



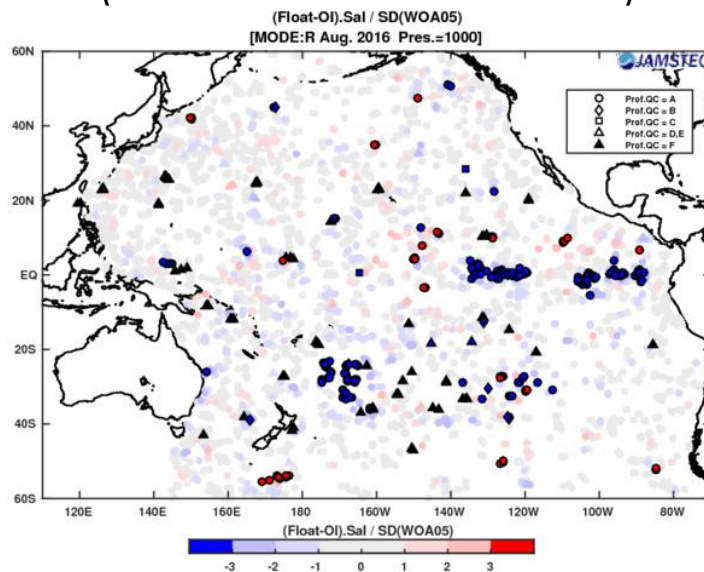
Pacific ARC Progress and Plans

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Services on PARC web sites

- ▶ PARC is providing float monitoring information in the Pacific on its web sites since 2006.

- (1) Float status
- (2) Deployment plan
- (3) Results of comparison between individual Argo TS profiles and gridded data (WOA05 and MOAA-GPV).



(4) Feedback QC status to PIs

WMO_ID	QC status	meta data	CTD station ID	Diagnostic plot	Last surfaced date and location	Status	Latest Cycle #	Obtained Profile #	DAC	Principal Investigator
2900928	*	*	*		20130926082718 25.460, -177.808	Active	185	137	JA	JAMSTEC

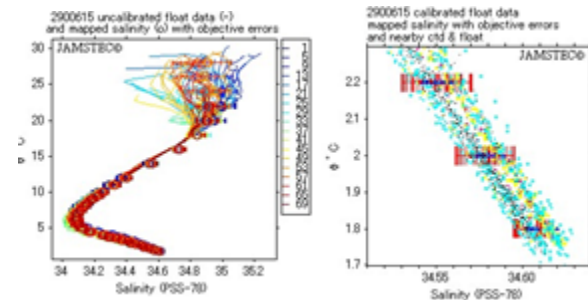
Float QC Status

(Update 9-Oct-2013 UTC)

PROFILE [PARAM] QC Legend

Cycle No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	26	27	29	30	31	33	34	35
Data mode	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
N levels	114	114	115	115	115	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	
Profile PRES QC	A	A	A	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
Profile TEMP QC	A	A	A	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
Profile PSAL QC	A	A	A	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	

(5) Feedback QC results to PIs



Improving PARC web contents

- ▶ Improvement of PARC web to be useful...
 - ▶ Data distribution
 - ▶ PARC's QC results
 - ▶ Further float information (Under reconstruction)
 - ▶
- ▶ Improvement of Advanced automatic QC (AQC) Argo profile data (introduced in ADMT17)
 - ▶ The following contents of check and condition will be considered again.

Advanced automatic QC (AQC ver.2.0)

ActionList #35

The aim is to produce useful QC information to Pis based on the process of making AQC v2.0 dataset.

