OceanSITES Status

(Korea)

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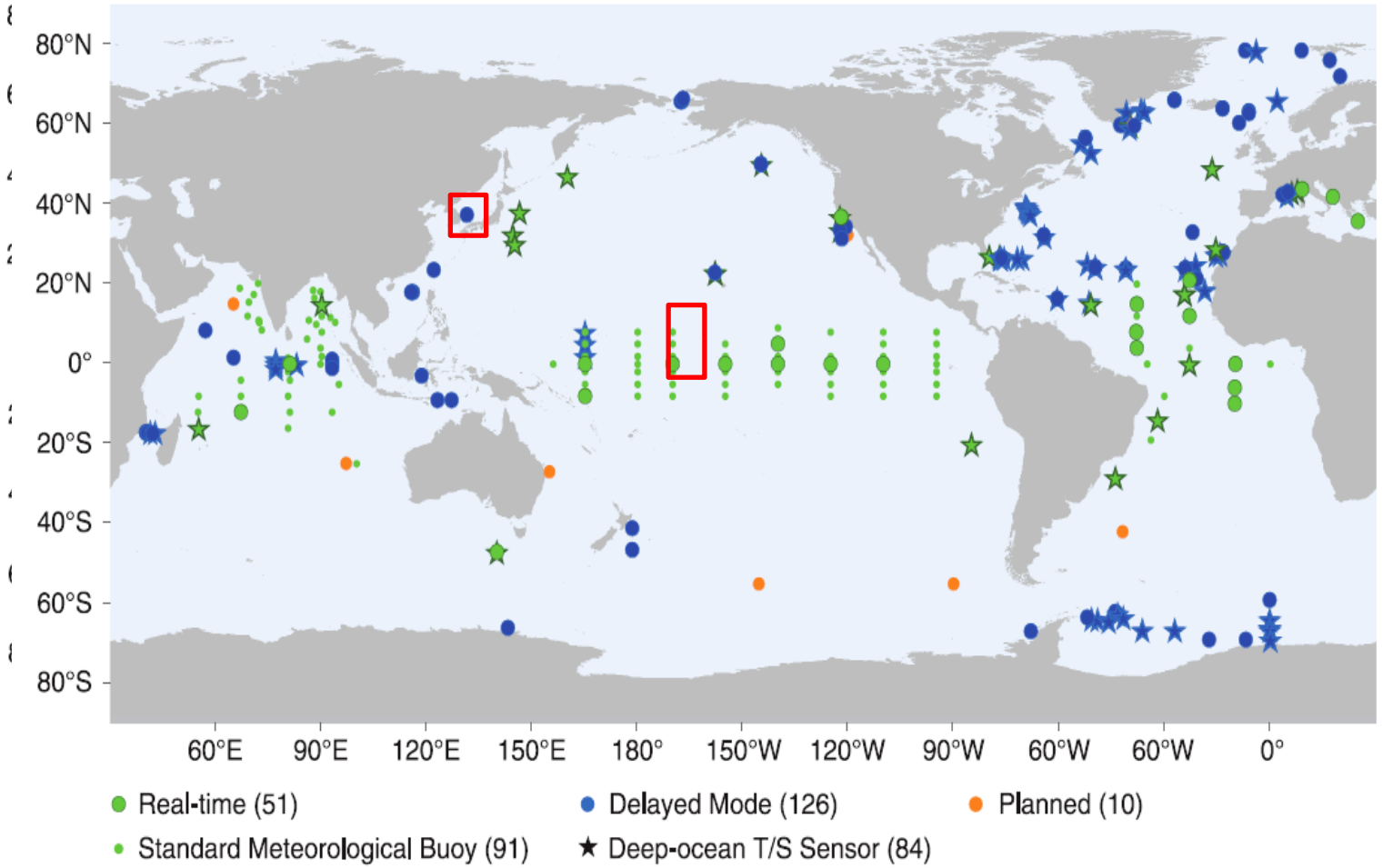
OceanSITES Steering Committee Meeting, 3-4 November, Recife, Brazil

3 OceaSITES Stations and Other Potential Stations

- OceanSITES
  - 2 in tropical Pacific (KIOST, Jae Hak Lee)
  - 1 in the East Sea (Japan Sea) (SNU, Kyung-Il Chang)
- Potential Sites Near Future – Pis have not determined.
  - 1 in the Southern Ocean (KIOST)
  - ? in the Amundsen Sea (KOPRI, Sang Hoon Lee)
- Long-term plan after 2016
  - South Pacific (SUN, SungHyun Nam)

OceanSITES Stations (KIOST, SNU)



