

Southern
Ocean Array
55° S, 90° W
~4800 m depth

Global Arrays

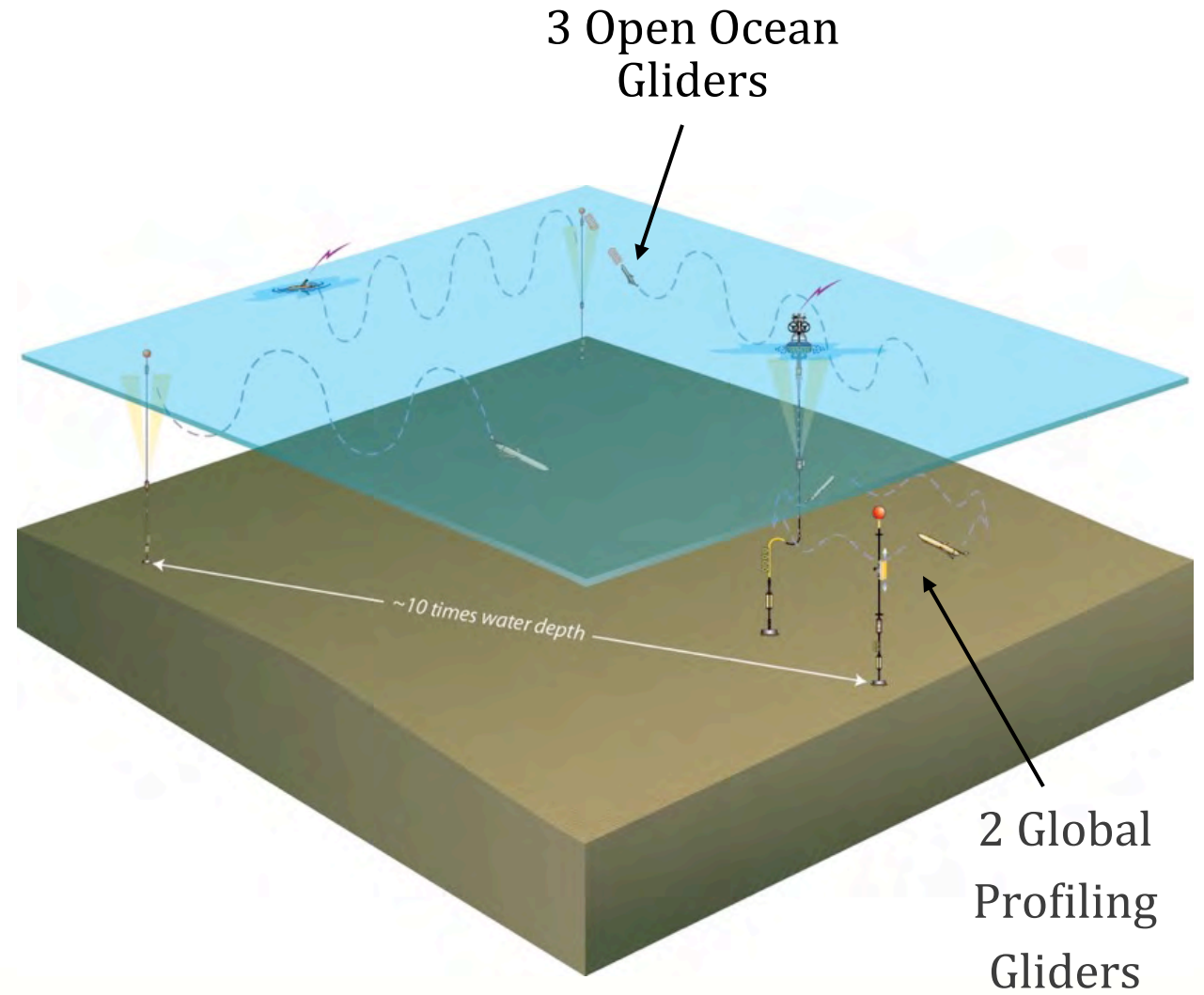
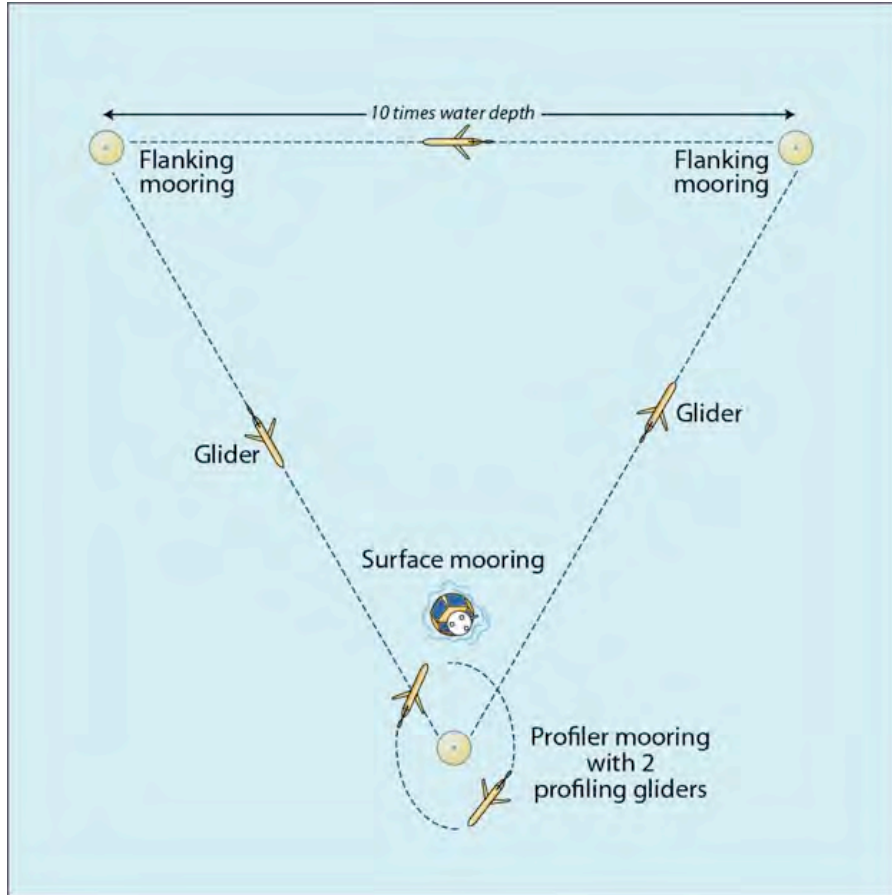