- ▶ Application for Argo R,A,D mode files from GDACs
- ▶ Processing parameters
 - ▶ PRES,TEMP,PSAL
- ▶ Conducting QC and adding flags for...
 - ▶ P,T,S profiles
 - ▶ Position_QC
 - ▶ 1 (good), 2 (probably good), 8 (interpolated value)
 - ▶ Juld_QC
 - ▶ 1(good),2(probablye good),8(interpolated value)
 - ▶ * Exclude when rQC flags of PTS profiles are all 4 and 9 except for unpumped layer.
- ▶ Frequency of delivery from the web site
 - ▶ Monthly, releasing in previous month

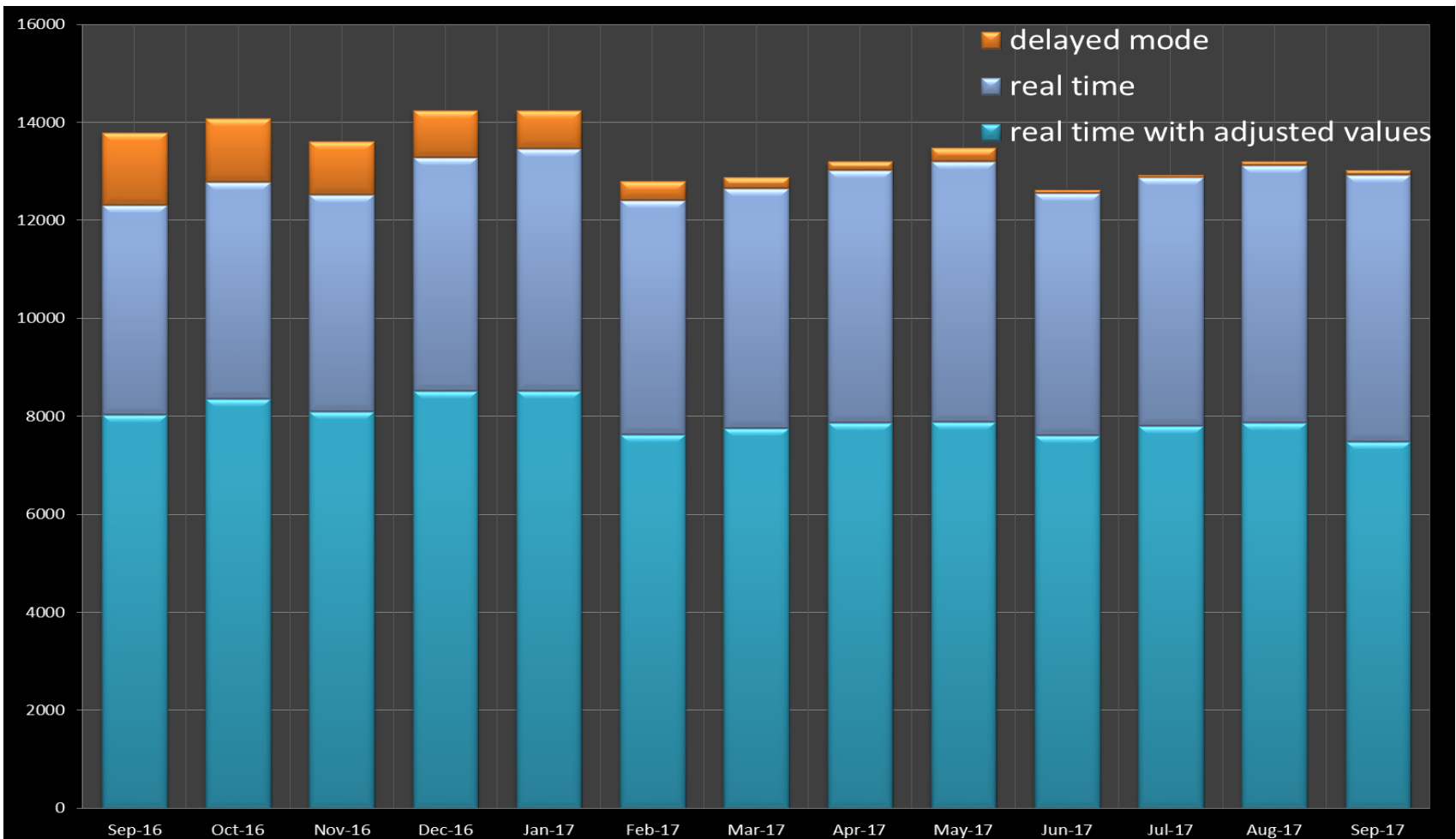
Items of QC (1)

1. Position check
 - I. Not NULL / Fill Value for Latitude / Longitude
 - II. Moving from previous position with appropriate speed (< 1 m/s)
2. Number of levels in each profile
 - I. >10 levels
3. Shallowest level in profile
 - I. < 17 dbar
4. P,T,S range check
 - I. Pressure range from 0 dbar ~up to setting profile depth+10%.
 - II. Temperature range in $-2.5 \sim 35.0$ °C.
 - III. Salinity range in $29 \sim 41$ psu.

