CTD #: <u>5</u>	Data Du	mp #0255 Starting Date:January 11, 2017	Defective / Absent Sensors						
Cast#	Quality Code	Data Quality Comment	Cond	Temp	Fluo	OBS	PAR	O2	
All Casts in Dump	0 (except for Fluo and OBS)	All fluorescence and turbidity measurements in all casts for entire data dump (entire survey) disqualified due to suspect sensor (see Comments below).			V	V			
	- OR -								
05					7	2			
06					7	v			
07					7	v			
08		Replicate cast of Cast 07 (same station).			2	7			
09					I	V			
10		Replicate cast of Cast 09 (same station).				2			
11									
12							H		
13						2			
14						2			
15									
10						- -			
18					2	2			
19				Π	2	1	П		
20					2	v			
21					7	v			
22					2	v			
23					7	7			
24					I	v			
25					7	1			
26					2	7			
27					2	7			
28						<u> </u>			

Analyst's Comments

(these are not applied to the database)

This Dump contains the first cast data collected in oceanographic year 2017; it represents the "mid-winter all-stations" survey. Cast #s 01-04 were not uploaded. Two of the casts (08 and 10) are replicates (same station) of the immediately preceeding casts. All 22 stations (00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, and 24) were successfully occupied.

Fluorescence data were disqualified for all casts performed during this survey (entire data dump) because of atypical (for mid-winter) unusually high readings (to 12 mg/m^3) from two of the 22 stations (all other stations recorded no fluorescence, which is typical). At those two stations, fluorescence was completely absent in the upper water column, suddenly appearing at depth (60 m or 185 m) and continuing to the bottom of the cast. These suspicious observations, especially for this time of year, cannot be explained. Moreover, the associated turbidity data (the fluorometer and OBS sensor are combined into a single "combination" sensor) seem to track the fluorometry, with an unexplainable subsantial NTU increase accompanying the sudden spikes in fluorescence. These suspicious observations cannot be explained and so deem the sensor unreliable and thus justify its disqualification for the entire survey. Manufacturer technical support concurs.

All other sensors appear to have operated properly.

Data quality codes are:

0 - good 1 - unknown 4 - questionable 8 - bad as defined for Ocean Data View at http://odv.awi.de/fileadmin/user_upload/odv/misc/ODV4_QualityFlagSets.pdf.

Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving invalid readings. Checking the sensor's disqualify box will cause the OC_D database to have its values made NULL for the indicated

CTD #: <u>5</u>	Data Du	mp #0256 Starting Date:April 3, 2017	Defective / Absent Sensors					
Cast#	Quality Code	Data Quality Comment	Cond	Temp	Fluo	OBS	PAR	O2
All Casts in Dump	0 (except for Fluo and OBS)	All fluorescence and turbidity measurements in all casts for entire data dump (entire survey) disqualified due to suspect sensor (see Comments below).			V	V		
		- OR -						
29 31 32 33 34 35 37					> > > > > > > > >	2 2 2 2 2 2 2 2 2		
38								

Analyst's Comments

(these are not applied to the database)

This Dump contains cast data from all 8 core stations (01, 04, 07, 12, 13, 16, 20, and 24) during the April 2017 survey.

Fluorescence data were disqualified for all casts performed during this survey (entire data dump) because several of the casts recorded very atypical vertical distributions of fluorescence, with zero fluorescence detected in the upper water column, then suddenly appearing (to 5 mg/m^3) at depth (75-120 m) and continuing to the bottom of the cast. These suspicious observations, especially for this time of year, cannot be explained. Moreover, the associated turbidity data (the fluorometer and OBS sensor are combined into a single "combination" sensor) seem to track the fluorometry, with an unexplainable subsantial NTU increase accompanying the sudden spikes in fluorescence. These suspicious observations cannot be explained and so deem the sensor unreliable and thus justify its disqualification for the entire survey. Manufacturer technical support concurs.

All other sensors appear to have operated properly.

Data quality codes are:

0 - good 1 - unknown 4 - questionable 8 - bad as defined for Ocean Data View at http://odv.awi.de/fileadmin/user_upload/odv/misc/ODV4_QualityFlagSets.pdf.

Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving invalid readings. Checking the sensor's disqualify box will cause the OC_D database to have its values made NULL for the indicated

CTD #: <u>5</u>	Data Dui	np #0257 Starting Date:May 4, 2017	Defective / Absent Sensors					
Cast#	Quality Code	Data Quality Comment	Cond	Temp	Fluo	OBS	PAR	O2
All Casts in Dump	0 (except for Fluo and OBS)	All fluorescence and turbidity measurements in all casts for entire data dump (entire survey) disqualified due to suspect sensor (see Comments below).			V	V		
		- OR -						
39 40 41 42 43 44 45 46					 <	>		

Analyst's Comments

(these are not applied to the database)

This Dump contains cast data collected from all 8 core stations (01, 04, 07, 12, 13, 16, 20, and 24) during the May 2017 survey.

