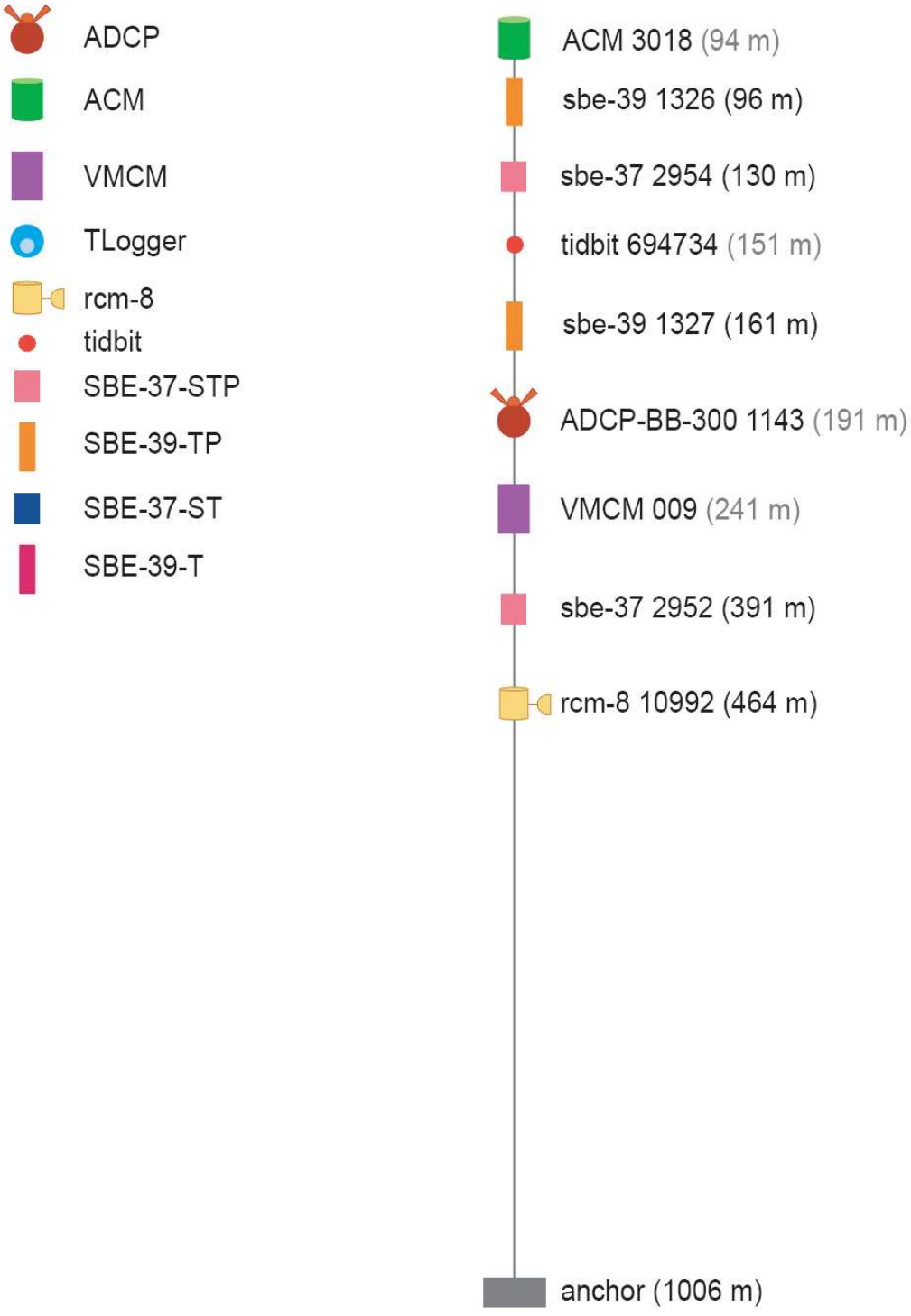
Ombai South deployment 1



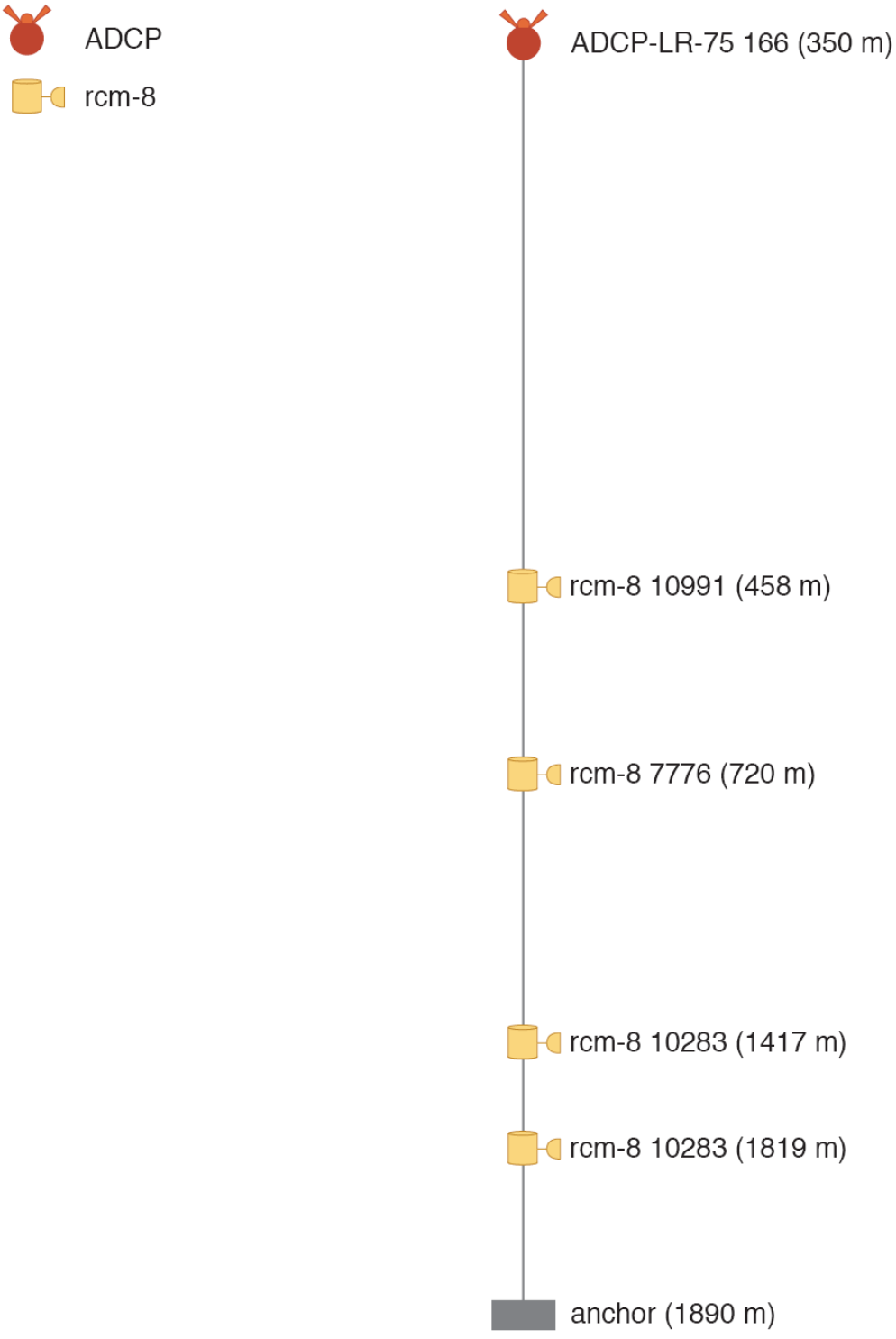
Timor Ashmore deployment 1



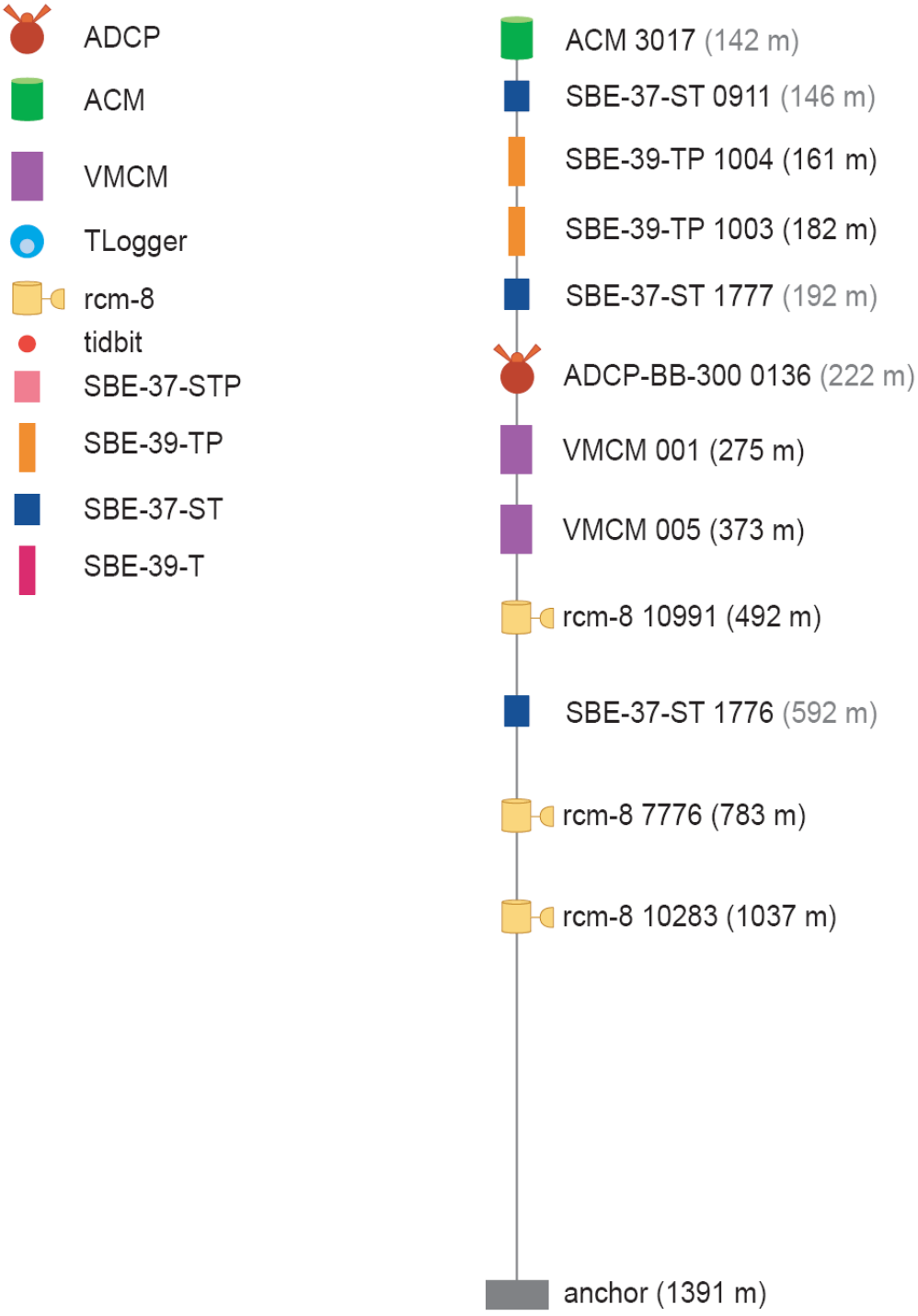
Timor Roti deployment 1



Timor Sill deployment 1



Timor South Slope deployment 1



APPENDIX 1B – MOORING CONFIGURATIONS FOR DEPLOYMENT 2

Lombok East deployment 2

INSTANT Mooring – Lombok 2 18–Jun–2005

depth	component	S/N	length	rope
99 m	Benthos	(5)		
			2 m	chain 13mm
104 m	ACM			
			1 m	5mm wire jc
	SBE39 Trec			
106 m	Tidbit		7 m	5mm wire jc
113 m			15 m	5mm wire jc
126 m	Microcat T,C			
			5 m	5mm wire jc
	SIO Trec			
133 m			10 m	5mm wire jc
143 m	ADCP+FI45			
			15 m	7mm wire jc
	SIO Trec			
160 m			10 m	7mm wire jc
170 m	Beacon			
172 m	VMCM			
			35 m	7mm wire jc
209 m	Aquadopp			
			35 m	7mm wire jc
245 m	Benthos	(3)		
248 m	VMCM			
			50 m	7mm wire jc
300 m	Aquadopp			
			50 m	7mm wire jc
351 m	Benthos	(3)		
354 m	VMCM			
			38 m	7mm wire jc
	Tidbit			
394 m			36 m	7mm wire jc
430 m	Benthos	(3)		
433 m	RCM–8			
			200 m	7mm wire jc
635 m	Benthos	(2)		
			165 m	7mm wire jc
	SIO Trec			
803 m			291 m	7mm wire jc
			6 m	7mm wire jc
	12' Drouge			
			15 m	8tonne strop
1117 m	Benthos	(5)		
1120 m	8242 release(2)			

Lombok West deployment 2

INSTANT Mooring – Lombok 1 16–Jun–2005

depth	component	S/N	length	rope
106 m	Float 32"			
			2 m	chain 13mm
109 m	VMCM			
			10 m	5mm wire jc
121 m	Tidbit		15 m	5mm wire jc
136 m	Microcat T,C			
			5 m	5mm wire jc
141 m	Tidbit		10 m	5mm wire jc
151 m	SBE39 Trec		20 m	5mm wire jc
171 m	Tidbit		10 m	5mm wire jc
181 m	Microcat T,C			
			30 m	5mm wire jc
211 m	SIO Trec		50 m	5mm wire jc
261 m	Microcat T,C			
			50 m	5mm wire jc
311 m	Beacon			
313 m	VMCM			
			47 m	7mm wire jc
362 m	ADCP+FI40			
			25 m	7mm wire jc
389 m	Benthos	(4)		
391 m	VMCM			
			47 m	7mm wire jc
441 m	Benthos	(4)		
443 m	RCM–8			
			25 m	7mm wire jc
			200 m	7mm wire jc
670 m	Benthos	(2)		
			200 m	7mm wire jc
			6 m	7mm wire jc
	12' Drouge			
			15 m	8tonne strop
895 m	Benthos	(4)		
897 m	8242 release(2)			
			15 m	8tonne strop
			5 m	chain 13mm
	anchor 2530 kg			
921 m				