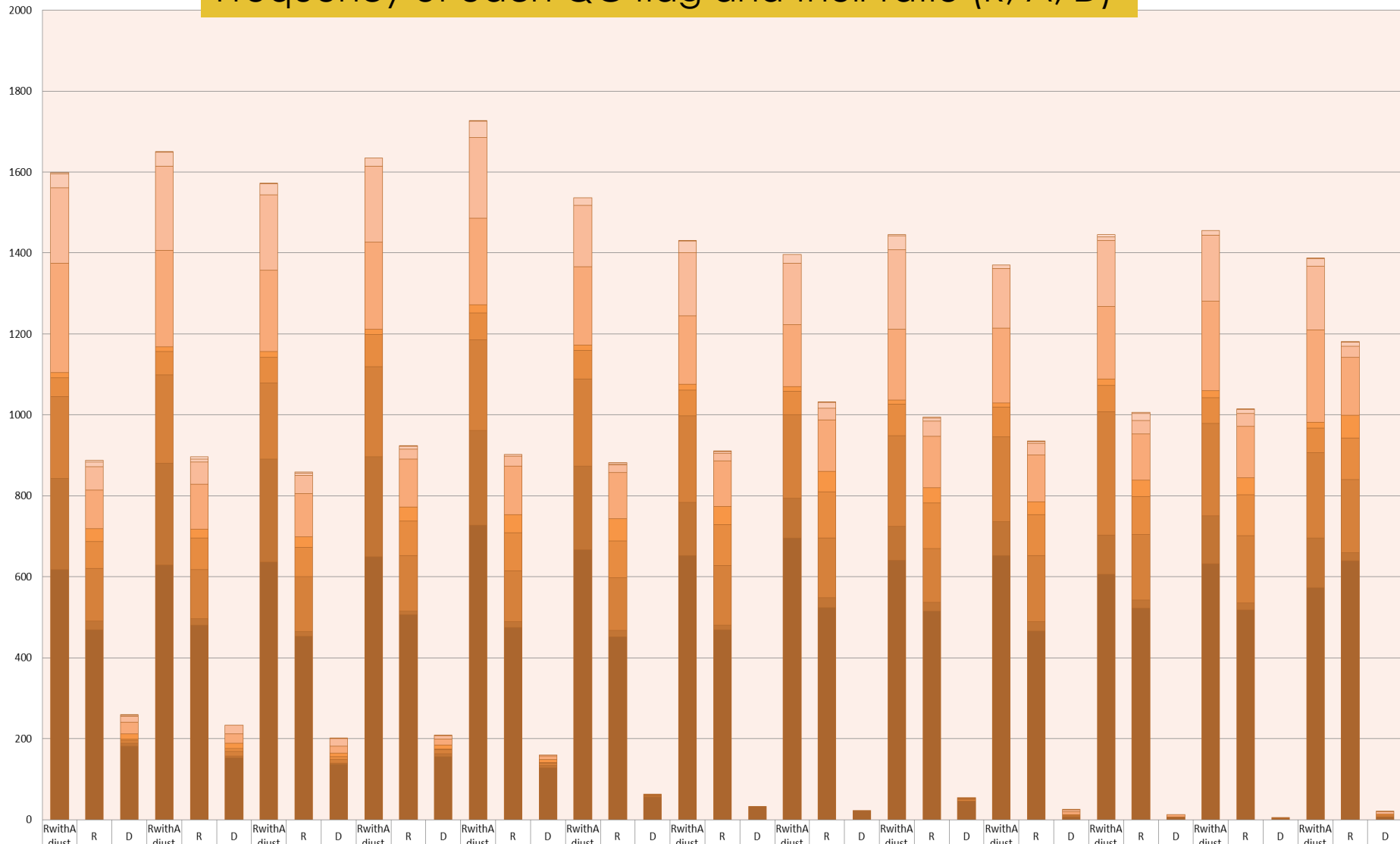
Items of QC (2)