Cruise Schedule

2017 Staff Schedule		 Coastal & Global Scale Nodes																			 Coastal & Global Scale Nodes	
Cruise	IRR	Equipment Shipment Date	Mobilization Date	Ship Departure Date	Departure Port & Ship	Ship Return Date	Ship Return Port	In Port Mob Team	Chief Sci.	Deck Ops Lead	Deck Ops Team	Instruments	Gliders	AUVs	Surface Moorings	Coastal Profiler Moorings	Subsurface Lead	Subsurface Assist	Doc. Lead	Physical Sampling		
Last Updated: 9/25/2017						Person who identifies this resource			Paul Matthias	John Kemp	John Kemp	Sheri White	Peter Brickley	Peter Brickley	Gary Cook	John Lund	John Lund	John Lund	Sheri White	Eric Benway		
Pioneer 8 Leg 1 AR16-A	5/16/2017 @ 1430 ET	n/a	28-May	30-May	WHOI -Armstrong w/ROV K2	3-Jun	WHOI	ROV Leg	Al & Sheri White	Ryder	Basque, Nico & Don Peters	n/a	n/a	UCONN ROV K2 TEAM (3)	n/a	n/a	n/a	n/a	Ellen Roosen	Dave Wellwood		
Pioneer 8 Leg 2 AR16-B	n/a	n/a	4-Jun	5-Jun	WHOI	12-Jun	WHOI	CSM, Glider & AUV Leg w/ SOO-LARS	Al Plueddemann, Sheri White	Ryder	Basque, Nico, Tully Rohrer (OSU deck training)	Jennifer Batryn, Allen Smith	Diana Wickman	Diana Wickman, Jared Schwartz & Dutsin Barnhardt (HYD)	Alex Franks & Steve Caldwell	James Kuo, Brad Guerrero	n/a	n/a	Ellen Roosen	Dave Wellwood		
Pioneer 8 Leg 3 AR16-C	n/a	n/a	12-Jun	15-Jun	WHOI -Armstrong	20-Jun	WHOI	CPM Leg	Al Plueddemann, Sheri White	Ryder	Basque, Nico, Newhall	Allen Smith	n/a	n/a	Han Ng	John Lund	n/a	n/a	Ellen Roosen	Dave Wellwood		
Papa 5 SR1710	6/27/2017 @ 1300 ET	12-Jun	6/24 - 6/29	7-Jul	Newport Sally Ride	23-Jul	Newport	Ryder, Basque, Llanos, Dan Bogoroff, James Kuo, Diana W.	Ed Dever	Ryder	Chris Basque & Nico Llanos	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tina Thomas	n/a		
Irminger 4 AR21	7/24/2017 1400 ET	n/a	25-Jul	28-Jul	WHOI -Armstrong	30-Aug	WHOI	Cruise Team	George Tupper	Meghan Donahue	Drew Cole, Carmen Greto	Jennifer Batryn	Jennifer Batryn	n/a	Steve Caldwell	n/a	James Kuo	Brad Guerrero	Rebecca Travis	Leah Houghton		
Pioneer 9 Leg A AR24-A	10/16/17 @ 1600 ET	n/a	19-Sep	22-Oct	WHOI -Armstrong w/ ROV K2	26-Oct	WHOI	ROV & CPM	Al Plueddemann	J. Ryder	Nico Llanos, Eric Hutt, C. Greto & Don Peters	Jennifer Batryn	n/a	n/a	n/a	James Kuo	n/a	n/a	Rebecca Travis & Lauren Kowalski?	Dave Wellwood, Eric Benway		
Pioneer 9 Leg B AR24-B		n/a	TBD	28-Oct	WHOI	4-Nov	WHOI	CSM'S	Al Plueddemann	Kemp	Chris Basque, Eric Hutt, C. Greto	Jennifer Batryn, Neil McPhee	Jared Schwartz	Diana Wickman, Peter Brickley	Alex Franks, Matt Paskauskas, John Roper, Matthew Lach	n/a	n/a	n/a	Rebecca Travis & Lauren Kowalski?	Dave Wellwood		
Pioneer 9 Leg C AR24-C		n/a	TBD	5-Nov	WHOI -Armstrong	12-Nov	WHOI	CPM'S	Al Plueddemann	Kemp	Chris Ross, Eric Hutt, C. Greto	Allen Smith	n/a	n/a	n/a	John Lund	n/a	n/a	Rebecca Travis & Lauren Kowalski?	Dave Wellwood		
S. Ocean 4 NBP17-09	11/3/2017 @ 1300 ET	July 14 & Aug 17	Nov 21 - 22	23-Nov	P.A. N.B.Palmer	9-Dec	P.A.	Cruise Team Nov 20 - 22	Sheri White	Jim Ryder	Chris Basque, Josh Mitchell	Allen Smith	n/a	UCONN ROV K2 TEAM (3)	n/a	n/a	Dan Bogoroff	Brad Guerrero	Ellen Roosen	Leah Houghton		
ARG. Basin 4 AT39-03	11/2/2017 @ 1600 ET	8-Sep	Nov 21 - 23	24-Nov	Montevideo RV Atlantis	11-Dec	Montevideo	Cruise Team Nov 20 - 23	Seb Bigorre	John Kemp	Dunn, Llanos	Jennifer Batryn	n/a	n/a	n/a	n/a	John Lund	James Kuo	Tina Thomas	Dave Wellwood		
Last Updated:	9/25/2017																			9/25/2017		