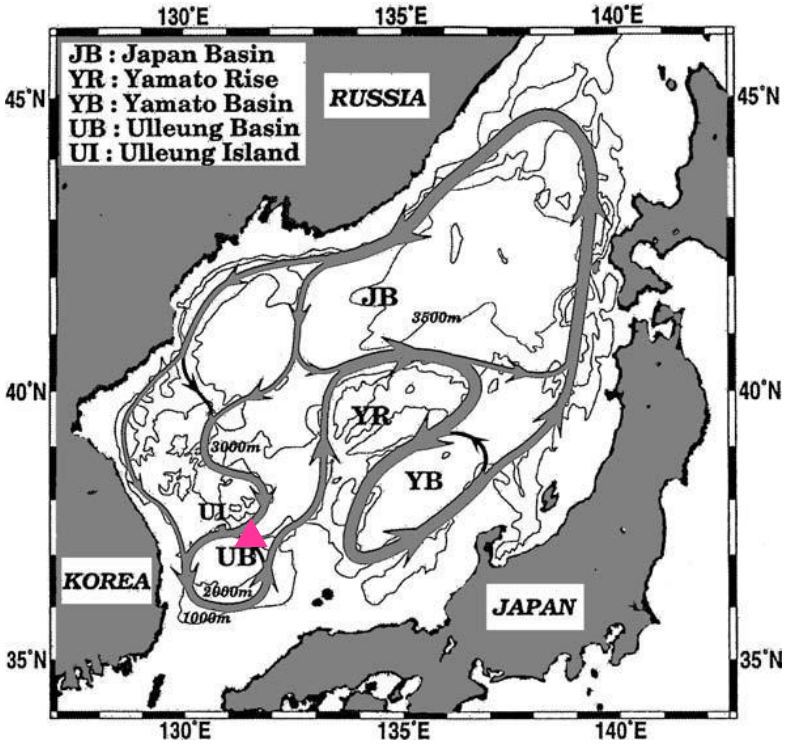
Equatorial Pacific (Jae Hak Lee@KIOST)

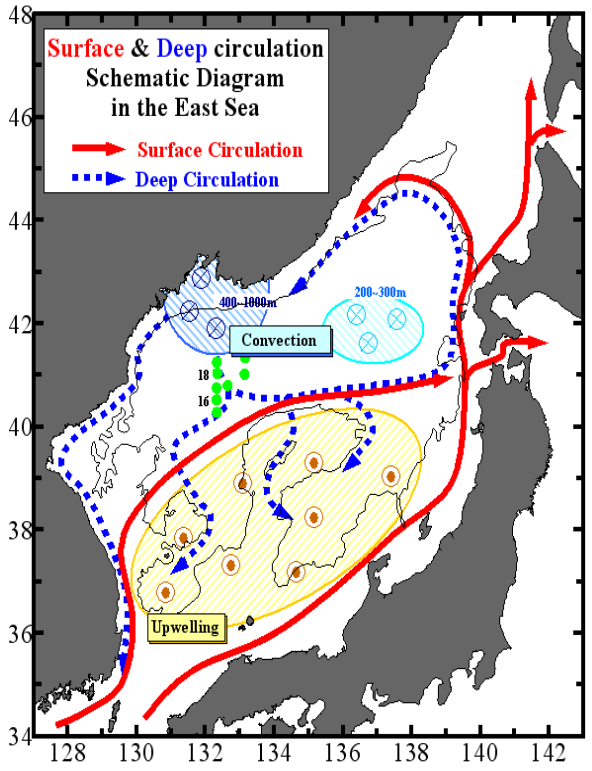
- **2 sites in the equatorial western Pacific**
  - Deep T/S (SBE 37) & subsurface ADCP

Station			Field work				Remark
No	Location	Depth	Deployment	Recovery	Deployment	Recovery (plan)	
1	165E, 2N	4165 m	August 2013			June 2015	
2	165E, 5N	4792 m	August 2013	June 2014	June 2014	June 2015	
3	165E, 7N				June 2014	2016	Not in OceanSITES

- **1 planned site in the Southern Ocean (Udintsev Fracture Zone)**
  - Deep T/S and current meters
  - Deployment: January 2016 (IBRV Araon)

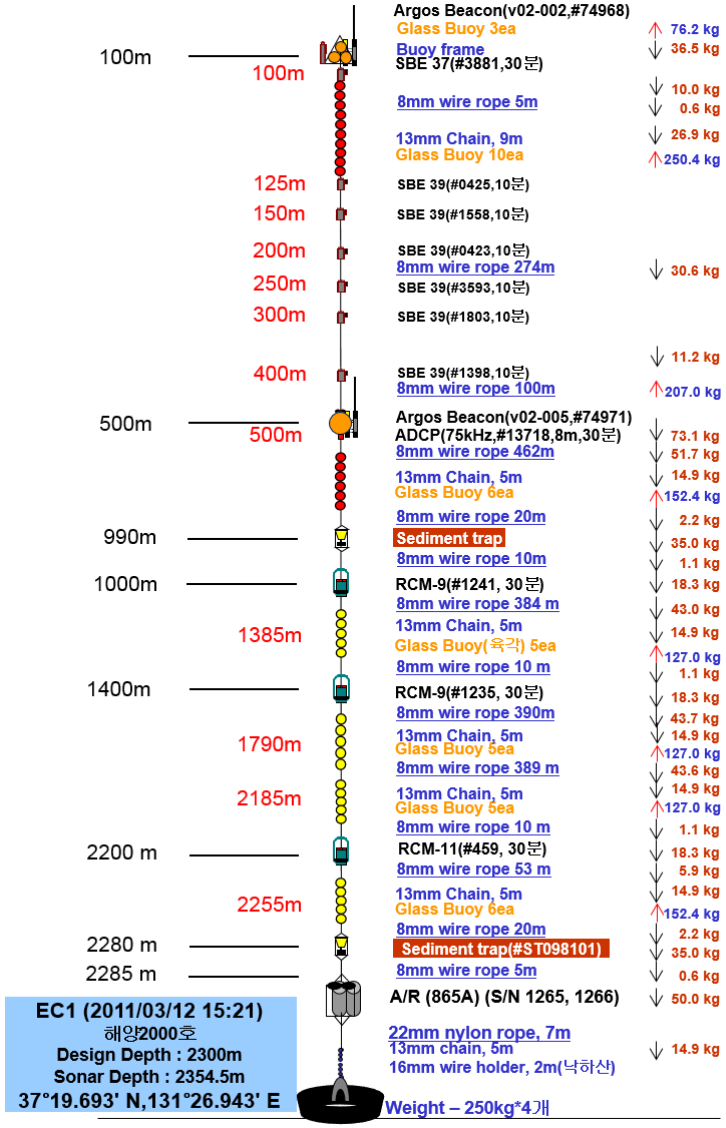
Marginal Sea OceanSITES site (EC1)