5. P,T,S Duplicate value check (when compare to neighboring values)
6. Potential density inversion (deeper than 1000dbar)
 - I. $> -0.005 \text{ kg/m}^3$ when compare with above value
7. Potential density inversion (all layer)
 - I. $> -0.02 \text{ kg/m}^3$ when compare with above value
8. Vertical sampling interval check
 - I. $\sim 300 \text{ dbar}$: sampling level interval $< 50 \text{ dbar}$.
 - II. $300 \sim 1500 \text{ dbar}$: $< 110 \text{ dbar}$.
 - III. $1500 \text{ dbar} \sim$: $< 250 \text{ dbar}$.
9. Climatology check (using annual mean T,S profiles and SD in WOA13)
 - I. $T_{\text{prof}} - T_{\text{WOA13}} < ((0.005C)^2 + SD^2)^{1/2}$
 - II. $S_{\text{prof}} - S_{\text{WOA13}} < ((0.01\text{psu})^2 + SD^2)^{1/2}$

Statistics: Number of profiles (Sep.16~Sep.17)

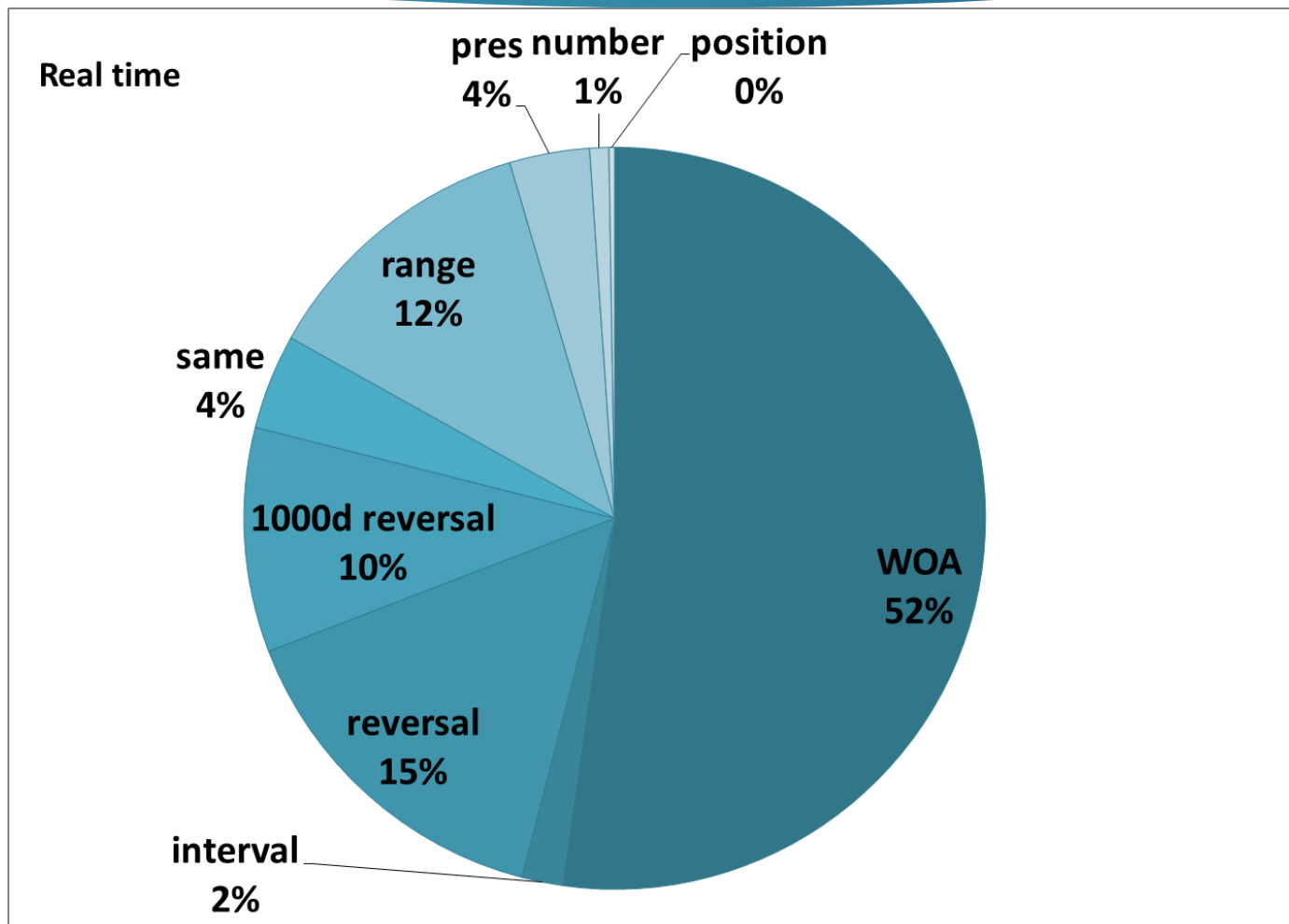


Frequency of each QC flag and their ratio (R, A, D)