Global Array Configuration



Global Southern –D000003

Real-time Status

- GS01SUMO-D000003 Status 297 days
- No Gliders Deployed
- No Sub-surface Mooringsg (SSM) Telemetry
- Meteorological data integrated into WMO GTS and feeding ECMWF forecasts
- Battery powered instrument data will be Recovered
- Recovery Cruise RVIB Nathaniel B. Palmer 23 Nov – 9 Dec, 2017 Punta Arenas

17-Sep-17		Instruments	Flag		
	%good	mopak	1		
Num Inst.	19	metbk1	1		
Inst. %	51	dosta1	1		
		spkir1	1		
		nunr1	1		
Data System	67	metbk2	1		
		pc o2a	0.5	no data	11626
GPS	100	wavs	1		
Power	98	fdchp	0.5	no data	
		optaa1	1		
		flort1	1	spikes	
		ac omm			
Battery	100	ctdtpb	0	no data 8/19	11857
		flort2	0	no data 8/19	11857
		velpt	0	No data 4/25	
		optaa2	0	no data 6/216	
PV	100	dosta2	0	no data 8/19	11857
		pc o2w	0	No data 5/23	
		nunr2	0	no data 8/19	11857
		spkir2	0	No data 5/11	
		ctdmo1	1		
Wind Turbine	100	phsen1	0	No data 4/29	11857
		ctdbp1	0.5	bad char	11984
		ctdbp1	0.5	bad char	11984
		ctdbp1	0.5	bad char	11984
Telemetry	50	pc o2w1	1	no plot	
		ctdmo2	1		
		ctdbp2	0.5	no data 9/14	
		ctdbp2	0.5	no data 9/14	
Beacon	100	ctdbp2	0.5	no data 9/14	
		pc o2w2	0.5	alt. samples, no	11631
		ctdmo3	1		
		phsen2	0.5	no data	11857
		ctdbp3	0.5	no data 9/15	
		ctdbp3	0.5	no data 9/15	
		ctdbp3	0.5	no data 9/15	
		pc o2w3	0.5	alt samples, no	11631
		ctdmo4	1		
		ctdmo5	1		
		ctdmo6	1		
		adcp	0.5	no plot	
		ctdmo7	1		
		ctdmo8	1		
		ctdmo9	1		
		ctdmo10	1		

Global Arrays



Argentine
Basin Array
42° S, 42° W
~5200 m depth

Global Argentina –D000003

- GA01SUMO-D00003 Operational (327 days)
- 3x gliders deployed. Eddy currents, biofouling
- No Sub-surface Mooringsg (SSM) Telemetry
- Instrument Issues (see summary)
- Battery powered instrument data will be Recovered
- Recovery Cruise RV Atlantis 24 Nov – 11 Dec 2017 Montevideo
- GA02HYPM – D00002 to be recovered