- Subsurface current meter mooring at 2300m since 1996
- Normally the mooring carries 3 CMs @ 400, 1400, 2200m
- To quantify the deep water exchange discharged to the south from the water mass formation area in the northern East Sea (Japan Sea)
- OceanSITES station since 2012

OceanSITES EC1 (2011-2012)

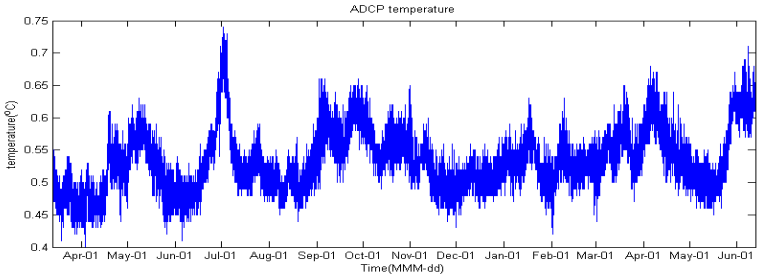


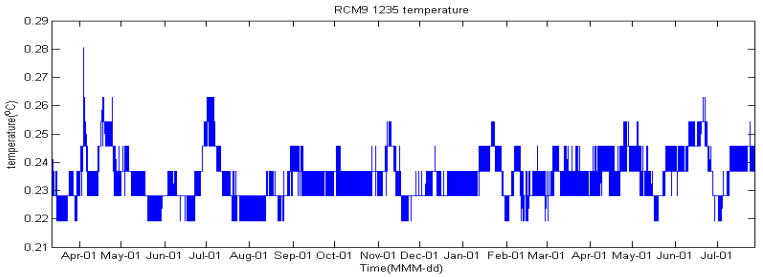
- **Mooring Station Name : EC1**
- **Mooring Location : 37º 19.693'N, 131º 26.943'E**
- **Mooring depth : 2354 m**
- **Moored CM & Microcat**

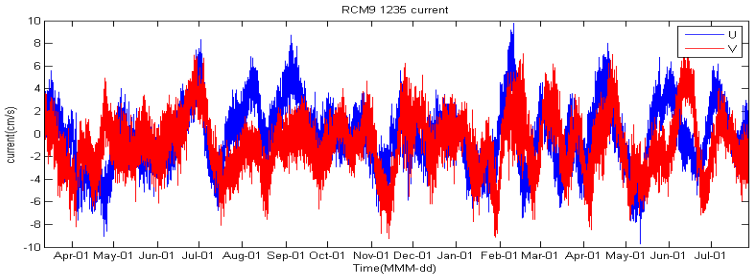
Sensor Model	Moored depth [m]	Serial No.	Mooring period
SBE 37	154	3881	2011.03.12 ~ 2012.07.28
SBE 39	180	425	
SBE 39	205	1558	
SBE 39	254	423	
SBE 39	304	3593	
SBE 39	354	1803	
ADCP	554	13718	
RCM 9	1050	1241	
RCM 9	1454	1236	
RCM 11	2304	459	