Ombai North deployment 2

INSTANT Mooring – Ombai 1 04–Jul–2005

depth	component	S/N	length	rope
99 m	Float 44"			
			2 m	chain 13mm
102 m	Microcat T,C			
			19 m	5mm wire jc
122 m	Tidbit		15 m	5mm wire jc
137 m	Microcat T,C			
			2 m	5mm wire jc
			28 m	7mm wire jc
167 m	Tidbit		7 m	7mm wire jc
			21 m	7mm wire jc
195 m	SBE39 Trec		50 m	7mm wire jc
245 m	SIO Trec		100 m	7mm wire jc
345 m	Tidbit		47 m	7mm wire jc
392 m	ADCP+FI45			
			25 m	7mm wire jc
419 m	Beacon			
			2 m	chain 13mm
			28 m	7mm wire jc
452 m	Aquadopp			
			100 m	7mm wire jc
553 m	Benthos	(3)		
555 m	VMCM			
			96 m	7mm wire jc
654 m	Benthos	(3)		
657 m	RCM–8			
			96 m	7mm wire jc
755 m	Benthos	(3)		
757 m	RCM–8			
			95 m	7mm wire jc
854 m	Benthos	(3)		
857 m	RCM–8			
			94 m	7mm wire jc
953 m	Benthos	(3)		
956 m	ACM			
			25 m	7mm wire jc
			296 m	7mm wire jc
			6 m	7mm wire jc
	12' Drouge			
			15 m	8tonne strop
1303 m	Benthos	(4)		
1305 m	8242 release(2)			
			15 m	8tonne strop
			5 m	chain 13mm
	anchor 3450 kg			
1329 m				

Ombai South deployment 2

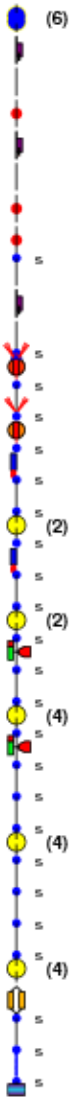
INSTANT Mooring – Ombai 2 03–Jul–2005

depth	component	S/N	length	rope
93 m	Benthos	(4)		
			1 m	5mm wire jc
96 m	Microcat T,C			
			23 m	5mm wire jc
119 m	Tidbit		15 m	5mm wire jc
134 m	Microcat T,C			
			30 m	5mm wire jc
164 m	Microcat T,C			
			30 m	5mm wire jc
194 m	SBE39 Trec		1 m	5mm wire jc
			15 m	7mm wire jc
210 m	SIO Trec		45 m	7mm wire jc
256 m	SIO Trec		50 m	7mm wire jc
306 m	ADCP+FI45			
			50 m	7mm wire jc
358 m	Benthos	(3)		
360 m	VMCM			
			50 m	7mm wire jc
413 m	Aquadopp			
			44 m	7mm wire jc
457 m	Beacon			
459 m	VMCM			
			48 m	7mm wire jc
510 m	SIO Trec		50 m	7mm wire jc
560 m	ADCP Float 40"			
			2 m	chain 13mm
563 m	VMCM			
			44 m	7mm wire jc
610 m	Tidbit		50 m	7mm wire jc
660 m	Benthos	(2)		
662 m	RCM–8			
			100 m	7mm wire jc
764 m	Benthos	(2)		
766 m	RCM–8			
			96 m	7mm wire jc
864 m	Benthos	(2)		
866 m	RCM–8			
			96 m	7mm wire jc
964 m	Benthos	(3)		
966 m	ACM			
			106 m	7mm wire jc
			480 m	8mm KV
1561 m	Benthos	(3)		
1563 m	ACM			
			532 m	8mm KV
			1056 m	8mm KV
			6 m	7mm wire jc
	12' Drouge			
			15 m	8tonne strop
3198 m	Benthos	(5)		
3200 m	8242 release(2)			
			15 m	8tonne strop

Timor Roti deployment 2

INSTANT Mooring – Timor 1 26–Jun–2005

depth	component	S/N	length	rope
101 m	Benthos	(6)		
104 m	Microcat T,C			
			10 m	5mm wire jc
114 m	Tidbit		15 m	7mm wire jc
129 m	Microcat T,C			
			15 m	5mm wire jc
144 m	SBE39 Trec		30 m	5mm wire jc
174 m	SBE39 Trec		30 m	5mm wire jc
			10 m	7mm wire jc
214 m	Microcat T,C			
			40 m	7mm wire jc
254 m	ADCP+FI40			
			47 m	7mm wire jc
303 m	Beacon			
305 m	VMCM			
			47 m	7mm wire jc
354 m	Benthos	(2)		
356 m	VMCM			
			96 m	7mm wire jc
455 m	Benthos	(2)		
457 m	RCM–8			
			96 m	7mm wire jc
554 m	Benthos	(4)		
556 m	RCM–8			
			96 m	7mm wire jc
			96 m	7mm wire jc
750 m	Benthos	(4)		
			96 m	7mm wire jc
			25 m	7mm wire jc
			96 m	7mm wire jc
970 m	Benthos	(4)		
972 m	8242 release(2)			
			15 m	8tonne strop
			1 m	chain 13mm
	anchor 1265 kg			
992 m				



Timor Sill deployment 2

INSTANT Mooring - Timor 2b 19-Jun-2005

depth	component	S/N	length	rope
390 m	ADCP+FI45			
			40m	7mm wire jc
446 m		SBE39 Trec	90 m	7mm wire jc
537 m	Benthos	(4)		
539 m	RCM-7			
			5 m	7mm wire jc
545 m	Microcat T,C			
			140 m	7mm wire jc
685 m	Benthos	(4)		
687 m	RCM-7			
			295 m	7mm wire jc
985 m	Benthos	(4)		
987 m	RCM-7			
			395 m	7mm wire jc
1384 m	Benthos	(4)		
1386 m	RCM-7			
			200 m	7mm wire jc
1589 m		SBE39 Trec	195 m	7mm wire jc
1785 m	Benthos	(4)		
1787 m	RCM-7			
			5 m	7mm wire jc
1793 m	Microcat T,C			
			40 m	7mm wire jc
1833 m	Benthos	(6)		
1836 m	2-AR			
			40 m	synthetic rope
			5 m	chain
anchor 1573 kg				
1890 m				

Timor South Slope deployment 2

INSTANT Mooring – Timor 3 24–Jun–2005

depth	component	S/N	length	rope
95 m	Benthos	(6)		
96 m	Microcat T,C			
			10 m	5mm wire jc
108 m	Tidbit		15 m	7mm wire jc
123 m	Microcat T,C			
			15 m	5mm wire jc
138 m	SBE39 Trec		30 m	5mm wire jc
168 m	SBE39 Trec		20 m	5mm wire jc
188 m	Tidbit		13 m	5mm wire jc
			7 m	7mm wire jc
208 m	SBE39 Trec		40 m	7mm wire jc
248 m	ADCP+FI40			
			47 m	7mm wire jc
297 m	Beacon			
299 m	VMCM			
			47 m	7mm wire jc
348 m	Benthos	(2)		
350 m	ACM			
			96 m	7mm wire jc
448 m	Benthos	(2)		
450 m	VMCM			
			96 m	7mm wire jc
548 m	Benthos	(4)		
550 m	RCM–8			
			96 m	7mm wire jc
			96 m	7mm wire jc
744 m	Benthos	(5)		
747 m	RCM–8			
			1 m	7mm wire jc
749 m	Microcat T,C			
			244 m	7mm wire jc
994 m	Benthos	(5)		
997 m	RCM–8			
			245 m	7mm wire jc
			96 m	7mm wire jc
			20 m	7mm wire jc
1361 m	Benthos	(4)		
1363 m	8242 release(2)			
			15 m	8tonne strop
			5 m	chain 13mm
	anchor 1610 kg			
1386 m				

Timor Ashmore deployment 2

INSTANT Mooring – Timor 4 24–Jun–2005

depth	component	S/N	length	rope
97 m	Benthos	(4)		
99 m	SBE39 Trec		10 m	5mm wire jc
109 m	Tidbit		15 m	7mm wire jc
124 m	Microcat T,C			
			15 m	5mm wire jc
139 m	SBE39 Trec		30 m	5mm wire jc
169 m	SBE39 Trec		20 m	5mm wire jc
189 m	Tidbit		13 m	5mm wire jc
			7 m	7mm wire jc
209 m	SBE39 Trec		40 m	7mm wire jc
249 m	ADCP+FI40			
			47 m	7mm wire jc
298 m	Beacon			
300 m	VMCM			
			96 m	7mm wire jc
398 m	Benthos	(2)		
400 m	ACM			
			96 m	7mm wire jc
498 m	Benthos	(2)		
500 m	RCM–8			
			50 m	7mm wire jc
551 m	Tidbit		46 m	7mm wire jc
597 m	Benthos	(2)		
			150 m	7mm wire jc
750 m	Tidbit		126 m	7mm wire jc
876 m	Benthos	(4)		
878 m	8242 release(2)			
			15 m	8tonne strop
			5 m	chain 13mm
	anchor 690 kg			
902 m				

APPENDIX 2 – DETERMINATION OF ADCP THRESHOLDS

Quality Control of INSTANT ADCP Velocity

Janet Sprintall
15 December 2007

For the bottom line of what thresholds I recommend to process the INSTANT ADCP data – see Table 2 in the Conclusions!

1. Introduction:

It was determined that additional quality control (QC) was required for the moored ADCPs deployed as part of INSTANT over and above the "Percent Good" threshold approach described by RDI. For the upward-looking ADCPs used in INSTANT, it is the surface reflection that contaminates the upper most bins, and hence the main premise of any QC operation is to automate as much as possible the removal of those cells (bin x time) that are bad, while retaining as much of the "good" valuable surface-most data as possible.

2. QC Procedure Description:

The QC procedure that is described here is based on that implemented by the U.S. National Data Buoy Center, MI, and detailed in Crout et al. (2005). The NDBC QC procedure was compiled based on Ocean Observer 38 kHz and Workhorse 75 kHz ADCPs for deployment on oil rigs in the Gulf of Mexico. ADCPs deployed as part of INSTANT were Workhorse Longranger 75 kHz and 300 kHz: different thresholds were needed for the Correlation Magnitude test (4) dependent on ADCP frequency, but for other tests (as discussed below) the thresholds recommended in Crout et al., (2005) were found to be fairly good.

The NDBC procedure consists of 6 tests and for each test, data in each bin are flagged fail, suspect or pass dependent on certain threshold values (Table 1a). For the INSTANT data QC, I took the conservative approach and eliminated the "suspect" category and designated these cases as "fail".

For tests 1 through 5, the tests are implemented individually (0 = pass; 1= fail) for each cell, and then the results summed. A "profile check" is then undertaken for each cell where if the sum is ≥ 2 (i.e. the cell has failed 2 out of 5 tests) the cell is eliminated. Test 6 is a surface detection test as defined by the echo intensity designed to eliminate those sections of the profile that are obstructed. The results of the echo intensity test impact the bins beyond where it fails, as a fail is propagated to all affected bins up to the last bin. Thus, rejection of a cell can occur for one of two reasons:-

1. Two out of the five tests that comprise the summation of tests 1 to 5 fail (the OTfail).
2. Failure of the echo amplitude test (EAfail)

Hence, in the following assessment and figures, the relevant diagnostics for each bin are
a) For threshold parameters in Tests 1 to 5
   1. percent where the individual test contributes to the number of OTfail
   2. percent where that OTfail contributes to the total number of failures (OTfail + EAfail)
b) For threshold parameters in Tests 6
   1. percent where the EAfail contributes to the total number of failures (OTfail+EAfail)

In the following analysis, for each of the described mooring deployment cases, I implemented the QC procedure using the "standard" thresholds for the WH300 kHz (Table 1b) and the LR 75

kHz (Table 1c), which except for allowing higher speeds (test 5) are the same as NDBC (Table 1a). Then for each individual test, I tried four different threshold criteria and assessed the impact on number of cell failures (as defined above). This method assumes that each test is independent of the other, which is not strictly correct. For instance, the Percent Good diagnostic is dependent on the correlation magnitude (test 3) and error velocity (test 1), as well as the minimum theoretical standard deviation to be tolerated, as given during instrument set-up. Nonetheless, rather than undertake a 6-dimensional cost analysis, the approach here is to simply assess what impact each of these tests has on the QC of the INSTANT data, and how our test threshold criteria may differ from that determined by NDBC. So, in the event that there is little distinguishable difference in the velocity field produced for each of the threshold criteria, my approach was to go with the NDBC choice.