Although fluorescence and NTU data collected during this survey did not appear out of the ordinary, these cast data were nevertheless disqualified (entire data dump) because several casts by this instrument (with this fluorometer and OBS sensor) from the previous two surveys recorded very atypical vertical distributions of fluorescence and turbidity that cannot be explained (see Comments from Data Dump #s 0255 and 0256). The sensor is thus deemed unreliable, and is disqualified for the entire survey. Manufacturer technical support concurs.

All other sensors appear to have operated properly.

Data quality codes are: 0 - good 1 - unknown 4 - questionable 8 - bad as defined for Ocean Data View at http://odv.awi.de/fileadmin/user_upload/odv/misc/ODV4_QualityFlagSets.pdf.

Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving invalid readings. Checking the sensor's disqualify box will cause the OC_D database to have its values made NULL for the indicated

CTD #: <u>5</u>	Data Du	mp # <mark>0258</mark>	Starting Date: _	May 31, 2017		Defective / Absent Sensors						
Cast#	Quality Code		Data Quality Com	ment	Cond	Temp	Fluo	OBS	PAR	O2		
All Casts in Dump	0 (except for Fluo and OBS)	All fluorescence an data dump (entire s	d turbidity measuren survey) disqualified d Comments belo	nents in all casts for entire lue to suspect sensor (see w).			V	V				
			-	OR -								
47							7	~				
48												
49												
50												
52								s V				
53							2	- -				
54							2	2				
								П				
Analyst's Co (these are not ap	plied to the databa	ise)										
This Dump con	tains cast data col	lected from all 8 core stat	tions (01, 04, 07, 12, 13, 16	5, 20, and 24) during the "June" su	rvey (actu	ally condu	ucted Ma	y 31, 2017	7).			
Although fluorescence and NTU data collected during this survey did not appear out of the ordinary, these cast data were nevertheless disqualified (entire data dump) because several casts by this instrument (with this fluorometer and OBS sensor) from previous surveys this year recorded very atypical vertical distributions of fluorescence that cannot be explained (see Comments from Data Dump #s 0255 and 0256). The sensor is thus deemed unreliable, and is disqualified for the entire survey. Manufacturer technical support concurs.												
All other sensors appear to have operated properly.												

Data quality codes are:

0 - good 1 - unknown 4 - questionable 8 - bad as defined for Ocean Data View at http://odv.awi.de/fileadmin/user_upload/odv/misc/ODV4_QualityFlagSets.pdf.

Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving invalid readings. Checking the sensor's disqualify box will cause the OC_D database to have its values made NULL for the indicated

CTD #: <u>5</u>	Data Du	mp #0259 Starting Date:July 14, 2017	Defective / Absent Sensors					
Cast#	Quality Code	Data Quality Comment	Cond	Temp	Fluo	OBS	PAR	O2
All Casts in Dump	0 (except for Fluo and OBS)	All fluorescence and turbidity measurements in all casts for entire data dump (entire survey) disqualified due to suspect sensor (see Comments below).			V	V		
		- OR -						
55		Replicate cast (1 of 2) from Station 24.			7	Y		
56		Replicate cast (2 of 2) from Station 24.			7	7		
57					7	7		
58					2	7		
59					2	2		
60					2	v		
61						2		
62						2		
63								
64								
66								
67								
68								
69 70					2	2		
70								
72								
73								
74				П	2	2	Π	
75						2		
76					2	2		
77					7	2		
78					7	2		

Analyst's Comments

(these are not applied to the database)

This Dump contains cast data collected during the July 2017 "mid-summer all-stations" survey. All 22 stations (00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, and 24) were successfully occupied. Note that Cast #s 55 and 56 are replicates of Station 24, and that Cast 65 is intentionally missing (bad cast, data not uploaded).

Fluorescence and NTU data were disqualified for all casts performed during this survey (entire data dump) because several of the casts recorded very atypical vertical distributions of fluorescence and turbidity that cannot be explained (see Comments from Data Dump #s 0266 and 0256). The sensor is thus deemed unreliable, and is disqualified for the entire survey. Manufacturer technical support concurs.

All other sensors appear to have operated properly.

Data quality codes are:

0 - good 1 - unknown 4 - questionable 8 - bad as defined for Ocean Data View at http://odv.awi.de/fileadmin/user_upload/odv/misc/ODV4_QualityFlagSets.pdf.

Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving invalid readings. Checking the sensor's disqualify box will cause the OC_D database to have its values made NULL for the indicated

CTD #:5_	Data Du	mp #0260 Starting Date:August 7, 2017	Defective / Absent Sensors					
Cast#	Quality Code	Data Quality Comment	Cond	Temp	Fluo	OBS	PAR	O2
All Casts in Dump	0 (except for Fluo and OBS)	All fluorescence and turbidity measurements in all casts for entire data dump (entire survey) disqualified due to suspect sensor (see Comments below).			V	V		
		- OR -						
79 80 81 82 83 84 85 86								

Analyst's Comments

(these are not applied to the database)

This Dump contains cast data collected from all 8 core stations (01, 04, 07, 12, 13, 16, 20, and 24) during the August 2017 survey.