Real-Time Status

- 17 Sept 2017

17-Sep-17		Instruments	Flag		
	%good	mopak	1		
Num Inst.	22	metbk1	1		
Inst. %	59	dosta1	1		
Data System	100	spkir1	1		
		nuntr1	1		
		metbk2	1		
		pco2a	0.5	TEMP	11856
		w avss	1		
GPS	100	fdchp	1		
Power	92	optaa1	1		
		flort1	1		
Battery	100	acommm			
		ctdpb	0	no data 6/18	11856
		flort2	0	no data 8/30	11856
		velpt	0	no data 3/24	11856
		optaa2	1		
PV	100	dosta2	0.5	spikes 9/2	
		pco2w	1		
		nutnr2	0	no data 8/14	
		spkir2	1		
		ctdmo1	1		
Wind Turbine	50	phsen1	0	no data	11856
		ctdbp1	0.5	bad char	
Telemetry	75	ctdbp1	0.5	bad char	
		ctdbp1	0.5	bad char	
		pco2w 1	0.5	alternate, no p	11856
		ctdmo2	1		
		ctdbp2	0	no data 9/13	
Beacon	100	ctdbp2	0	no data 9/13	
		ctdbp2	0	no data 9/13	
		pco2w 2	0	no data 8/10	11856
		ctdmo3	1		
		phsen2	0	no data	11856
		ctdbp3	0	no data 9/12	
		ctdbp3	0	no data 9/12	
		ctdbp3	0	no data 9/12	
		pco2w 3	0	No data 2/9	11856
		ctdmo4	1		
		ctdmo5	1		
		ctdmo6	1		
		adcp	0.5	alternate, no p	
		ctdmo7	1		
		ctdmo8	1		
		ctdmo9	1		
		ctdmo10	1		

Station Papa Array

Gulf of Alaska

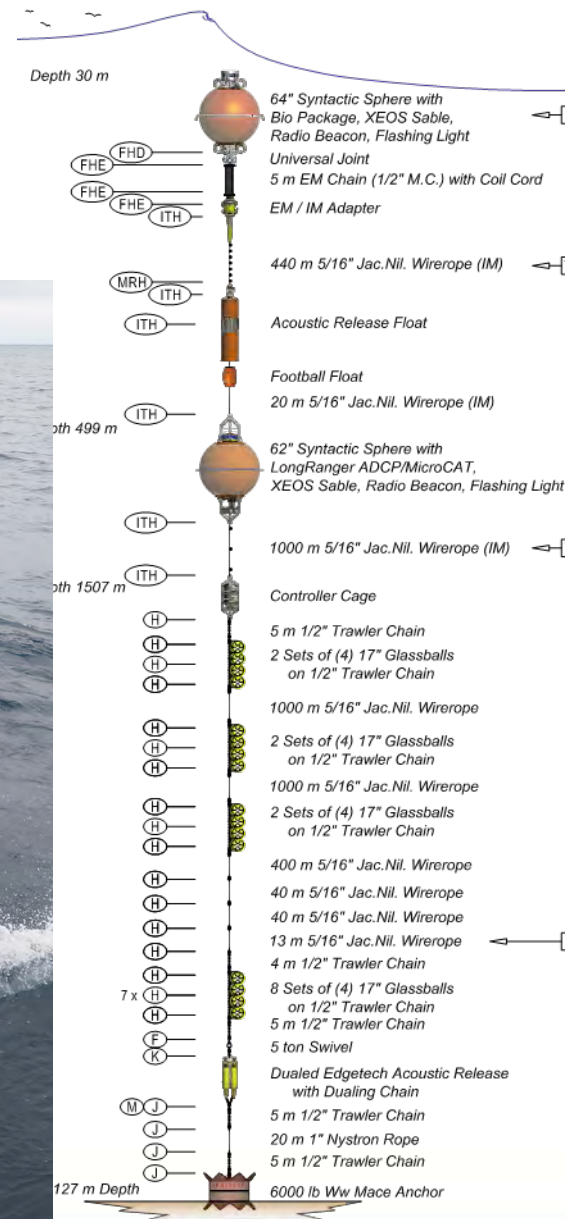
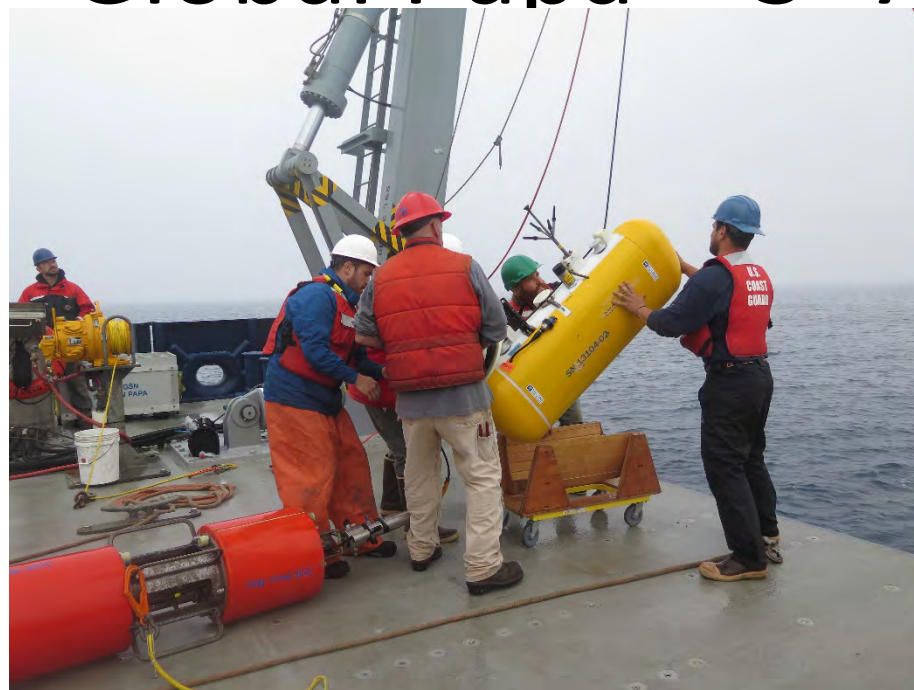
50° N, 145° W