	1. Error Velocity	2. Percent Good	3. Correlation Magnitude	4. Vertical velocity	5. horizontal velocity	6. echo intensity
a) NDBC	Erv ≤15 cm/s	> 25% (38kHz) > 10% (75kHz)	3 of 4 cmag values > 110 (38kHz) 3 of 4 cmag values > 64 (75 kHz)	Difference ≤ 30 cm/s	Total velocity magnitude ≤ 125 cm/s	No rise in any beam is >30 counts
b) standard (300 kHz)	≤15 cm/s	> 10%	>110	≤ 30 cm/s	≤ 200 cm/s	30 counts
c) standard (75 kHz)	≤15 cm/s	> 10%	>64	≤ 30 cm/s	≤ 200 cm/s	30 counts
d) LBK-E (WH300 kHz)	**≤15 cm/s**	**> 50%**	**>110**	**≤ 20 cm/s**	**≤ 200 cm/s**	**30 counts**
e) LBK-E (CSIRO)	≤20 cm/s	>80%	110	≤20 cm/s	≤150 cm/s	30 counts
f) OMB-N (LR 75 kHz)	**≤15 cm/s**	**> 50%**	**>64**	**≤ 20 cm/s**	**≤ 200 cm/s**	**25 counts**
g) OMB-N (CSIRO)	≤13 cm/s	>80%	115	≤15 cm/s	≤150 cm/s	20 counts
h) OMB-S (LR75 kHz)	**≤15 cm/s**	**> 50%**	**>64**	**≤ 20 cm/s**	**≤ 200 cm/s**	**25 counts**
i) OMB-S (CSIRO)	≤60 cm/s	>80%	110	≤60 cm/s	≤175 cm/s	20 counts

Table 1: Data Quality Control Tests and threshold criteria used to assess a "pass" of ADCP data.

3. Implementation of QC Procedure:

Case 1: Lombok East Deployment 2 (300 kHz Workhorse-ADCP)

For the WH300 kHz used in Lombok East Deployment 2 there are 11 depth bins and 26188 time realizations. The average, standard deviation and range values from the Lombok East deployment 2 for the parameters used in each QC test versus ADCP bin are shown in Figure 1. This helps us to implement a range of test thresholds that might be realistic and also helps guide relevant choices for QC thresholds to use for our INSTANT conditions and ADCPs.

Starting with the EA test 6 (Appendix Figure 1a), threshold choices for the difference values between each bin of 15, 20, 25 and 30 counts, all result in ~ 100% failure of bins 10 and 11, and

97% of failures in bin 9. There is little difference in percent failure in Bin 7 (66-70%) and Bin 8 (~87 – 89%) for each threshold, and there are no EAfail below Bin 7. Suggest Test 6 threshold of 30 counts, as used by NDBC.

As noted above, the percent good (Appendix Figure 1b), correlation magnitude (Appendix Figure 1c) and error velocity (Appendix Figure 1d) fields are related. For all threshold values (10%, 30%, 50% and 80%), the percent good contributes ~100% to OTfails in bins 6-11, although because of the EAfail dominance, this test contributes to only 2-3% of total failures in bins 8-11. Bins 6-7 show similar numbers for each threshold. Suggest using 50% percent good, and cmag of 110 (a choice primarily based on mean and statistics from Figure 1). The suitable choice for the error velocity threshold is a little more difficult as there is little difference between the threshold values, most contributing ~ 1% total fails in bins 7-11, and 5-20% in bin 6. However, in terms of absolute numbers, this amounts to rejection of at most ~50 cells (i.e. 1 days data), and generally much less. Stick with NDBC choice of Error velocity threshold of 0.15.

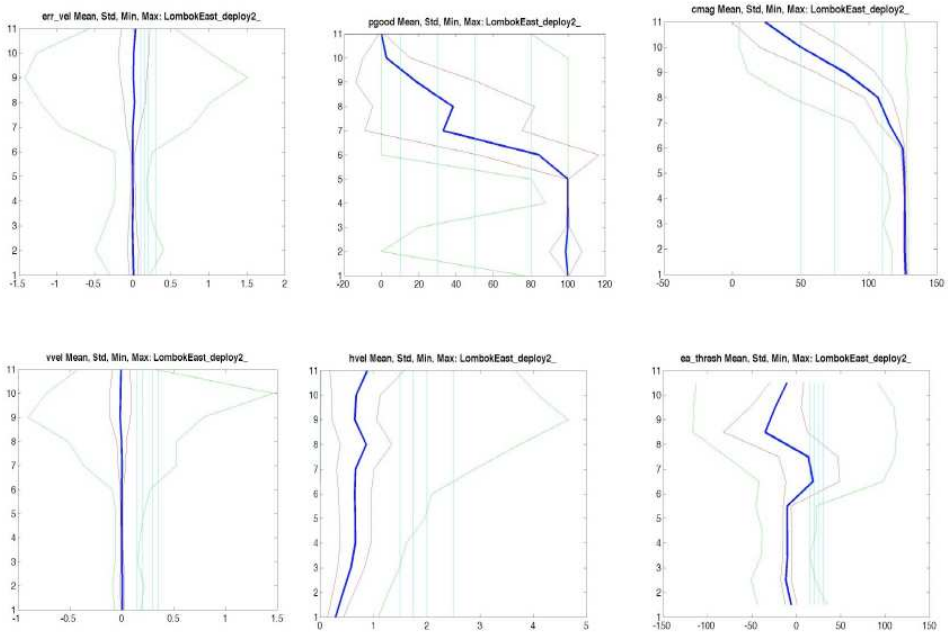


Figure 1: Mean (thick blue line), standard deviation (red lines) and minimum (green) and maximum (green line) of the a) error velocity; b) percent good; c) correlation magnitude; d) vertical velocity; e) horizontal velocity and f) echo amplitude for the Lombok East Deployment 2 WH300 kHz ADCP versus bin. The threshold values used in each test parameter are marked by the cyan lines in panels a) to f).

I found the implementation of the Vertical Velocity test as described by NDBC a little confusing. It notes that " the vertical velocity test is applied by comparing the vertical velocity in each bin to a threshold value", however the test itself is described as determining if the *difference* is less than or equal to the threshold value of 30 cm/s. The difference of what? Adjacent bins? Figure 1 suggests that an appropriate threshold value might be 20 cm/s, which still only amounts to rejection of 5-20 cells in bins 6-11 (Appendix Figure 1e).

For the Horizontal Velocity (current speed) test, the NDBC threshold was only 0.5 m/s, whereas speeds in these Indonesian passages average 0.5 m/s and tidal current speeds of ~ 175 cm/s and

above are not totally unrealistic (see average and max speed in Figure 1). Threshold current speeds below 175 m/s impact bin 5 (Appendix Figure 1f), and are the only test that do so, although the number of bins rejected is small. A threshold current speed of 200 cm/s is recommended for the Indonesian region.

Recommended thresholds for the QC tests of INSTANT ADCP data are found in Table 1d.

A comparison of the Meridional Velocity for Lombok East – deployment 2 as determined from the recommended thresholds (Table 1d), and those applied to the CSIRO Nov07 data set (Table 1e) are shown in Figure 2. Obvious differences occur in bins 7-10, where the revised thresholds retain more cells. Note that both these figures show velocity where depths shallower than 2 m have been cutoff.

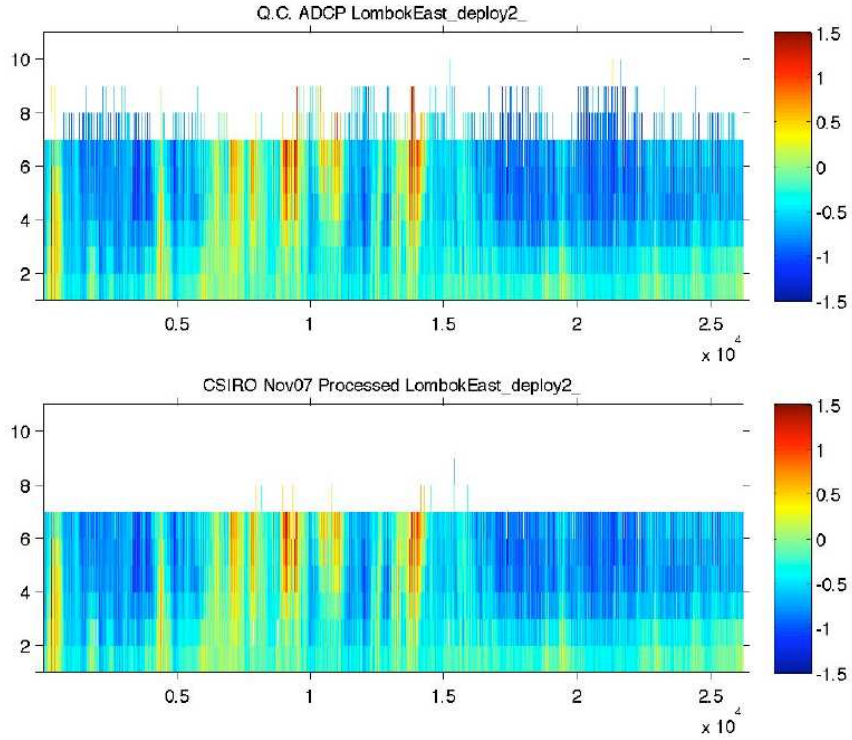


Figure 2: Comparison of Meridional Velocity in Lombok East – Deployment 2 determined after implementing the ADCP QC thresholds (Table 1c), and that from the Nov07 data set (Table 1d).

Case 2: Ombai North Deployment 2 (75 kHz Long Ranger ADCP):-

For the LR 75 kHz used in Ombai North Deployment 2 there are 40 depth bins and 25017 time realizations. The average, standard deviation and range values from the Ombai North deployment 2 for the parameters used in the QC test versus ADCP bin are shown in Figure 3.

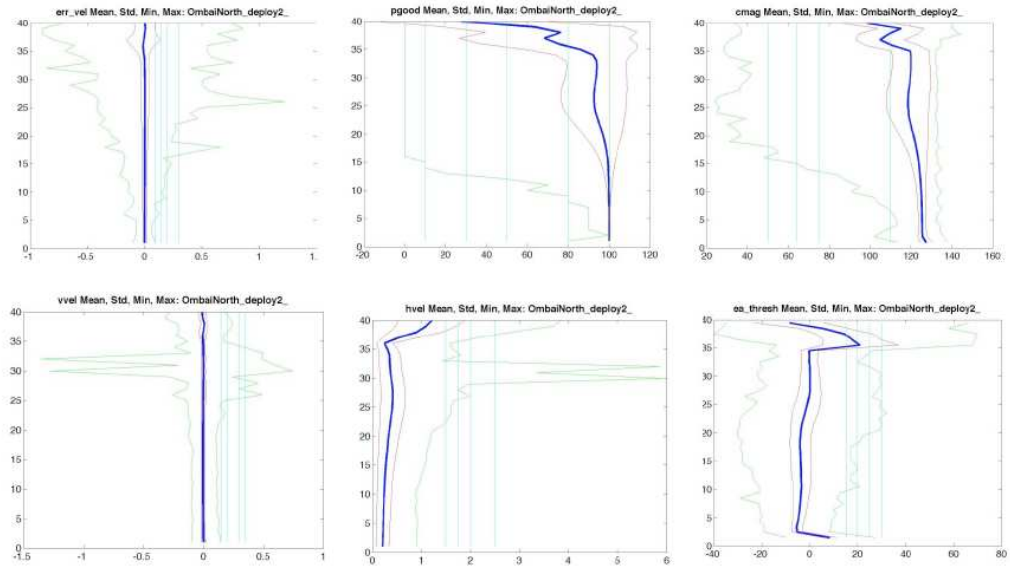


Figure 3: Mean (thick blue line), standard deviation (red lines) and minimum (green) and maximum (green line) of the a) error velocity; b) percent good; c) correlation magnitude; d) vertical velocity; e) horizontal velocity and f) echo amplitude for the Ombai North Deployment 2 LR 75kHz ADCP versus bin. The threshold values used in each test parameter are marked by the cyan lines in panels a) to f).

As for Lombok, in the Ombai North deployment the EAfail mainly occurs in the upper most bins 36-40 (Appendix Figure 2a). In bins 30-35, the EAfail can vary from 2% (for a threshold of 30) to ~47% (for threshold of 15). Decided that a threshold of 25 is good (based on stats in Figure 3, and compromise from Appendix Figure 2a).

The percent good on the WH300 stayed mostly at 100% until the very top most bins where it dropped rapidly (Figure 1), compared to the LR75 field (Figure 3) which drops off to ~90% at the middle bin 20 (with larger std and minimum values of 0% evident). Surprisingly though, the failure rate is relatively insensitive to the choice of threshold values (Appendix Figure 2b), with the percent good in the top most bins 36-40 responsible for ~ 1% of total fails, and ~70% in bins 30-34. This insensitivity to the thresholds from 10% to 80% suggests that the percent good values that are rejected are likely near zero, and hence definitely bad! As in Lombok, the percent good occurs in nearly 100% of cases of OTfail, which means that the parameter is at least partially fulfilling the RDI role as a QC parameter! Due to the relative insensivity, decided to use 50% threshold as in the WH300 case.

The mean correlation magnitude profile (Figure 3) is similar to the percent good profile (as the two fields are related), and the NDBC recommended threshold for the LR 75 kHz of 64 seems appropriate (Appendix Figure 2c). As in Lombok, the Error velocity test (Appendix Figure 2d) and the vertical velocity test (Appendix Figure 2e) rejects few cells in terms of absolute numbers, so go with NDBC recommended value of 0.15 and 0.2 respectively.

The horizontal velocity is smaller at North Ombai (mean <0.3 cm/s, Figure 3) compared to Lombok, and the test was relatively insensitive to the range of chosen threshold values (Appendix Figure 2f), probably because they were too large. Keeping with the thought that it is

not totally unrealistic for speeds within the Indonesian passages to reach 200 cm/s, this threshold value will be retained for the LR 75 kHz.

A comparison of the Zonal velocity for Ombai North – deployment 2 as determined from the recommended thresholds (Table 1f), and those applied to the CSIRO Nov07 data set (Table 1g) are shown in Figure 4. The new QC parameters remove the spurious high velocity bins in Bin 36-37, but retain some of the more realistic velocities in the surface bins.