OceanSITES EC1

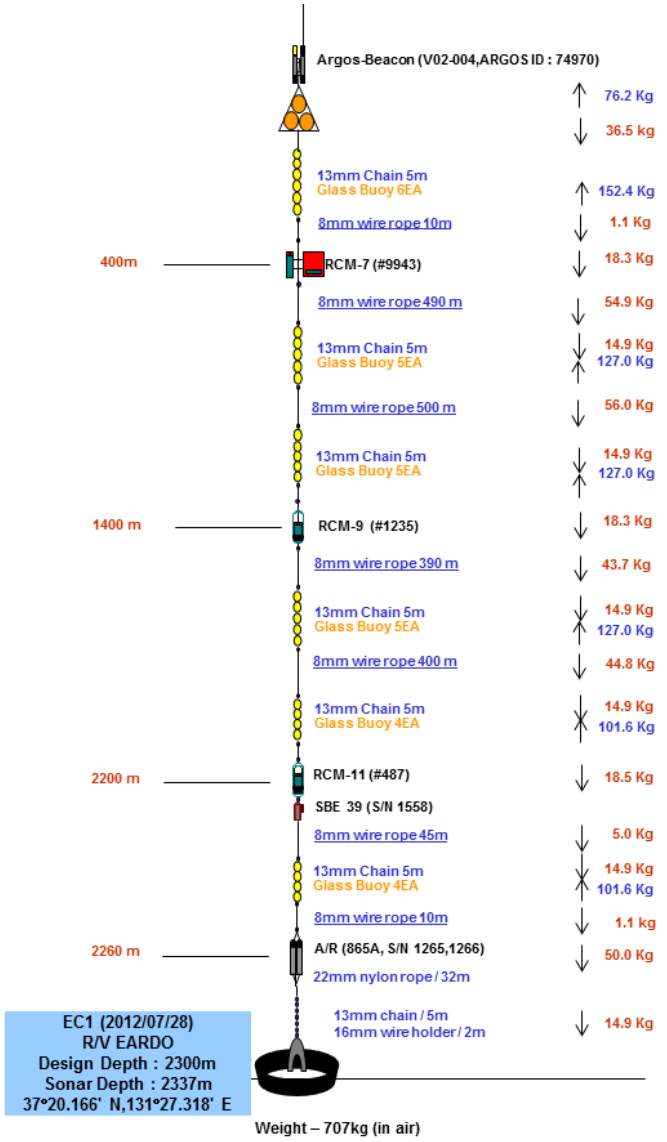
- Uploaded EC1 data (Mr. Minho Kim)
  - From Mar. 2011 to Jun. 2012 (Leg XVI)
  - Data
    - RCM : p, T, V
    - ADCP : p, T, V
    - SBE microcats : p, T
  - Quality Control
    - Magnetic variation corrected
    - QC parameter according to OceanSITES user manual
    - $QC_{indicator} = 0,\ QC_{procedure} = 0$







OceanSITES EC1 (2012-2014)

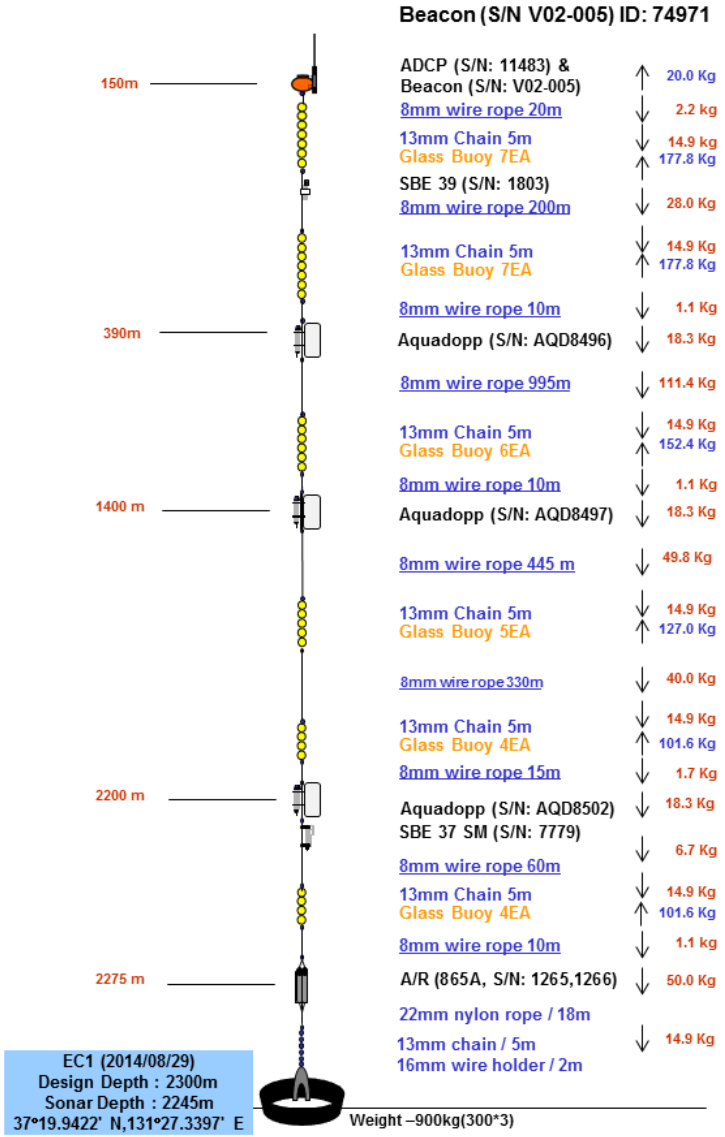


- **Mooring Station Name : EC1**
- **Mooring Location : 37º 20.166'N, 131º 27.318'E**
- **Mooring depth : 2337 m**
- **Moored CM & Microcats**

Sensor Model	Moored depth [m]	Serial No.	Date	
			Calibration	Mooring period
RCM 7	436	9943		'12.07.28 ~ '14.8.29
RCM 9	1435	1235		
RCM 11	2235	487		
SBE 39	2237	1558	Unknown	

RCM-7 rotor problem.
Data will be uploaded soon.