~4250 m depth

Global Arrays



Global Papa - 5 7 – 22 July 2017

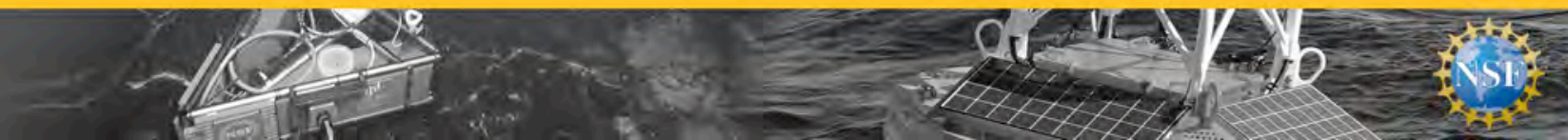


Global Papa-5 Deployment Turn Cruise

- Deployment Cruise 7 – 22 Jul 2017 RV Sally Ride
- Deployed all D00005 moorings
 - Global Surface Mooring (SUMO)
 - 3 x Sub-surface Moorings (HYPM, FLMA/B)
 - No Gliders
- All D00004 Moorings recovered successfully
- Instrument Issues (see summary)
 - Upper MMP, and 2x CTDMO clamps, Biopackage
 - Glider 356 recovered early May, 2017 by SOOP

Current Status Unknown

- Tentative plan to deploy “Interrogator” February 2018

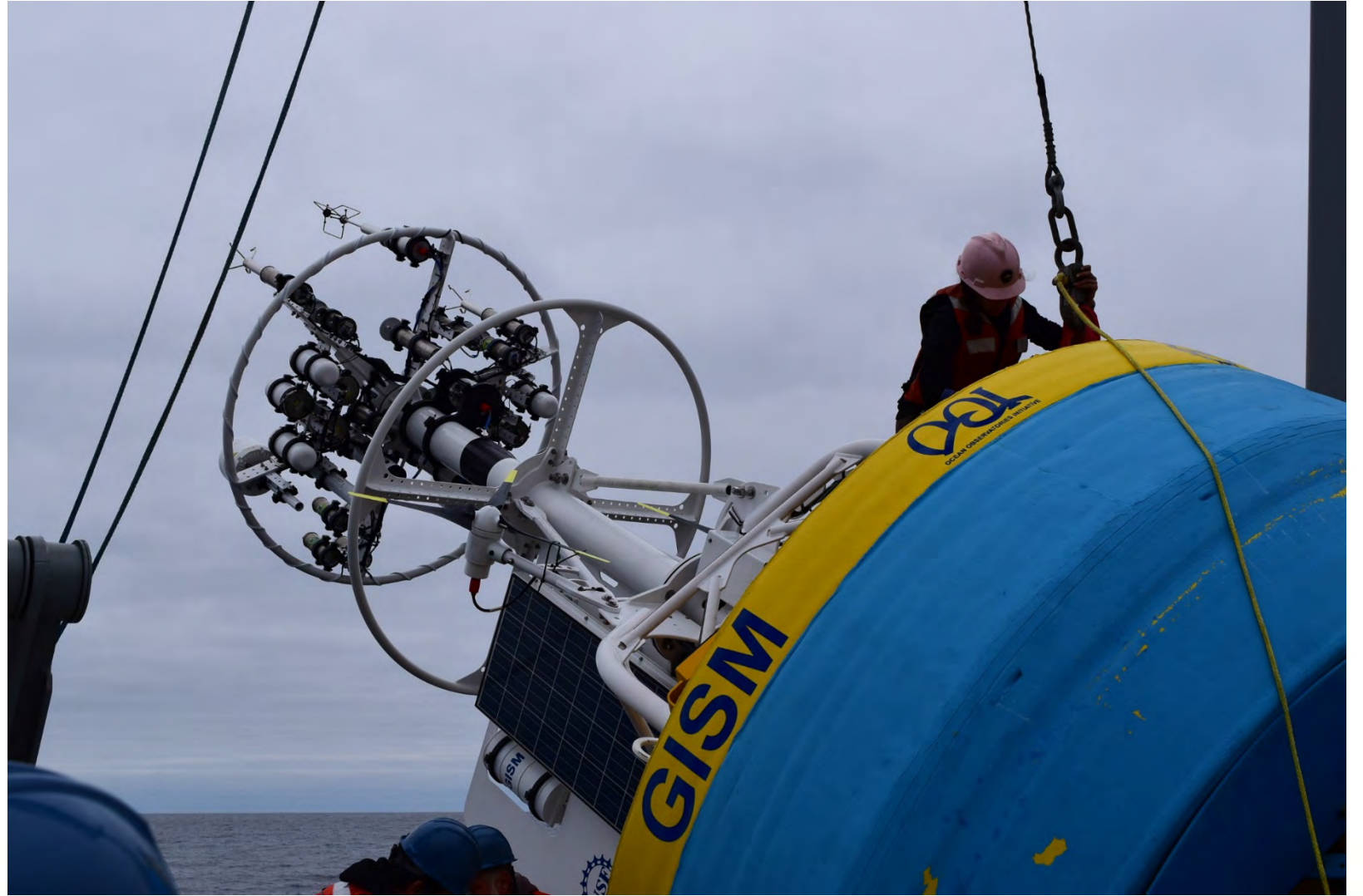
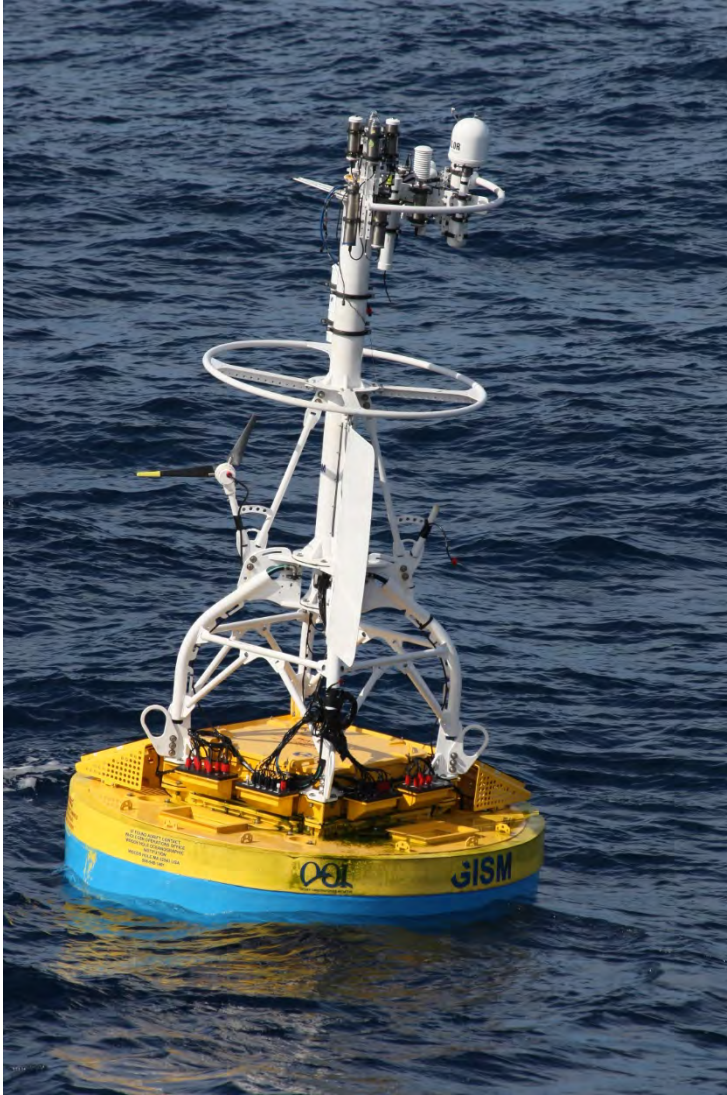