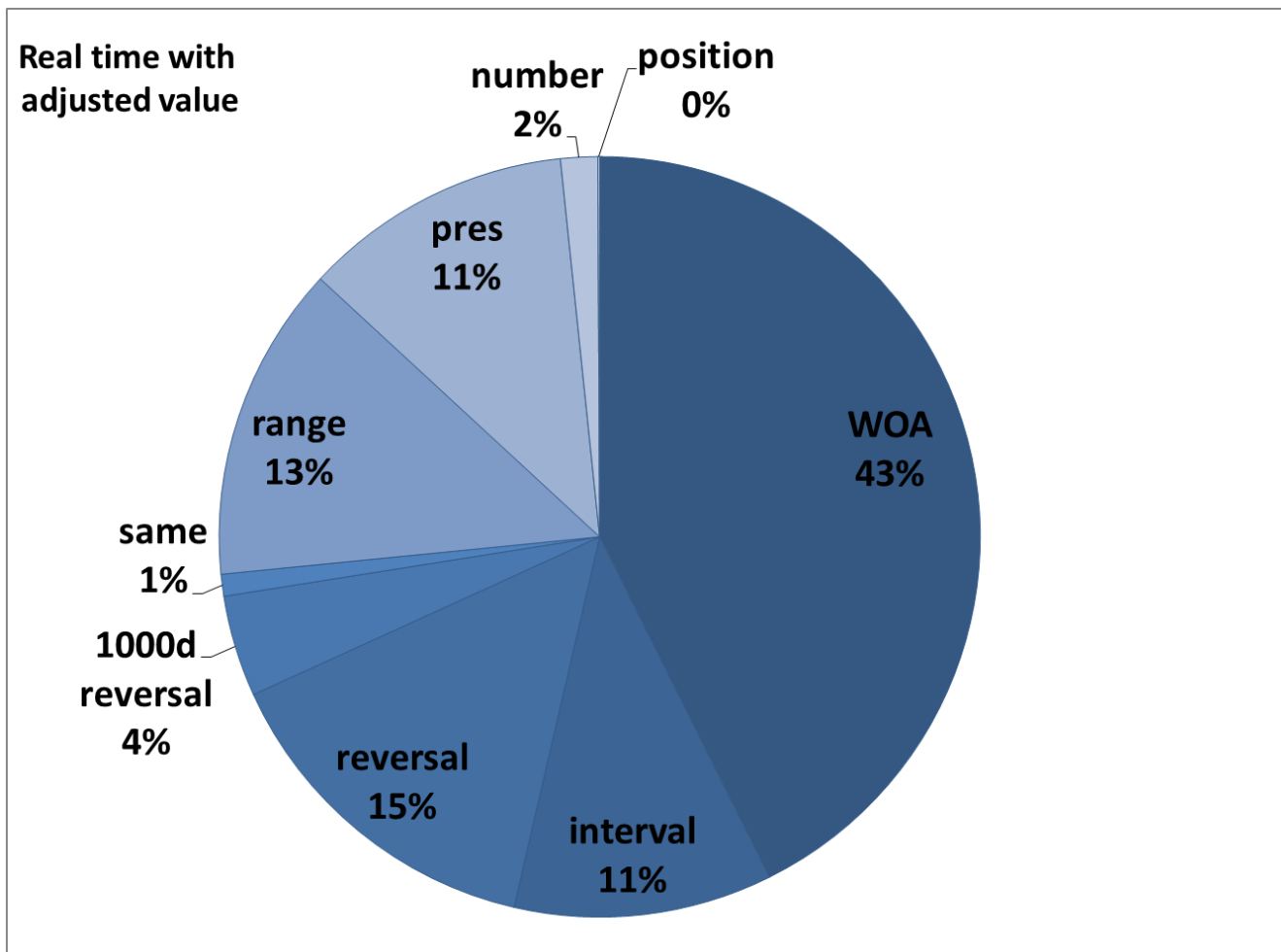


	Sep-16			Oct-16			Nov-16			Dec-16			Jan-17			Feb-17			Mar-17			Apr-17			May-17			Jun-17			Jul-17			Aug-17			Sep-17			
	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D	RwithA djust	R	D							
position	2	5	1	1	6	0	2	3	0	1	1	0	1	0	0	0	3	0	0	1	2	0	0	2	2	0	0	1	0	0	5	3	0	0	2	0	0	1	2	0
number	35	11	3	34	7	0	28	6	2	19	7	2	40	4	0	20	3	0	29	4	0	21	14	0	35	8	0	9	4	1	9	17	0	11	10	0	19	9	1	
pres	186	58	15	209	56	22	186	44	18	188	25	8	200	25	3	151	19	0	157	18	0	152	30	0	197	37	0	146	29	5	163	33	0	163	31	0	157	28	5	
range	270	95	29	238	110	23	200	108	18	216	118	15	214	119	9	194	114	1	168	114	0	153	127	0	174	127	1	185	116	6	179	115	6	221	128	0	229	143	0	
same	14	32	12	12	23	14	15	25	8	13	34	10	20	45	7	13	54	1	15	44	0	11	50	0	11	38	2	11	32	1	16	40	0	18	41	0	14	56	0	
1000d reversal	46	66	3	57	77	7	64	73	8	79	86	1	67	94	1	71	92	1	64	101	0	59	115	0	78	112	1	73	101	0	66	94	0	63	101	1	60	103	4	
all reversal	202	130	8	218	122	11	188	136	8	222	137	10	223	126	6	214	130	1	213	148	0	206	147	0	224	133	4	210	163	3	304	162	2	228	166	2	211	181	3	
interval	226	22	6	252	15	4	254	11	3	248	9	7	235	14	6	207	15	3	131	11	0	98	24	0	83	22	1	84	23	2	97	19	0	119	18	0	123	19	0	
WOA	617	469	182	629	481	153	636	453	137	649	506	156	727	475	128	667	452	55	653	469	33	696	524	23	641	515	45	652	466	7	606	523	5	632	518	2	573	640	7	