OceanSITES EC1 (2014-)

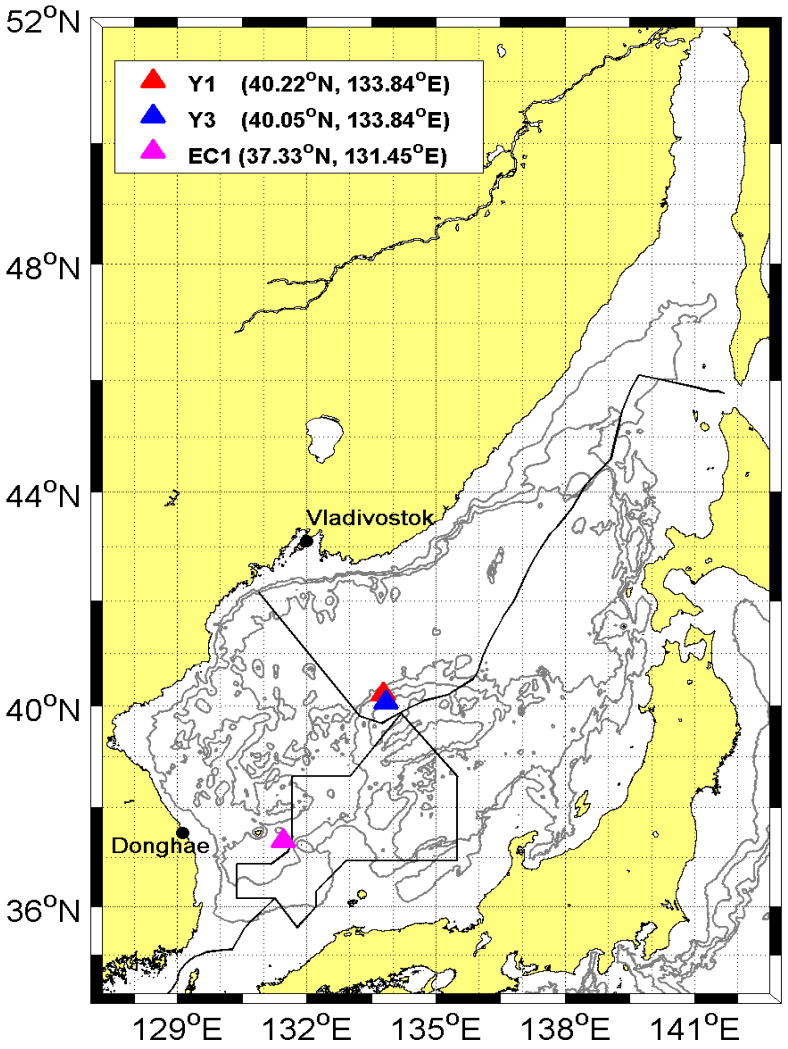


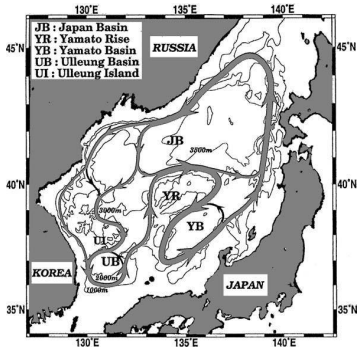
- **Mooring Station Name : EC1**
- **Mooring Location : 37º 19.942'N, 131º 27.340'E**
- **Mooring depth : 2245 m**
- **Moored CM & Microcats**

Sensor Model	Moored depth [m]	Serial No.	Date	
			Calibration	Mooring period
ADCP	95	11483		'14.08.29 ~
SBE 39	105	1803	2013.01.09	
Aquadopp	335	8496		
Aquadopp	1345	8497		
Aquadopp	2145	8502		
SBE 37 SM	2145	7779	2010.04.21	

Other Moorings in the northern EJS

- Moored current measurements in the northern EJS
  - Y1 : 2000m
  - Y3 : 3400m
- To quantify northern cyclonic deep gyre and its variability
- Collaborators
  - SNU(K-I Chang)
  - KIOST(JH Park)
  - POI(V Lobanov)
  - SIO(A Ostrovskiy)