Global Irminger Sea

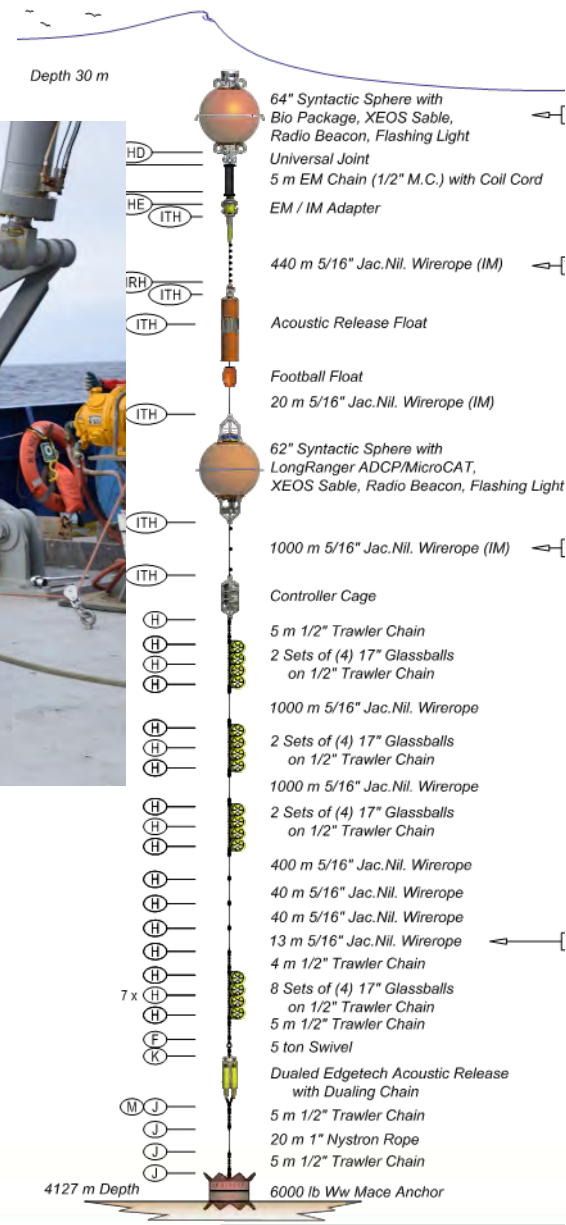
Irminger Sea
Array
South of Greenland
60° N, 40° W
~2800 m depth