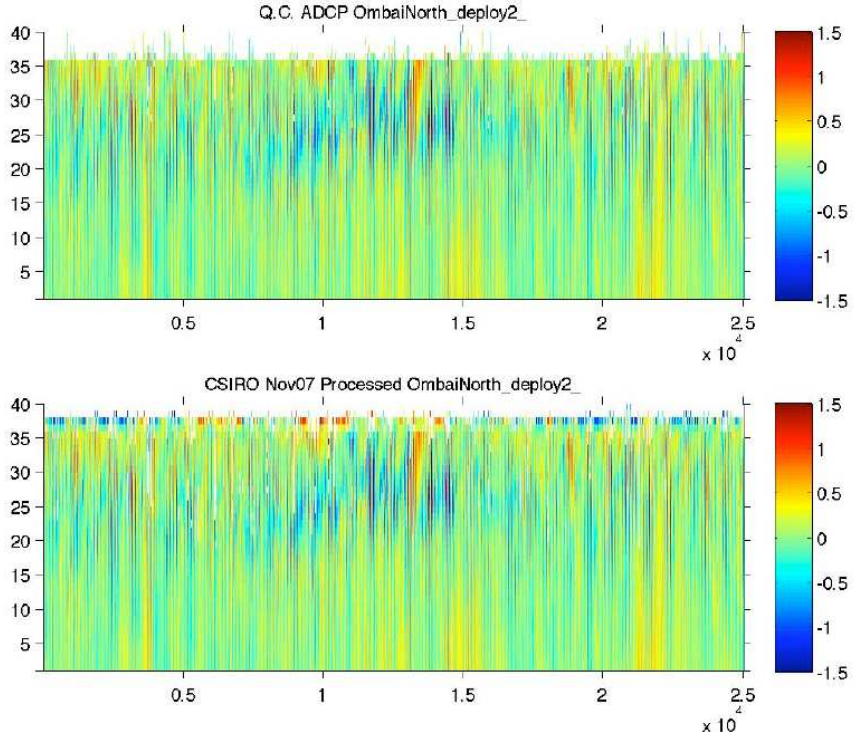


Figure 4: Comparison of Zonal Velocity in Ombai North – Deployment 2 determined after implementing the ADCP QC thresholds (Table 1f), and that from the Nov07 data set (Table 1g).

Case 3: Ombai South Deployment 2 (LR 75 kHz ADCP):-

For the LR 75 kHz used in Ombai South Deployment 2 there are 46 depth bins and 25041 time realizations. The average, standard deviation and range values from the Ombai South deployment 2 LR75 kHz for the parameters used in the QC test versus ADCP bin are shown in Figure 5.

The sensitivity of the QC thresholds on this deployment are hopefully very similar to that found during the Ombai South Deployment 2 because they both deployed LR 75 kHz ADCPs. Nonetheless, for completeness, I undertook tests of the ADCP data for this deployment and report results here (without figures). As a starting point, I use the QC thresholds as determined from the North Ombai deployment (Table 1f). Although note the structure of the means (Figure 5) are different to that of North Ombai (Figure 3). There are larger fall-offs with bin in percent good and cmag, and the current speeds are higher.

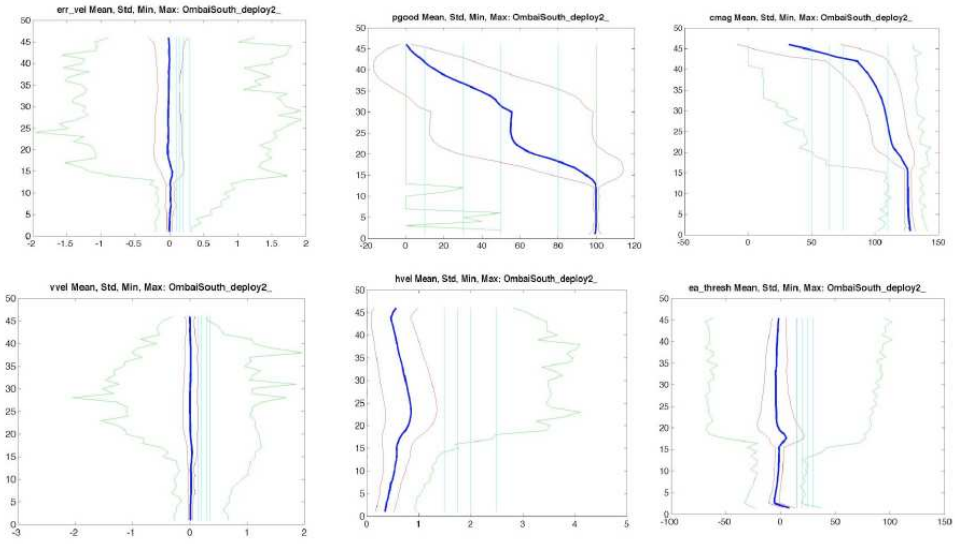


Figure 5: Mean (thick blue line), standard deviation (red lines) and minimum (green) and maximum (green line) of the a) error velocity; b) percent good; c) correlation magnitude; d) vertical velocity; e) horizontal velocity and f) echo amplitude for the Ombai South Deployment 2 LR 75kHz ADCP versus bin. The threshold values used in each test parameter are marked by the cyan lines in panels a) to f).

Implementation of the individual tests (not shown) produce a much more fragmented velocity field – but then this is likely a result of the much more dynamic conditions of the mooring location itself. The stronger current speeds cause much more blow-over, which reduces coverage of the upper bins more frequently. EAfail for a threshold of 25 results in 100% failure in bins 42-46 and 35-40% failure in bins 30-40. The OTfails in bins 30-40 are ~20% due to percent good (threshold 30%); 20% due to error velocity (threshold 0.15); 10% due to vertical velocity (threshold 0.2) and a few percent due to the other tests. The QC threshold criteria that were found appropriate for the LR 75 kHz used in North Ombaiare also suitable for the LR used in South Ombai.

A comparison of the Zonal velocity for Ombai South – deployment 2 as determined from the recommended thresholds (Table 1h), and those applied to the CSIRO Nov07 data set (Table 1i) are shown in Figure 6. Note that the Nov07 data set used an error velocity of 0.6 m/s and a vertical velocity difference of 0.6 m/s which both seem a little high. The new QC parameters retain some of the higher velocities in the surface bins. As in the other comparisons, cells where the depth < 2m have been rejected in both velocity fields.

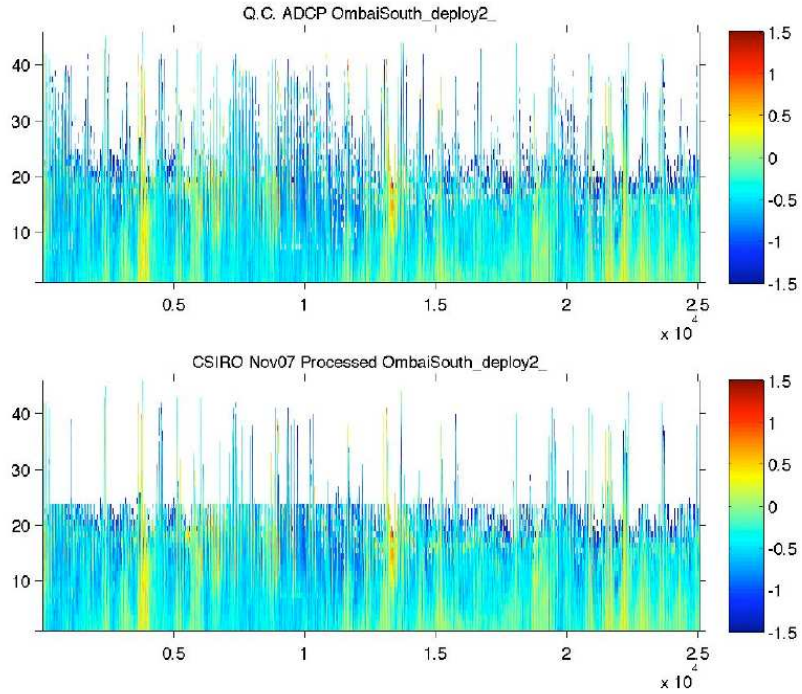


Figure 6: Comparison of Zonal Velocity in Ombai South – Deployment 2 determined after implementing the ADCP QC thresholds (Table 1h), and that from the Nov07 data set (Table 1i).

4. Conclusions:

The ADCPs deployed during the INSTANT field program were quality controlled using six tests developed by the NDBC. A variety of critical thresholds were applied for each test to determine their impact on the velocity field. The results show that it should be possible to apply a standard set of thresholds for both the WH300 kHz and the LR 75 kHz ADCPs used during the INSTANT deployment (Table 2).

ADCP Type	1. Error Velocity	2. Percent Good	3. Correlation Magnitude	4. Vertical velocity	5. horizontal velocity	6. echo intensity
WH300 kHz	**≤15 cm/s**	**> 50%**	**>110**	**≤ 20 cm/s**	**≤ 200 cm/s**	**30 counts**
LR 75 kHz	**≤15 cm/s**	**> 50%**	**>64**	**≤ 20 cm/s**	**≤ 200 cm/s**	**25 counts**

References:

Crout, R. D. Conleee, D. Gilhousen, R. Bouchard, M. Garcia, F. Demarco, M. Livingston, C. Cooper, and R. Raye. (2005). Real-time oil platform ocean current data in the Gulf of Mexico: An IOOS industry partnership success story. Abstract for AGU Mtg.

APPENDIX

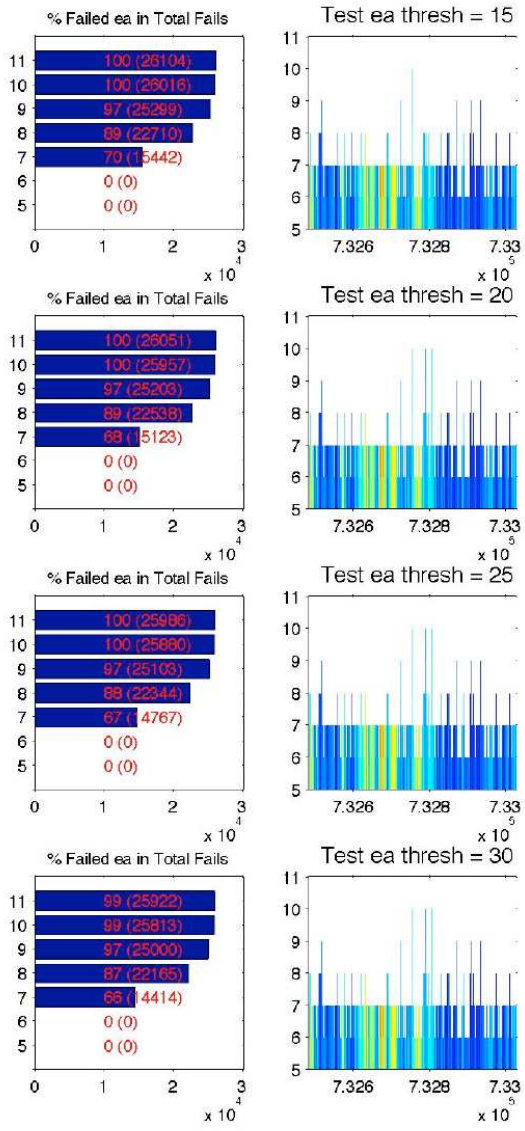


Figure 1a: Histograms of the EAtest failures (left hand panels), where P(N) indicates the percentage (P) of the number of EAfail (N) to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for the Echo Amplitude test 6 using threshold parameters of a) 15 counts; b) 20 counts; c) 25 counts and d) 30 counts.

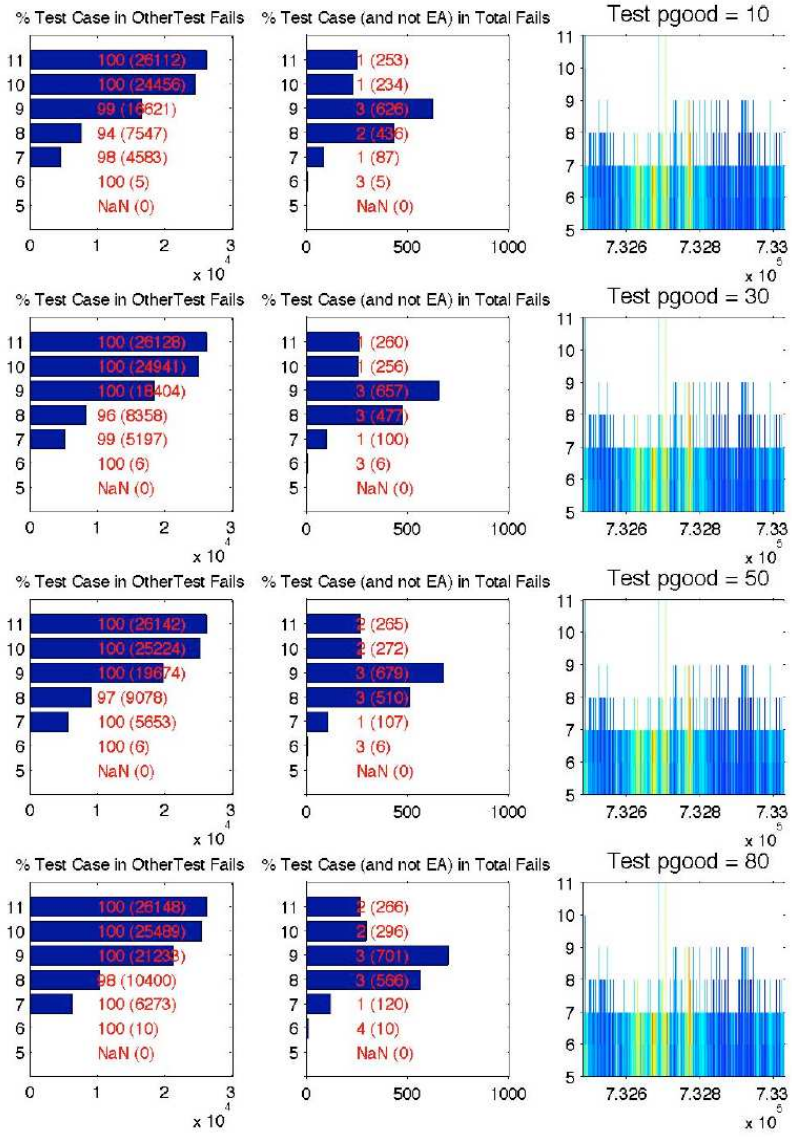


Figure 1b: Histograms of the contribution of the Percent Good (test 1) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 10%; b) 30%; c) 50% and d) 80%.