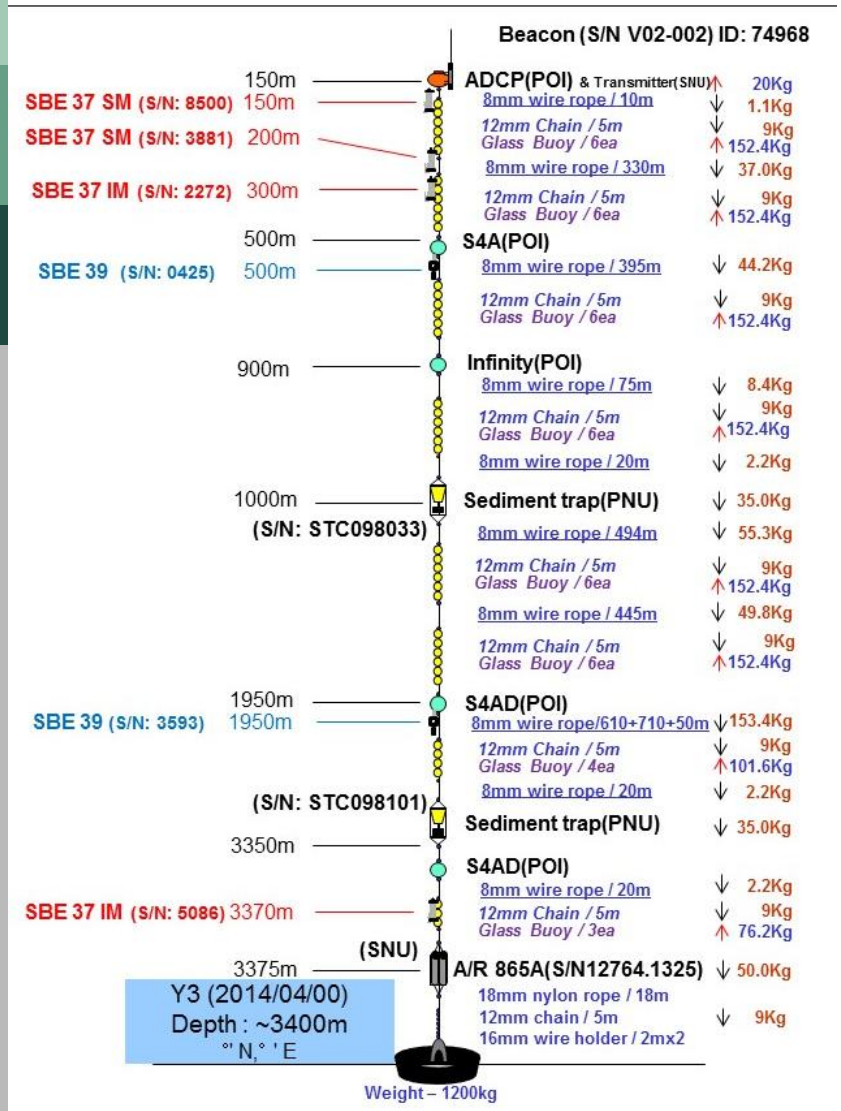


Other Moorings in the northern EJS

- **Mooring Station Name : Y1**
- **Mooring Location : 40º 12.598'N, 133º 46.054'E**
- **Mooring depth : 2000 m**
- **Moored Microcat**

Sensor Model	Moored depth [m]	Serial No.	Date	
			Calibration	Mooring period
SBE 37 IM	150	2275	2012.09.05	'14.04.21 ~
SBE 37 IM	200	2274	2013.04.13	
SBE 39	250	0423	2012.09.05	
SBE 39	300	1398	2012.08.29	
SBE 37 IM	1950	2273	2013.01.14	