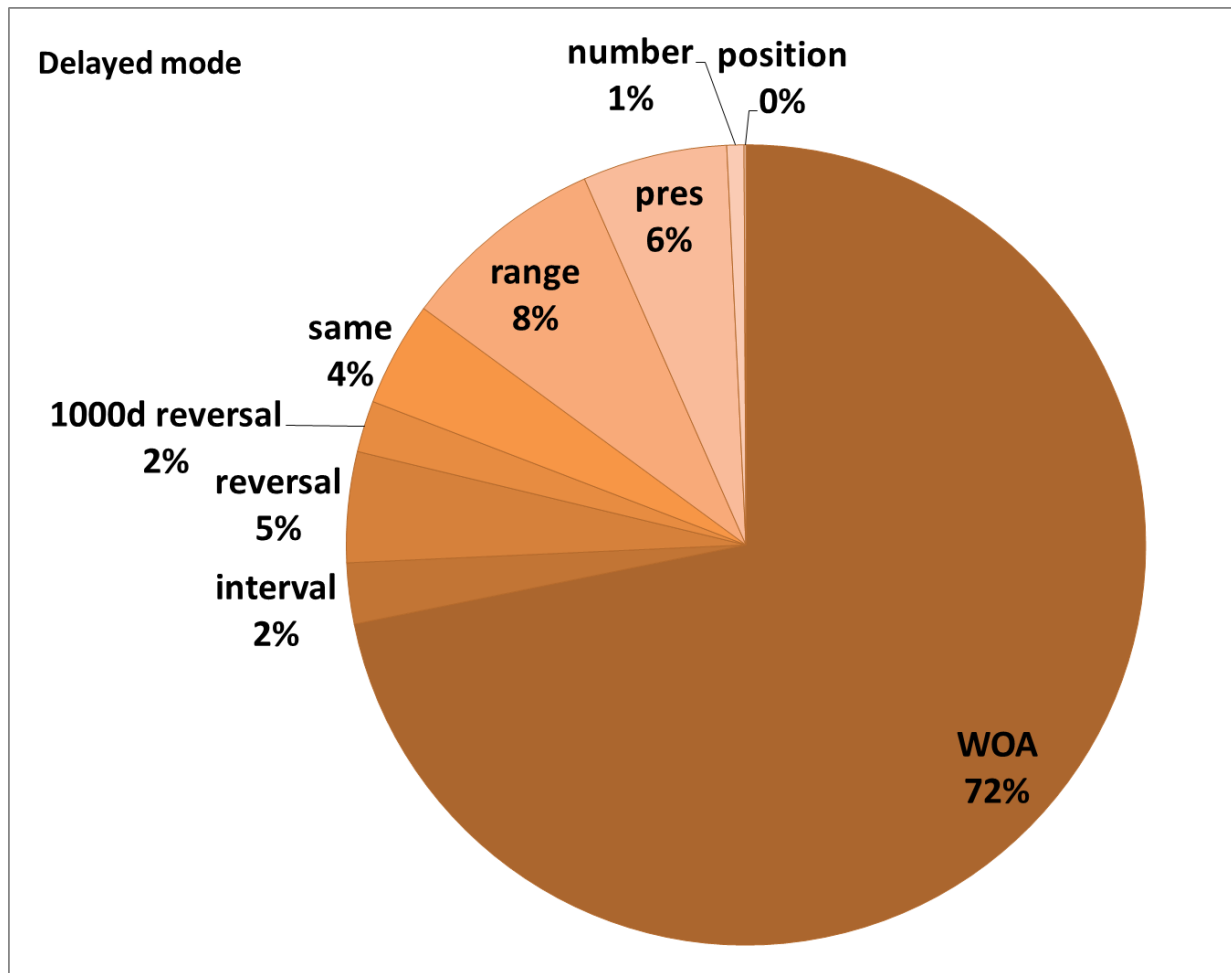
Statistics: Error classification for R file (Sep. 2016- Sep. 2017)



Statistics: Error classification for A-mode file (Sep. 2016- Sep. 2017)



Statistics: Error classification for D-mode file (Sep. 2016- Sep. 2017)



Summary

- ◆ PARC is operating well, producing many kinds of information and dataset to Pacific PIs
- ◆ Monthly AQC dataset ver2.0 has been released in JAMSTEC web site
http://www.jamstec.go.jp/ARGO/argo_web/argo/?page_id=100&lang=en
- ◆ Over 10000 profiles in R, A and D mode files are checked with 9 QC items, R mode files with insufficient QC are mostly corrected
→ Information of QC flags on AQC dataset will be useful to monitor performance of Pacific Argo array
- ◆ Statistical information based on error check process of AQC will be shown monthly from PARC website