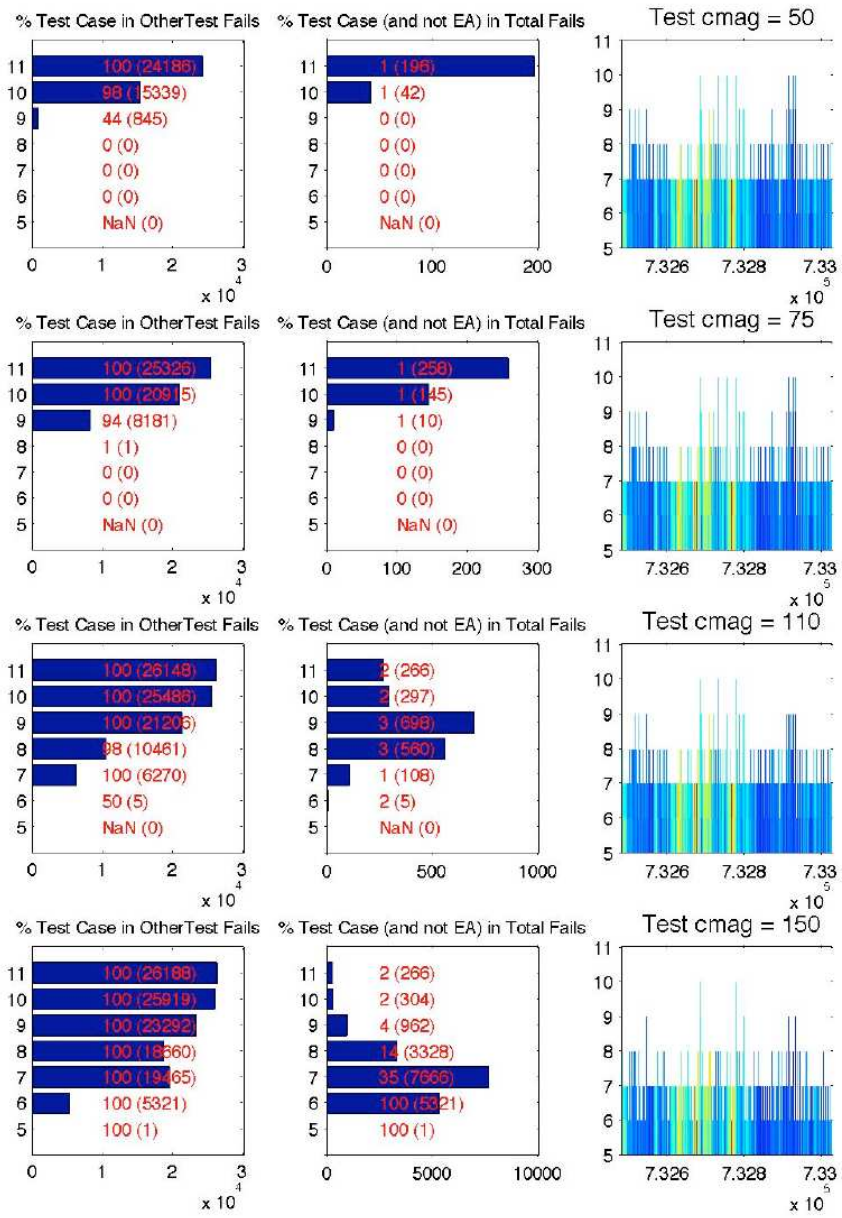


Figure 1c: Histograms of the contribution of the Correlation Magnitude (test 2) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 50; b) 75; c) 110 and d) 150.

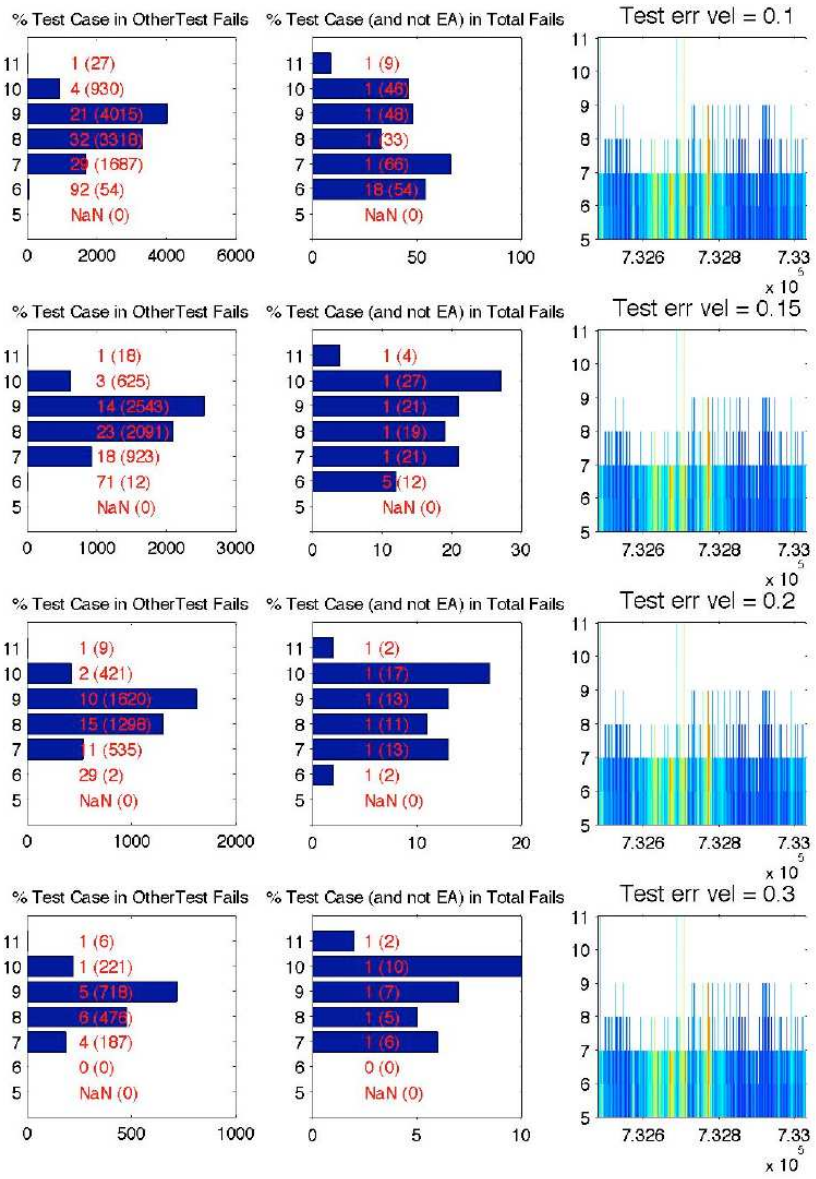


Figure 1d: Histograms of the contribution of the Error Velocity (test 3) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 0.1; b) 0.15; c) 0.2 and d) 0.3 m/s.

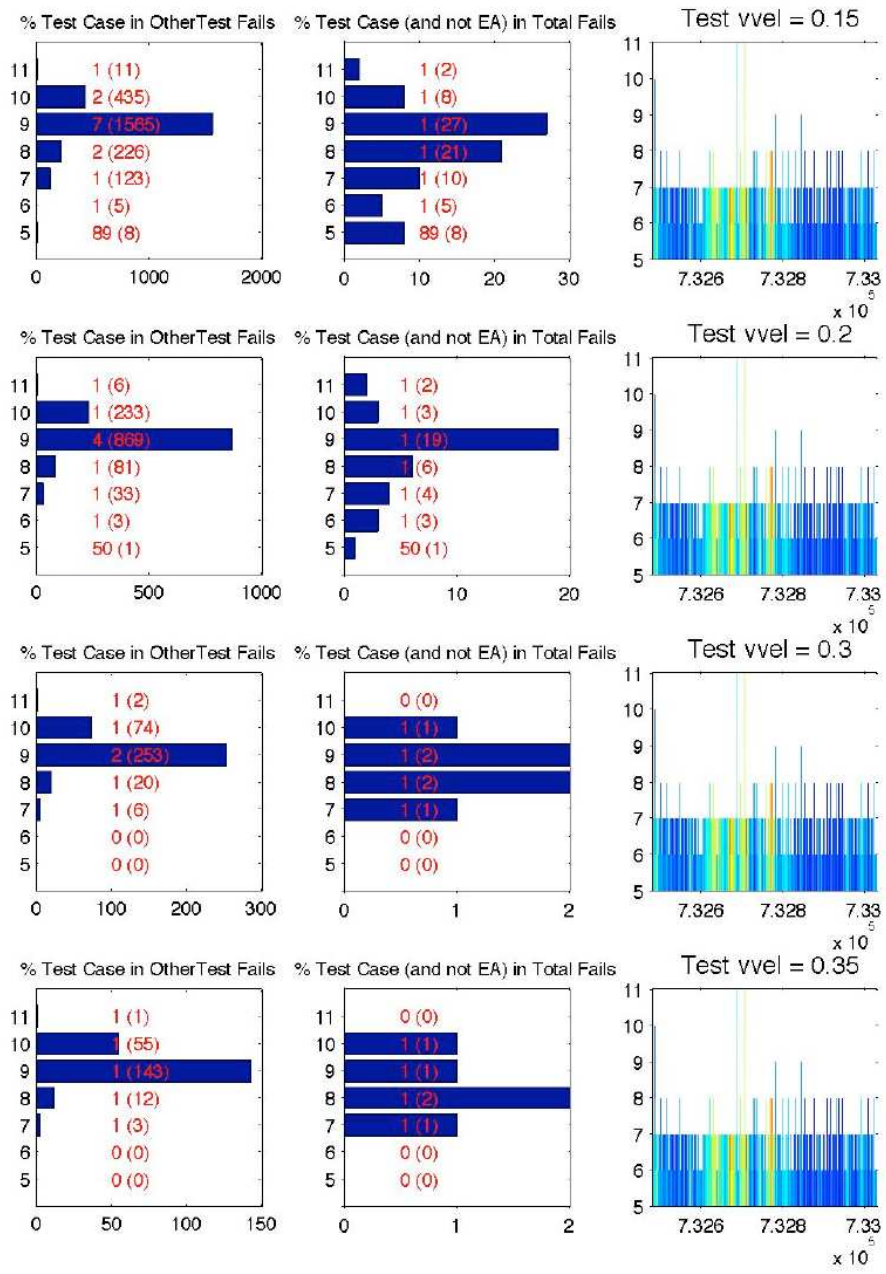


Figure 1e: Histograms of the contribution of the Vertical Velocity (test 4) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 0.15; b) 0.20; c) 0.30 and d) 0.35 m/s.

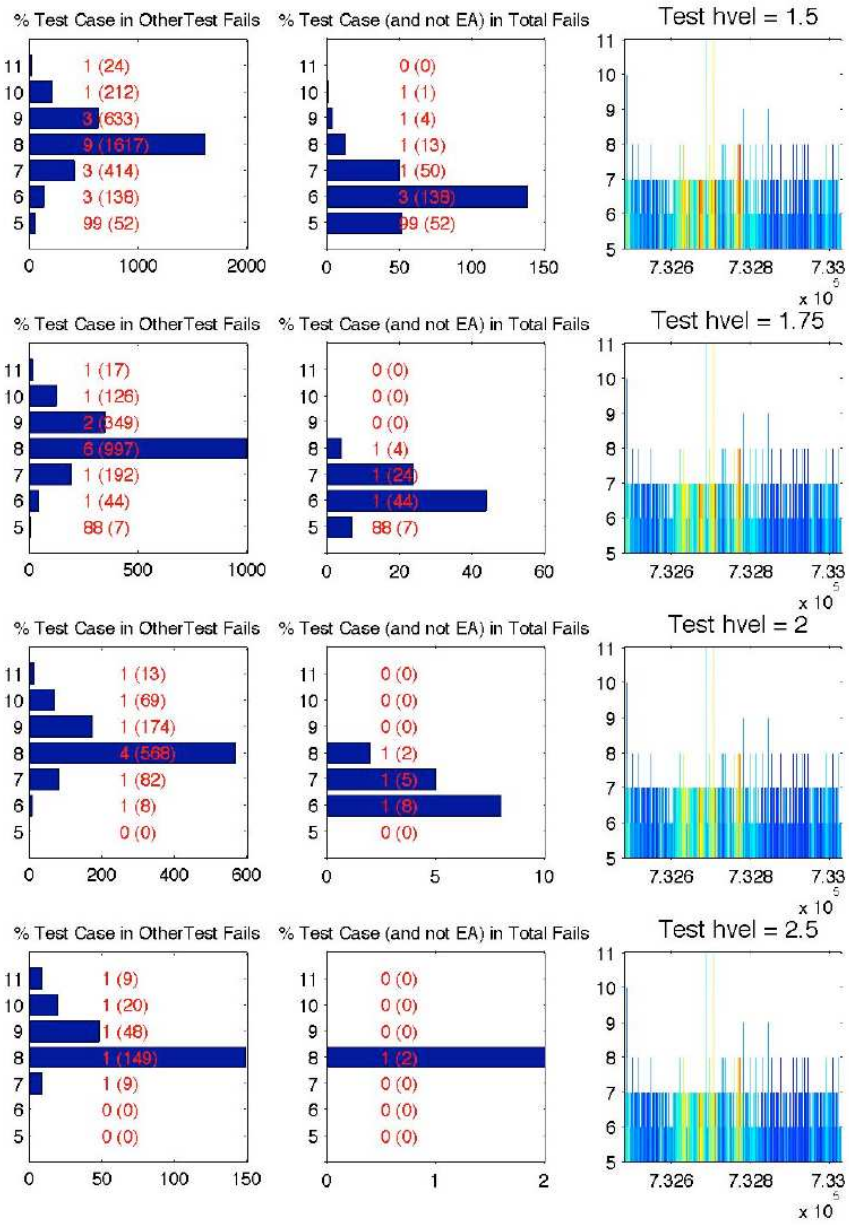


Figure 1f: Histograms of the contribution of the Horizontal Velocity (test 5) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 1.5; b) 1.75; c) 2.0 and d) 2.5 m/s.