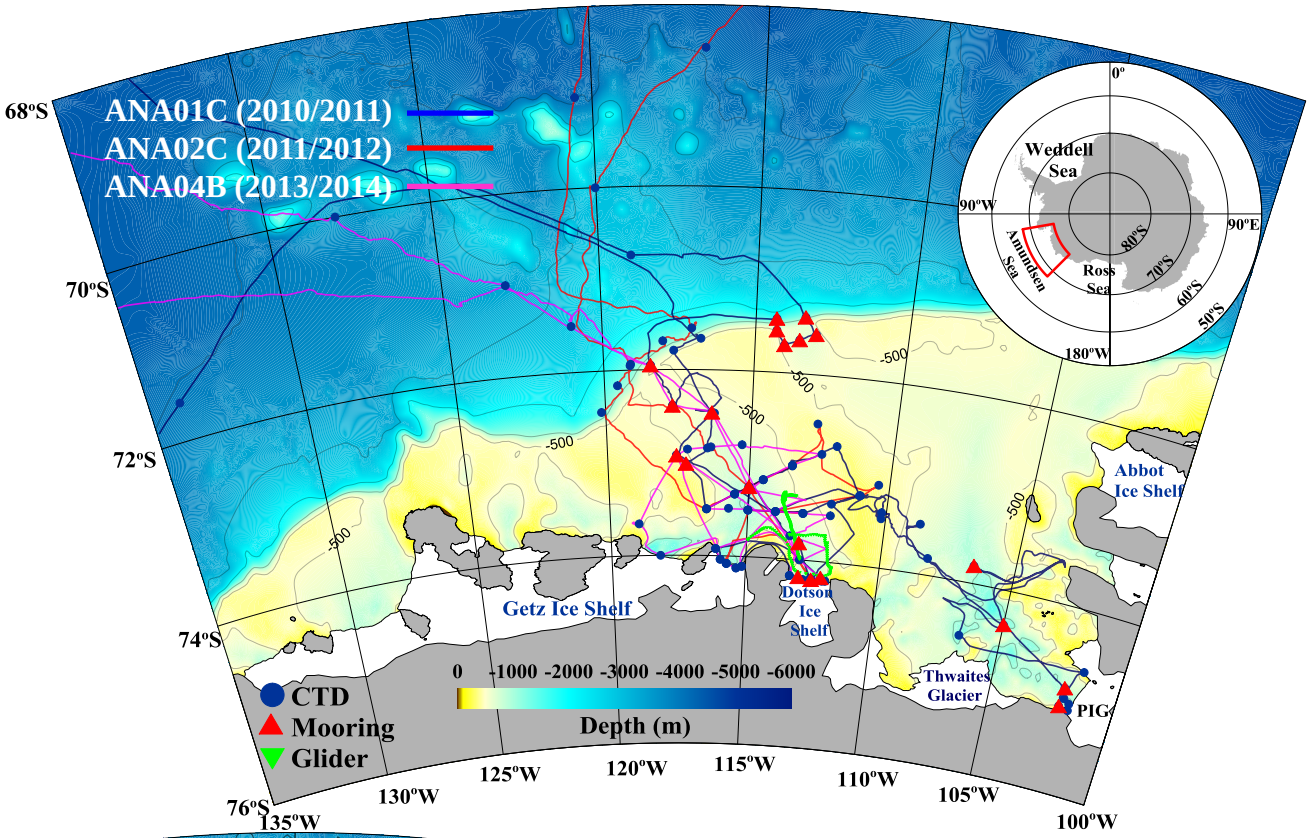
Other Moorings in the northern EJS

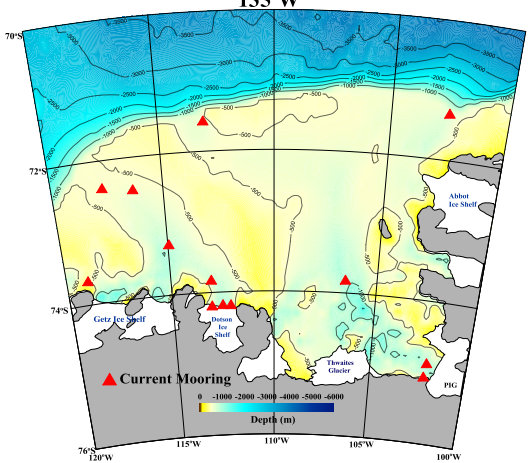


- **Mooring Station Name : Y3**
- **Mooring Location : 40º 30.244'N, 133º 37.124'E**
- **Mooring depth : 3,435 m**
- **Moored Microcats**

Sensor Model	Moored depth [m]	Serial No.	Date	
			Calibration	Mooring period
SBE 37 SM	185	8500	?	'14.04.22 ~
SBE 37 SM	235	3881	'12.08.27	
SBE 37 IM	335	2272	'12.08.22	
SBE 39	535	0425	'12.08.29	
SBE 39	1985	3593	'12.08.31	
SBE 37 IM	3385	5086	'12.08.22	

KOPRI's Long-term monitoring in Amundsen Sea





2010/2011

- Dec 21, 2010 – Jan. 23, 2011
- Stations: 30 (CTD+LADCP)
- Moorings Deploy: 2

2011/2012

- Jan 31, 2012 – March 20, 2012
- Stations: 52 (CTD+LADCP)
- Moorings Deploy: 15
  Recovery: 6

2013/2014

- Jan 1, 2014 – Jan 16, 2014
- Stations: 35 (CTD+LADCP)
- Moorings Deploy: 8 (ARAON)
  Deploy: 5 (JCR)
  Recovery: 6 (ARAON)
  Recovery: 7 (JCR)

Moorings currently in the water

KOPRI : **6 moorings (Dotson trough, In front of Dotson Ice Shelf)**

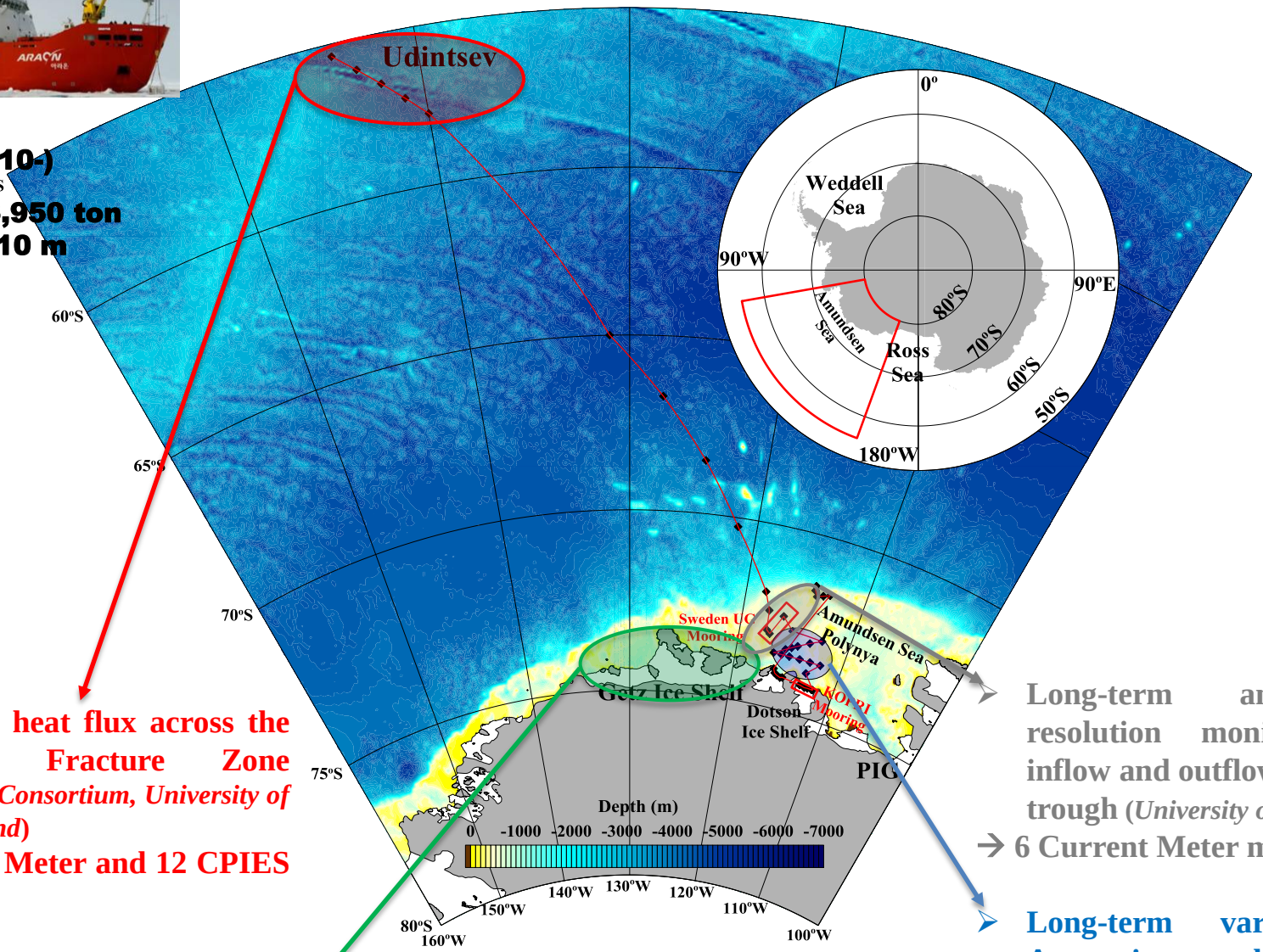
SWEDEN: **2 moorings (Dotson trough, Getz Ice Shelf)**