Irminger Sea-4 28 Jul – 30 Aug 30 2017



Irminger Sea-4 28 Jul – 30 Aug 30 2017



Irminger Sea – 4 Deployment Turn Cruise

- RV Neil Armstrong July 28 – August 30, 2017 (completed Aug 25)
- Deployed
 - Global Surface Mooring (SUMO)
 - Ice resistant. Added 360 camera
 - 3 x Sub-surface Moorings (SSM)
 - 1 x Open Ocean Glider (493)
- All D00003 Moorings recovered successfully
- Glider 559 recovered June 16, 2017 by SOOP off W. Greenland
- Instrument Issues (see summary slide)
- Battery powered instrument data will be Recovered

Real-time Status

- 17 Sept 2017
- SSM Status OK

17-Sep-17		Instruments	Flag
	%good	mopak	1
Num Inst.	41	metbk1	1
Inst. %	93	dosta1	1
		spkir1	1
		nuntr1	1
Data System	100	metbk2	1
		pco2a	1
GPS	100	wavss	1
Power	98	fdchp	1
		optaa1	1
		flort1	0
Battery	100	acomm	
		ctdpb	1
		flort2	1
		velpt	1
PV	100	optaa2	1
		dosta2	1
		pco2w	1
		nutnr2	1
Wind Turbine	100	spkir2	1
		ctdmo1	1
		phsen1	0
Telemetry	100	ctdbp1	1
		ctdbp1	1
		ctdbp1	1
Beacon	100	pco2w 1	1
		ctdmo2	1
		ctdbp2	1
		ctdbp2	1
		ctdbp2	1
		pco2w 2	0
		ctdmo3	1
		phsen2	1
		ctdbp3	1
		ctdbp3	1
		ctdbp3	1
		pco2w 3	1
		ctdmo4	1
		ctdmo5	1
		ctdmo6	1
		adcp	1
		ctdmo7	1
		ctdmo8	1
		ctdmo9	1
		ctdmo10	1

GI02HYPM-D00004

Latest	8/27/2017
Acomms	224kb
Node	27
Status	no issues

GI03FLMA-D00004

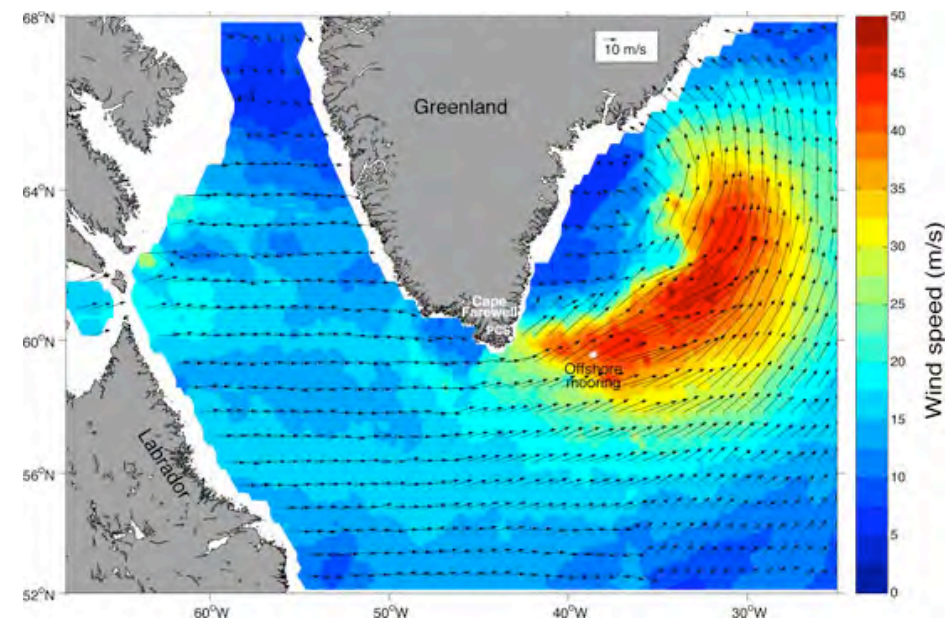
Latest	9/17/2017
Acomms	255 kb
Node	25
Status	no issues

GI03FLMB-D00004

Latest	9/9/2017
Acomms	194kb
Node	26
Status	no issues

GI01SUMO-D000003 Revived

December 27, 2016



Cape Farewell Storm - Violent, rapid-onset

- GI01SUMO
 - Icing, Turbine and PV damage
 - Power limitation
 - Suspended data xmit Jan-Apr