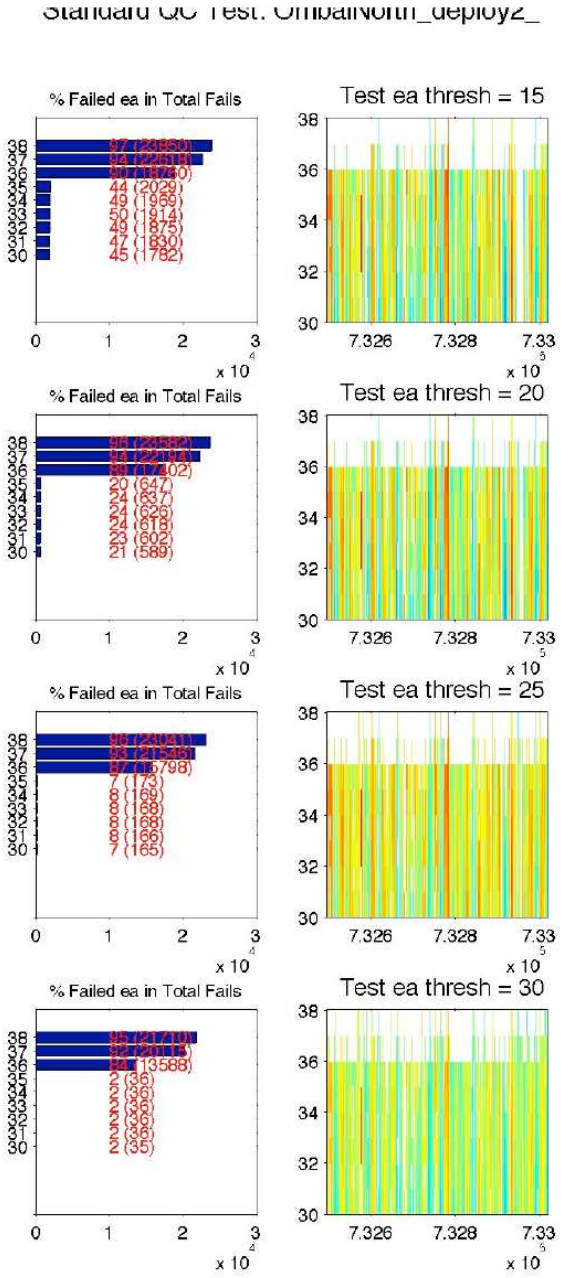


Figure 2a: Histograms of the EAtest failures (left hand panels), where P(N) indicates the percentage (P) of the number of EAfail (N) to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for the Echo Amplitude test 6 using threshold parameters of a) 15 counts; b) 20 counts; c) 25 counts and d) 30 counts.

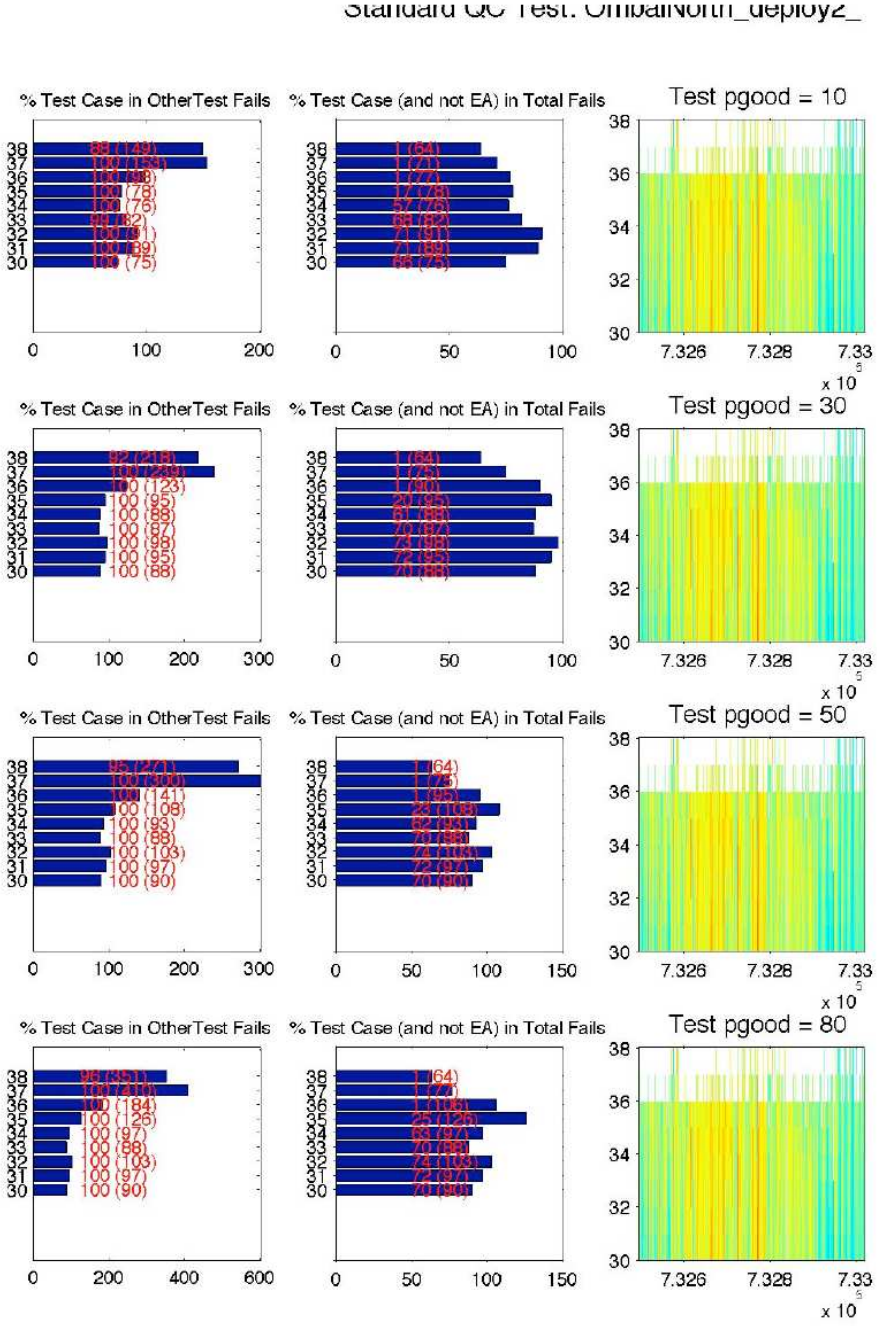


Figure 2b: Histograms of the contribution of the Percent Good (test 1) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 10%; b) 30%; c) 50% and d) 80%.

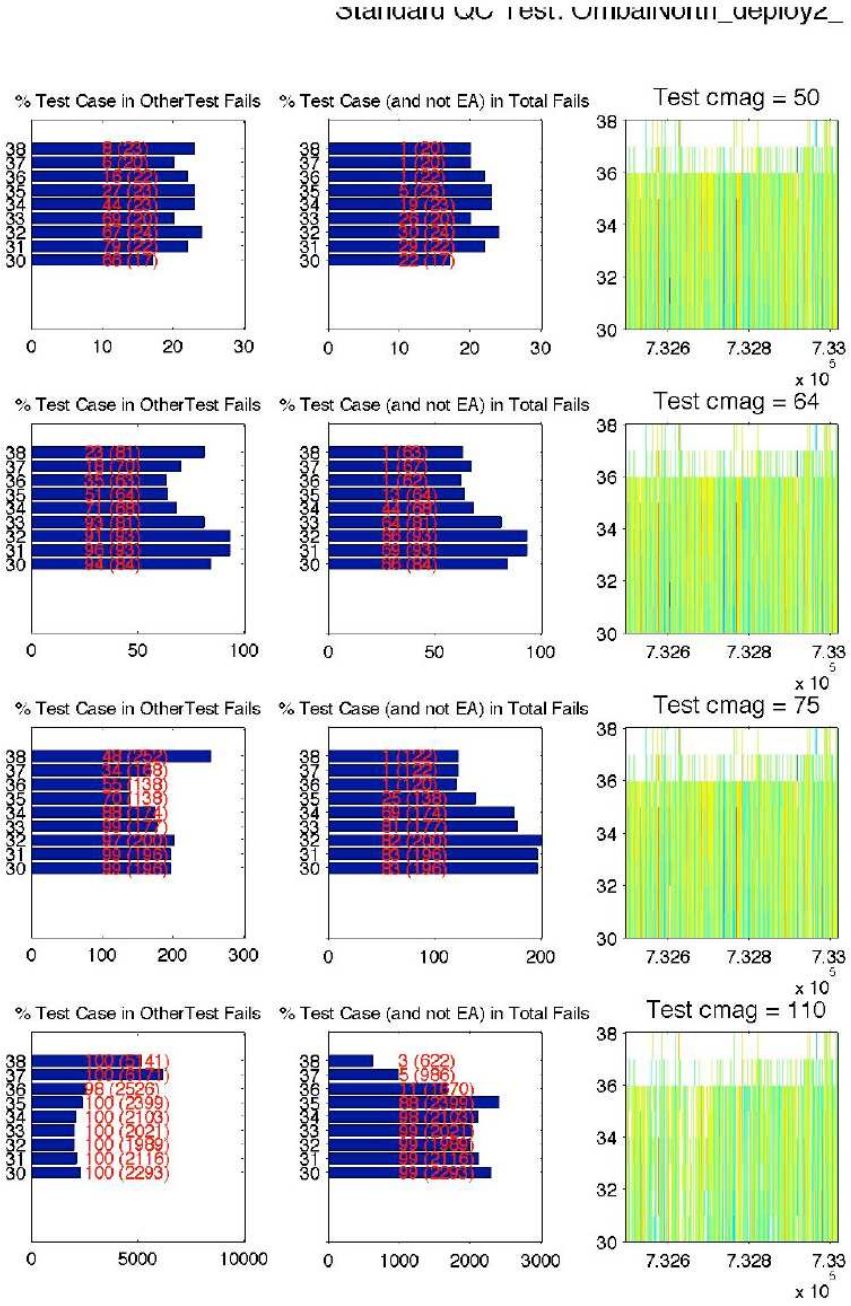


Figure 2c: Histograms of the contribution of the Correlation Magnitude (test 2) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 50; b) 75; c) 110 and d) 150.

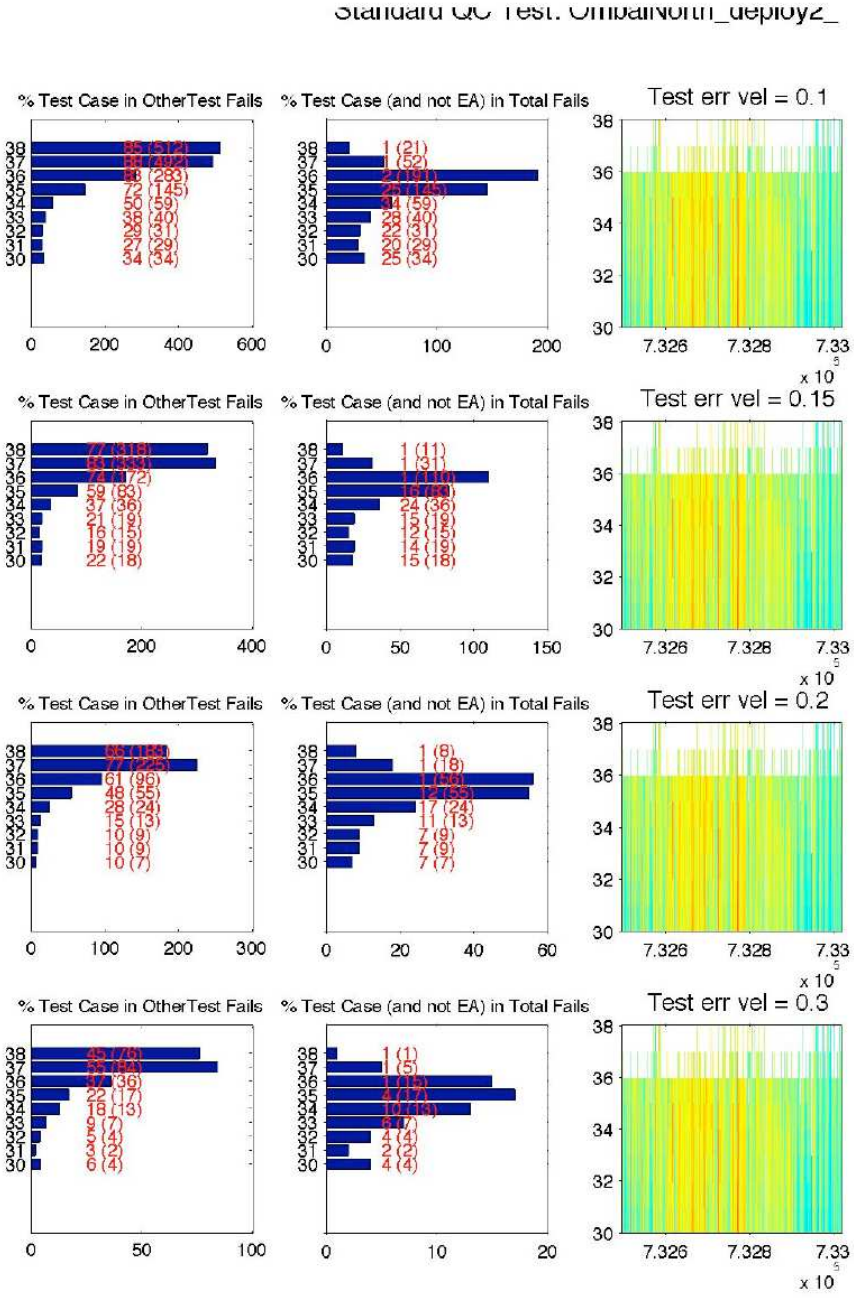


Figure 2d: Histograms of the contribution of the Error Velocity (test 3) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 0.1; b) 0.15; c) 0.2 and d) 0.3.