Although fluorescence and NTU data from some of the casts collected during this survey did not appear out of the ordinary, several others recorded no fluorescence at all. Because of this unexpected result, along with this sensor's unreliable record from earlier in the year for both fluorometry data and turbidity data (see Comments from Data Dump #s 0255 and 0256), these cast data were disqualified (entire data dump). The sensor is deemed unreliable, and is disqualified for the entire survey. Manufacturer technical support concurs.

All other sensors appear to have operated properly.

Data quality codes are: 0 - good 1 - unknown 4 - questionable 8 - bad

as defined for Ocean Data View at http://odv.awi.de/fileadmin/user_upload/odv/misc/ODV4_QualityFlagSets.pdf.

Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving invalid readings. Checking the sensor's disqualify box will cause the OC_D database to have its values made NULL for the indicated

CTD #:5_	Data Dur	mp #0261 Starting Date: <u>September 5, 2017</u>	Defective / Absent Sensors										
Cast#	Quality Code	Data Quality Comment	Cond	Temp	Fluo	OBS	PAR	02					
All Casts in Dump	0 (except for Fluo and OBS all casts, and PAR for Cast 90)	All fluorescence and turbidity measurements in all casts for entire data dump (entire survey) disqualified due to suspect sensor (see Comments below).			V	V							
- OR -													
87		Replicate cast (1 of 2) from Station 01.			~	~							
88					v	v							
89					1	~							
90	8 (for PAR)				v	v	v						
92					~	1							
93					v	v							
94					~	~							
95		Deulisets seet (0 of 0) form Otation 04											
96		Replicate cast (2 of 2) from Station 01.											
-													
-					П								

Analyst's Comments

(these are not applied to the database)

This Dump contains cast data collected from all 8 core stations (01, 04, 07, 12, 13, 16, 20, and 24) during the September 2017 survey. Note that Cast #s 87 and 96 are replicates of Station 01, and that Cast 91 is intentionally missing (bad cast, data not uploaded).

The fact that the fluorometer failed to record any data at any station during this survey cannot be explained for this time of year. Because of this unexpected result, along with this sensor's unreliable record from earlier in the year (see Comments from Data Dump #s 0255 and 0256), these cast data were disqualified (entire data dump). Moreover, because of the "combination" nature of the fluorometry and turbidity sensors, and the fact that apparently spurious detections by both seemed to be linked in survey data earlier in the year, the NTU data are similarly suspect. Consequently, the sensor is deemed unreliable, and is disqualified for the entire survey. Manufacturer technical support concurs.

Note also that the PAR data from Cast 90 (Station 20) are disqualified (very erratic, out of expected range, unexplained); however, the sensor seemed to have performed normally for all other casts.

All other sensors appear to have operated properly.

Data quality codes are: 0 - good 1 - unknown 4 - questionable 8 - bad as defined for Ocean Data View at http://odv.awi.de/fileadmin/user_upload/odv/misc/ODV4_QualityFlagSets.pdf. Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving

Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving invalid readings. Checking the sensor's disqualify box will cause the OC_D database to have its values made NULL for the indicated cast(s).

Deliverable OC_M reporting sheet, revised 2/3/2010

CTD #:5_	Data Du	mp #0262 Starting Date:October 2, 2017	Defective / Absent Sensors					
Cast#	Quality Code	Data Quality Comment	Cond	Temp	Fluo	OBS	PAR	O2
All Casts in Dump	0 (except for Fluo and OBS)	All fluorescence and turbidity measurements in all casts for entire data dump (entire survey) disqualified due to suspect sensor (see Comments below).			V	V		
		- OR -						
01					7	7		
02		Replicate cast (1 of 4) from Station 24.			I	2		
03		Replicate cast (2 of 4) from Station 24.				2		
04		Replicate cast (3 of 4) from Station 24.						
05		Replicate cast (4 of 4) from Station 24.						
06					J	2		
08						2		
09						2		
10					2	2		
11					2	2		

Analyst's Comments

(these are not applied to the database)

This Dump contains cast data collected from all 8 core stations (01, 04, 07, 12, 13, 16, 20, and 24) during the October 2017 survey.

Fluorescence data were disqualified for all casts performed during this survey (entire data dump) because the sensor recorded either no fluorescence at all, or very atypical vertical distributions of fluorescence that cannot be explained (see Comments from Data Dump #s 0266 and 0256). Moreover, because of the "combination" nature of the fluorometry and turbidity sensors, and the fact that apparently spurious detections by both seemed to be linked in survey data earlier in the year, the NTU data are similarly suspect. Consequently, the sensor is deemed unreliable, and is disqualified for the entire survey. Manufacturer technical support concurs.

All other sensors appear to have operated properly.

Data quality codes are: 0 - good 1 - unknown 4 - questionable 8 - bad as defined for Ocean Data View at http://odv.awi.de/fileadmin/user_upload/odv/misc/ODV4_QualityFlagSets.pdf.

Disqualified sensors are either those disconnected from the instrument or those, after cast data are reviewed, determined to be giving invalid readings. Checking the sensor's disqualify box will cause the OC_D database to have its values made NULL for the indicated