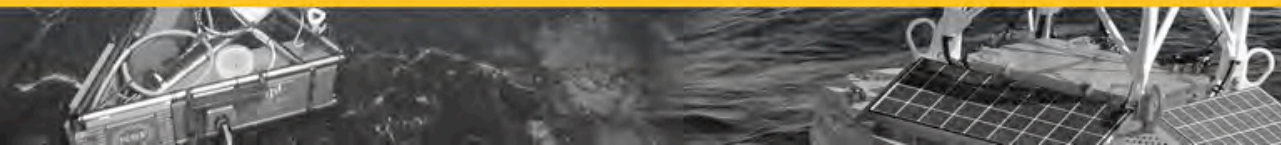
February 4, 2017

Instruments	Flag	
mopak	0	
metbk1	0	
dosta1	0	
spkir1	0	
nuntr1	0	
metbk2	0	gaps, no SW
pco2a	0	
wavss	0	
fdchp	0	
optaa1	0	
flort1	0	
acomm		
ctdtpb	0	timing alarm
flort2	0	
velpt	0	
optaa2	0	
dosta2	0	
pco2w	0	no data
nutnr2	0	
spkir2	0	
ctdmo1	0	
phsen1	0	no plot
ctdbp1	0	no plot
ctdbp1	0	no plot
ctdbp1	0	no plot
pco2w 1	0	
ctdmo2	0	
ctdbp2	0	no data
ctdbp2	0	no data
ctdbp2	0	no data
pco2w 2	0	no data
ctdmo3	0	
phsen2	0	no plot
ctdbp3	0	no plot
ctdbp3	0	no plot
ctdbp3	0	no plot
pco2w 3	0	alt. sample
ctdmo4	0	
ctdmo5	0	
ctdmo6	0	
adcp	0	alt. samples
ctdmo7	0	
ctdmo8	0	
ctdmo9	0	
ctdmo10	0	

May 29, 2017



Instruments	Flag	
mopak	0	no data 4/7
metbk1	1	
dosta1	1	
spkir1	1	
nuntr1	0	no data 4/24
metbk2	1	no data 5/6
pco2a	0.5	garbage 5/29
wavss	1	no data 5/6
fdchp	1	no data 5/6
optaa1	1	no data 5/6
flort1	1	no data 5/6
acomm		
ctdtpb	0	no data 5/6
flort2	0	no data 5/6
velpt	0	no data 4/27
optaa2	0	no data 5/4
dosta2	0	no data 5/6
pco2w	0	no data 4/28
nutnr2	0	no data 5/6
spkir2	0	no data 5/3
ctdmo1	1	
phsen1	0	no data
ctdbp1	0.5	no data
ctdbp1	0.5	no data
ctdbp1	0.5	no data
pco2w 1	0	no data
ctdmo2	1	
ctdbp2	1	no data 5/18
ctdbp2	1	no data 5/18
ctdbp2	1	no data 5/18
pco2w 2	0.5	no data
ctdmo3	1	
phsen2	0	no plot
ctdbp3	1	no plot
ctdbp3	1	no plot
ctdbp3	1	no plot
pco2w 3	1	alt. sample
ctdmo4	1	
ctdmo5	1	
ctdmo6	1	
adcp	0.5	no data
ctdmo7	1	
ctdmo8	1	
ctdmo9	1	
ctdmo10	1	



OOI Core Science Instrument Issues

- **PCO2W, PHSEN** (SAMI-CO2, SAMI-pH) – Often fail, and often have inductive communications problems; and have sometimes not been deployed due to long vendor refurb times.
- **CTDBP Series P** (16plusV2-IM) – Inductive communications failures; often run out of battery power (can be addressed operationally).
- **NUTNR** (ISUS) – Have had failures where no data was collected; also potential shutter issues. Transitioning to the SUNA instrument.
- **OPTAA** (AC-S) – Sometimes not deployed due to long vendor refurb times.
- **ZPLSC** (ASL Environmental) -- Instruments at Offshore sites are too deep (~500 m) [consider moving or removing]
- **Wire-Following Profilers** (MMP) – Some have been fouled and get stuck at one depth; some have had issues with the controller getting hung in a sleep state
- **Moorings** – Have had problems having enough power and/or getting power to the seafloor MFNs. These issues are all being addressed by the design teams at WHOI to resolve/mitigate the problems.
- **Coastal Surface Piercing Profiler** – These have not been consistently deployed as planned at Pioneer. A Plan B is being implemented to replace the CSPPs with Profiling Gliders (in the Summer) and WFPs (in the Winter).
- **Gliders** (Slocum G2) – All baseline gliders not deployed, multiple failures of gliders and instruments (DOSTA, PARAD, NUTNR)

Global Array Science Activity

- Inquires for ancillary activities
 - NSF proposal Irminger Sea Glider O2 air-calibration (Nicholson, Palevski)
 - NOC 55 South Glider PCO2 sensor
 - NASA EXPORTS 2018
- Publications
 - Femke & de Steur paper accepted to Geophys. Res. Let. --Irminger Sea cooling and deep convection (GI02HYPM data)
 - Ogle, Tamsitt, Talley, Gille, and Bigore Air-sea interaction poster using GS01SUMO data. AGU meeting
- Other
 - GS01SUMO data now integrated into WMO GTS and ingested into ECMWF forecast models
 - LW bias in NCEP/NCAR reanalysis flux data revealed by comparison to OOI GS01SUMO meteorological data
 - Irminger Sea Workshop 2 Nov 8-9 2017 National Oceanography Centre Southampton UK
- Issues
 - Data gaps – need to continue uFrame data ingestion efforts
 - Southern Hemisphere