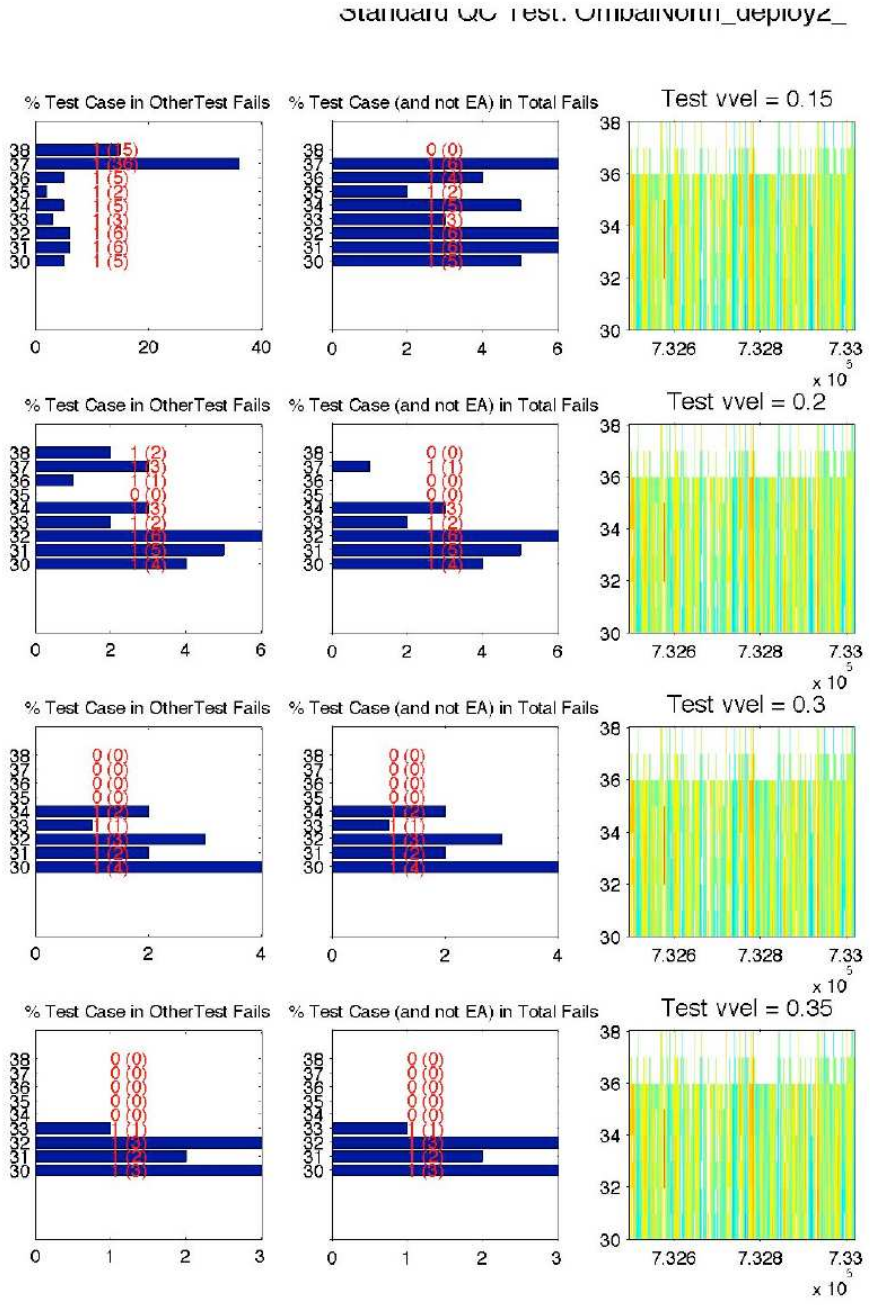


Figure 2e: Histograms of the contribution of the Vertical Velocity (test 4) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 0.15; b) 0.20; c) 0.30 and d) 0.35 m/s.

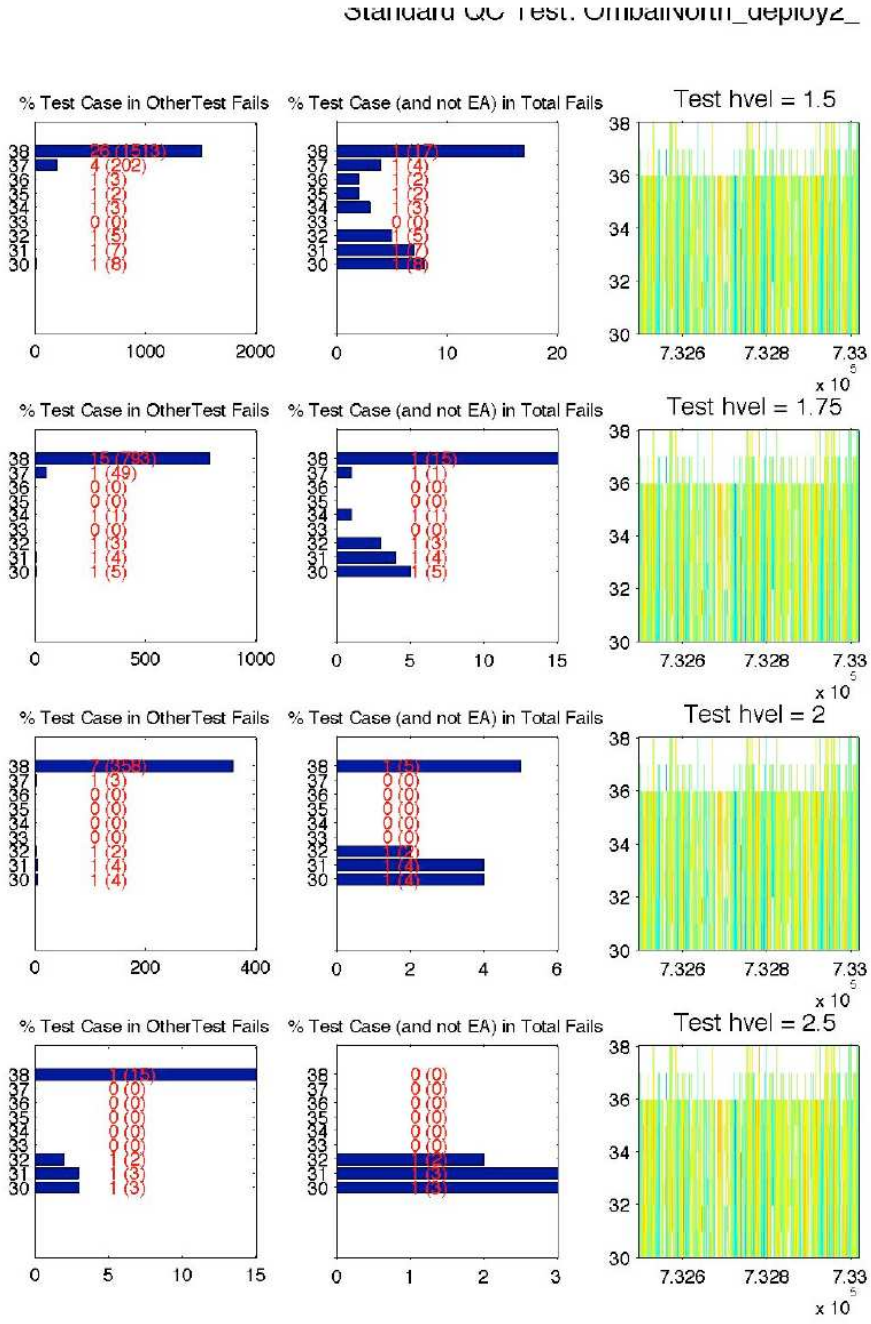


Figure 2f: Histograms of the contribution of the Horizontal Velocity (test 5) failures to the OTfails (left hand panels) and the contribution of these OTfails to the total fails (middle panels), where P(N) indicates the percentage (P) and number (N) of failures to the total number of failures in each bin and the resulting meridional velocity field (right hand panels) for threshold parameters of a) 1.5; b) 1.75; c) 2.0 and d) 2.5 m/s.

APPENDIX 3 – TEMPERATURE CALIBRATION DETAILS

Deployment 1.

Calibration of SBE39's after deployment on Lombok moorings. KR Baruna Jaya VIII - Lindsay Pender and Susan Wijffels, June 19, 2005

Serial no	File	Before/after	Start logging	Pump started	freshened	Pump stopped	**Low and High refer to salinity** **Low T diff**	Low T std	**High T diff**	High T std
912 [REF]	912PreLombokDeployment		15/06/2005 3:02	15/06/2005 8:30	15/062005 09:55	15/06/2005 11:05				
SIO TL143	Lombok1tm.200	After					**-0.0042**	0.0031	**-0.0086**	0.0009
SIO TL146	Lombok1tm.300	After					**-0.0066**	0.0013	**-0.0069**	0.0010
912 [REF]	912PreLombokDeployment		15/06/2005 3:02	15/06/2005 8:30	15/062005 09:55	15/06/2005 11:05				
SIO TL147	Lombok2tm.200	After					**-0.0229**	0.0021	**-0.0139**	0.0077

Tidbit data downloading from deployment 1 INSTANT

Onset StowAway TidbiTs for INSTANT

SN	Mooring	Depth	Start time (GMT)	flash on recovery	Stopped end time (GMT)	Time of last data	data filename	Number	Time drift (mins +ve fast +/- 30mins not significant)	cal bias	Comments
694725-903	Timor 4	300m	2003/12/29 0705	yes	21/06/2005 5:56	21/06/2005 6:35	Timor4_300_694725.txt	25920	39.60	-0.09	need to clock drift correct
694732-903	Timor 4	450m	2003/12/29 0708	yes	21/06/2005 6:07	21/06/2005 6:08	Timor4_450_694732.txt	25919	1.22	-0.19	
694731-903	Timor 4	875m	2003/12/29 0709	yes	21/06/2005 6:21	21/06/2005 6:09	Timor4_875_694731.txt	25919	-11.53	0.05	
694735-903	Timor 3	100m	2003/12/29 0711	LOST			LOST		0.00		
694734-903	Timor 1	160m	2003/12/31 0837	yes	22/06/2005 5:54	22/06/2005 6:08	Timor1_160_694734.txt	25868	14.00	-1.62	big temp drift
694736-903	Timor 1	140m	2003/12/31 0839	yes	0	0	Logger in trigger start mode	0	0.00		
694733-903	Timor 1	300m	2003/12/31 0841	yes	0	0	Logger in trigger start mode	0	0.00		
694726-903	Ombai 1	400m	2004/01/03 0907	yes	29/06/2005 9:23	29/06/2005 9:37	Ombai1_400_694726.txt	26066	14.88		
694723-903	Ombai 1	1000m	2004/01/03 0909	yes	29/06/2005 9:45	29/06/2005 9:39	Ombai1_1000_694723.txt	26066	-5.58		
694727-903	Lombok 1	100m	2004/01/05 0132	LOST	0	0/01/1900 0:00	LOST	0	0.00		
694728-903	Lombok 1	160m	2004/01/05 0135	yes	15/06/2005 7:49	15/06/2005 8:05	Lombok1_160_694728.txt	25310	16.77	-0.19	
694724-903	Lombok 1	400m	2004/01/05 0137	yes	15/06/2005 7:27	15/06/2005 7:37	Lombok1_400_694724.txt	25309	10.42	0.18	
694722-903	Lombok 2	100m	2004/01/05 0139	YES	15/06/2005 11:21	15/06/2005 11:39	Lombok2_100_694722.txt	25317	18.17	-0.79	
694730-903	Lombok 2	160m	2004/01/05 0140	yes	15/06/2005 11:37	15/06/2005 11:40	Lombok2_160_694730.txt	25317	3.22	0.19	
694729-903	Lombok 2	400m	2004/01/05 0142?	yes	15/06/2005 11:37	15/06/2005 11:41	Lombok2_400_694729.txt	25317	4.23	0.04	

Calibration of SBE's after deployment on Lombok moorings. KR Baruna Jaya VIII - Lindsay Pender and Susan Wijffels, June 19, 2005

							Low and High refer to salinity							
Serial no	File	Before/after	Start logging	Pump started	freshened	Pump stopped	**Low T diff**	Low T std	**Low C diff**	Low C std	**High T diff**	High T std	**High C diff**	High C std
912 [REF]	912PostLombokDeployment		15/06/2005 3:02	15/06/2005 3:07	15/062005 04:27	15/06/2005 5:55								
31566-2951	Lombok1\2951.mat	After					**-0.0077**	0.0006	**-0.0006**	0.0001	**-0.0068**	0.0007	**-0.0005**	0.0001
912 [REF]	912PostLombokDeployment		15/06/2005 3:02	15/06/2005 8:30	15/062005 09:55	15/06/2005 11:05								
31566-2953	Lombok2\2953.mat	After					**-0.0048**	0.0028	**0.0036**	0.0003	**-0.0085**	0.0011	**0.0053**	0.0001

Calibration of SBE's after deployment on Timor moorings. KR Baruna Jaya VIII - Lindsay Pender and Susan Wijffels, June 26, 2005

912 [REF]	912PreLombokDeployment		15/06/2005 3:02	15/06/2005 3:07	15/062005 04:27	15/06/2005 5:55								
909	Timor 4\0909.mat	After					**-0.0028**	0.0013	**-0.0155**	0.0001				
1776	Timor 3\1776.mat	After					**-0.0192**	0.0011	**0.0042**	0.0001				
1777	Timor 3\1777.mat	After					**-0.0072**	0.0010	**0.0153**	0.0002				
911	Timor 3\0911	After					**-0.0023**	0.0012	**-0.0015**	0.0002				
2954	Timor 1\2954.mat	After					**-0.0103**	0.0015	**0.0041**	0.0102				

Deployment 2.

Pre-deployment, Tidbit calibrations.

Serial no.	Mooring	mean(T - Tref)	sdt(T - Tref)
860177	Lombok 1	0.0206	0.0616
860178	Lombok 1	0.1316	0.0405
860179	Lombok 1	-0.0045	0.0438
860180	Lombok 2	0.1019	0.0392
860181	Lombok 2	-0.0134	0.0582
860182	Timor 4	0.0478	0.053
860183	Timor 4	0.123	0.04
860184	Timor 3	0.0852	0.0382
860185	Timor 3	0.039	0.0454
860186	Timor 1	-0.0216	0.0436
860187	Ombai 1	0.1065	0.0387
860188	Ombai 1	0.0537	0.0376
860189	Ombai 1	0.207	0.0385
860190	Ombai 2	0.0252	0.0445
860191	Ombai 2	0.023	0.0378

Pre-deployment, SBE 39 calibrations

Serial no.	Mooring	mean(T - Tref)	sdt(T - Tref)
860177	Lombok 1	0.0206	0.0616
860178	Lombok 1	0.1316	0.0405
860179	Lombok 1	-0.0045	0.0438
860180	Lombok 2	0.1019	0.0392
860181	Lombok 2	-0.0134	0.0582
860182	Timor 4	0.0478	0.053
860183	Timor 4	0.123	0.04
860184	Timor 3	0.0852	0.0382
860185	Timor 3	0.039	0.0454
860186	Timor 1	-0.0216	0.0436
860187	Ombai 1	0.1065	0.0387
860188	Ombai 1	0.0537	0.0376
860189	Ombai 1	0.207	0.0385
860190	Ombai 2	0.0252	0.0445
860191	Ombai 2	0.023	0.0378

Pre-deployment, SBE 37 calibrations

Intercalibration of SBE's before deployment on Lombok moorings. KR Baruna Jaya VIII - Lindsay Pender and Susan Wijffels, June 19, 2005

Serial no	Before/ after	Start logging	In water (high)	Out water (high)	In water (low)	Out water (low)	Stopped logging	**Low T diff**	Low T std	**Low C diff**	Low C std	**High T diff**	High T std	**High C diff**	High C std
914	Before	12/06/2005 12:40	12/06/2005 13:22:00 PM	12/062005 13:51	12/06/2005 12:36	12/062005 12:55	12/06/2005 13:57	**0.00017**	0.00025	**0.000847**	0.00012	**0.0002**	0.0007	**-0.0013**	0.0006
3780	Before	12/06/2005 12:40	12/06/2005 13:22:00 PM	12/062005 13:51	12/06/2005 12:36	12/062005 12:55	12/06/2005 14:11	**-0.00027**	0.0009	**0.00023**	0.00023	**0.00430**	0.0006	**0.0016**	0.00006
913[REF]	Before	12/06/2005 12:40	12/06/2005 13:22:00 PM	12/062005 13:52	12/06/2005 12:36	12/062005 12:55	12/06/2005 14:16								
3778	Before	12/06/2005 12:15	12/06/2005 13:50:00 PM	12/062005 14:17	12/06/2005 12:11	12/062005 12:35	12/06/2005 14:40	**-0.00110**	0.0014	**0.0078**	0.0178	**0.0008**	0.0009	**0.0019**	0.0033
3779	Before	12/06/2005 12:15	12/06/2005 13:50:00 PM	12/062005 14:18	12/06/2005 12:11	12/062005 12:35	12/06/2005 14:26	**0.00310**	0.001	**0.0043**	0.0055	**0.0002**	0.0007	**0.0006**	0.0017
912 [REF]	Before	12/06/2005 12:15	12/06/2005 13:50:00 PM	12/062005 14:17	12/06/2005 12:11	12/062005 12:35	12/06/2005 14:32								

Calibration of SBE37's before deployment 2 on Sunda INSTANT moorings. KR Baruna Jaya VIII - Lindsay Pender and Susan Wijffels, June 19, 2005

Serial no	File	Before/after	**T diff**	T std	**S diff**	S std
912 [REF]	912PreLombokDeployment					
2953	Lombok 1	Before	**-0.0028**	0.0005	**0.0092**	0.0055
912 [REF]	reference_0912.mat					
909	Timor 2	Before	**-0.0051**	0.0014	**0.0025**	0.0006
911	Timor 3	Before	**-0.0028**	0.0007	**0.0012**	0.0005
1776	Timor 4	Before	**-0.0027**	0.0008	**0.0089**	0.0013
1777	Timor 1	Before	**-0.0008**	0.0005	**0.0192**	0.0008
2951	Timor 3	Before	**-0.0009**	0.0009	**0.0034**	0.0012
2952	Timor 1	Before	**0.0009**	0.0005	**0.0040**	0.0003
2954	Timor 3	Before	**-0.0034**	0.0007	**0.0026**	0.0028

Post-Deployment calibrations

			HIGH T and C				LOW T and C			
Mooring	Instrument	Serial no	**T diff**	T std	**C diff**	C std	**T diff**	T std	**C diff**	C std
Lombok E	SBE 37	0913 [REF]								
Lombok E	SBE 39	1329	**Set of 30 second sampling - memory filled Sep 2005 - no cal data.**							
Lombok E	Aquadopp	1484	**0.0161**	0.0020			**-0.0002**	0.0060		
Lombok E	Aquadopp	1502	**-0.0025**	0.0061			**-0.0252**	0.0078		
Lombok E	SIO-T	139	**-0.0113**	0.0019			**-0.0094**	0.0032		
Lombok E	SIO-T	147	**-0.0605**	0.0017			**-0.0339**	0.0029		
Lombok E	SIO-T	146	**-0.0194**	0.0010			**-0.0171**	0.0017		
Lombok E	Tidbit	860180	**0.1443**	0.0582			**0.0710**	0.0134		
Lombok E	Tidbit	860181	**0.0867**	0.0000			**0.0753**	0.0213		

At-sea calibration of instruments after deployment 2 on Sunda INSTANT moorings.

KR Baruna Jaya I - Lindsay Pender and Susan Wijffels, December, 2006

NOTE: HIGH calibration had more values than low calibration

			HIGH T and C				LOW T and C			
Mooring	Instrument	Serial no	**T diff**	T std	**C diff**	C std	**T diff**	T std	**C diff**	C std
Ombai N	SBE 37	0914 [REF]								
Ombai N	SIO-T	142	**logger stopped mid-deployment**							
Ombai N	SBE 39	1472	**-0.0003**	0.0017			**0.0000**	0.0015		
Ombai N	SBE 37	3779	**0.0051**	0.0020	**bath not stable**	x	**0.0038**	0.0031	0.001049	0.002135
Ombai N	Tidbit	860187	**0.1454**	0.1018	**x**	x	**0.0421**	0.0379		
Ombai N	Tidbit	860188	**0.1972**	0.1534	x	x	**-0.0140**	0.0384		
Ombai N	Tidbit	860189	**0.2609**	0.0649	**x**	x	**0.2192**	0.0875		
Ombai N	AquaDopp	1490	**0.0415**	0.0037	x	x	**0.0268**	0.0030		

At-sea calibration of instruments after deployment 2 on Sunda INSTANT moorings.
KR Baruna Jaya I - Lindsay Pender and Susan Wijffels, December, 2006
NOTE: HIGH calibration had more values than low
calibration

			HIGH T and C				LOW T and C			
Mooring	Instrument	Serial no	**T diff**	T std	**C diff**	C std	**T diff**	T std	**C diff**	C std
Ombai S	SBE 37	2955[REF]								
Ombai S	SIO-T	138								
Ombai S	SIO-T	160								
Ombai S	SIO-T	161								
Ombai S	SBE 39	1331	**0.0195**	0.0023			**0.0202**	0.0028		
Ombai S	SBE 37	908	**0.0227**	0.0030	**0.0035**	0.0018	**0.0255**	0.0026	**-0.0046**	0.016229
Ombai S	SBE 37	2949	**0.0079**	0.0013	**0.0012**	0.0006	**0.0081**	0.0016	**-0.0062**	0.016216
Ombai S	Tidbit	860190	**-0.0806**	0.0899			**-0.0085**			
Ombai S	Tidbit	860191	**0.0523**	0.0669			**0.0539**	0.0827		
Ombai S	AquaDopp	1490	**0.0171**	0.0051			**0.0228**	0.0149		

REDO CALCULATIONS USING 2949 AS THE
REFERENCE

			HIGH T and C				LOW T and C			
Mooring	Instrument	Serial no	**T diff**	T std	**C diff**	C std	**T diff**	T std	**C diff**	C std
Ombai S	SBE 37	2949[REF]								
Ombai S	SIO-T	138	**-0.0176**	0.0011			**-0.0061**	0.0016		
Ombai S	SIO-T	160	**-0.0065**	0.0006			**0.0068**	0.0007		
Ombai S	SIO-T	161	**0.0110**	0.0013			**0.0239**	0.0015		
Ombai S	SBE 39	1331	**0.0125**	0.0015			**0.0117**	0.0009		
Ombai S	SBE 37	908	**0.0166**	0.0032	**0.0018**	0.0005	**0.0174**	0.0016	**0.0016**	0.000126
Ombai S	SBE 37	2955	**-0.0063**	0.0033	**-0.0013**	0.0006	**-0.0081**	0.0016	**0.0062**	0.016216
Ombai S	Tidbit	860190	**-0.1608**	0.1760			**-0.0165**	0.0000		
Ombai S	Tidbit	860191	**0.0456**	0.0647			**0.0463**	0.0838		
Ombai S	AquaDopp	1490	**0.0116**	0.0047			**0.0069**	0.0080		

			HIGH T and C				LOW T and C			
Mooring	Instrument	Serial no	**T diff**	T std	**C diff**	C std	**T diff**	T std	**C diff**	C std
Timor 1	SBE 37	1777 [REF]								
Timor 1	SBE 39	1004	**-0.0043**	0.0012			**-0.0096**	0.0006		
Timor 1	SBE 39	112	**0.0122**	0.0012			**0.0056**	0.0009		
Timor 1	SBE 37	2952	**-0.0085**	0.0017	**-0.0236**	0.0002	**-0.0079**	0.0007	**-0.0203**	0.0001
Timor 1	SBE 37	2230	**0.0037**	0.0010	**-0.0203**	0.0001	**0.0053**	0.0007	**-0.0169**	0.0002
Timor 1	Tidbit	860186	**-0.1285**	0.0563			**-0.1214**	0.0546		

			HIGH T and C				LOW T and C			
Mooring	Instrument	Serial no	**T diff**	T std	**C diff**	C std	**T diff**	T std	**C diff**	C std
Timor 2	SBE 37	2764 [REF]								
Timor 2	SBE 37	909	**0.0055**	0.0010	**-0.0029**	0.0003	**0.0020**	0.0006	**0.0006**	0.0002
Timor 2	SBE 39	1104	**0.0176**	0.0010			**0.0117**	0.0011		
Timor 2	SBE 39	1105	**0.0192**	0.0010			**0.0093**	0.0012		

At-sea calibration of instruments after deployment 2 on Sunda INSTANT moorings.

KR Baruna Jaya I - Lindsay Pender and Susan Wijffels, December, 2006

			HIGH T and C				LOW T and C			
Mooring	Instrument	Serial no	**T diff**	T std	**C diff**	C std	**T diff**	T std	**C diff**	C std
Timor 3	SBE 37	2951 [REF]								
Timor 3	SBE 39	1471	**-0.0015**	0.0006			**-0.0020**	0.0005		
Timor 3	SBE 39	89	**0.0064**	0.0007			**0.0066**	0.0009		
Timor 3	SBE 39	1332	**-0.0049**	0.0007			**-0.0049**	0.0009		
Timor 3	SBE 37	2954	**-0.0014**	0.0007	**0.0068**	0.0002	**-0.0019**	0.0007	**0.0070**	0.0002
Timor 3	SBE 37	911	**-0.0036**	0.0010	**-0.0061**	0.0006	**-0.0039**	0.0014	**-0.0050**	0.0003
Timor 3	Tidbit	860184	**0.1537**	0.0513			**0.1075**	0.0331		
Timor 3	Tidbit	860185	**0.1085**	0.0611			**0.1071**	0.0931		

			HIGH T		LOW T	
Mooring	Instrument	Serial no	**T diff**	T std	**T diff**	T std
Timor 4	SBE 39	1327 [REF]				
Timor 4	SBE 39	1003	**0.0139**	0.0010	**-0.0064**	0.0010
Timor 4	SBE 39	1326	**0.0012**	0.0008	**0.0023**	0.0008
Timor 4	Tidbit	860182	**0.0374**	0.0586	**0.0166**	0.0543
Timor 4	Tidbit	860183	**0.0561**	0.0568	**0.0891**	0.0611

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