BAS : **5 moorings (In front of Pine Island Glacier & trough)**

Future Plan

Icebreaker
ARAON (2010-)

Tonnage: 6,950 ton
Length: ~110 m



- **Poleward heat flux across the Udintsev Fracture Zone (*LOCEAN Consortium, University of Rhode Island*)**

→ 2 Current Meter and 12 CPIES moorings

- **Potential sections to identify the flow path around Getz Ice Shelf (*University of Gothenburg*)**

→ 3 Current Meter moorings

- **Long-term and high resolution monitoring of inflow and outflow in Dotson trough (*University of Bergen*)**

→ 6 Current Meter moorings

- **Long-term variation of Antarctic coastal current in front of Ice shelves (*KOPRI*)**

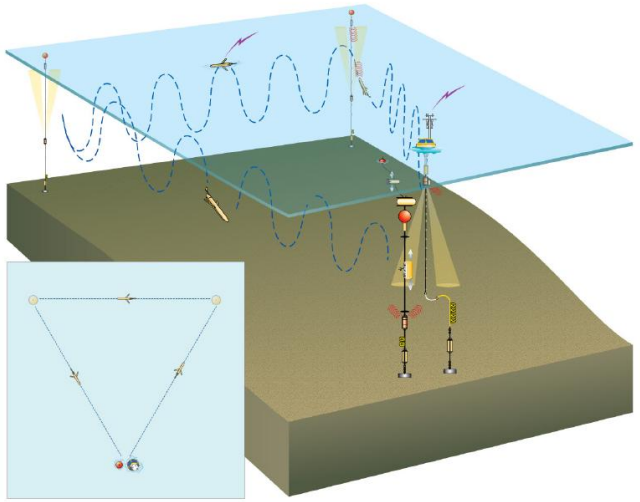
→ 6 Current Meter moorings

Long-term Plan

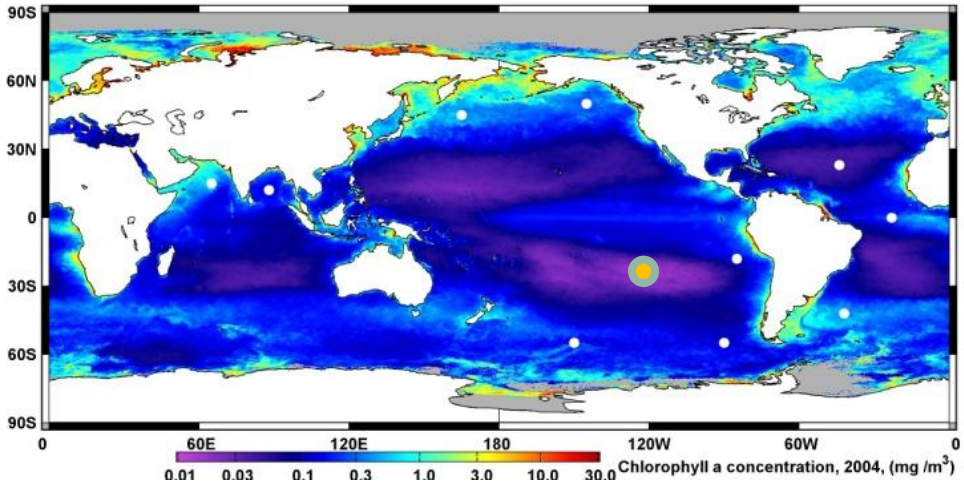
New R/V – KNRV (2016-)

Tonnage: 5,400 ton
Length: ~110 m

12~15 knots in speed,
38 scientists/technicians
and 22 officers/crew,
and well-equipments

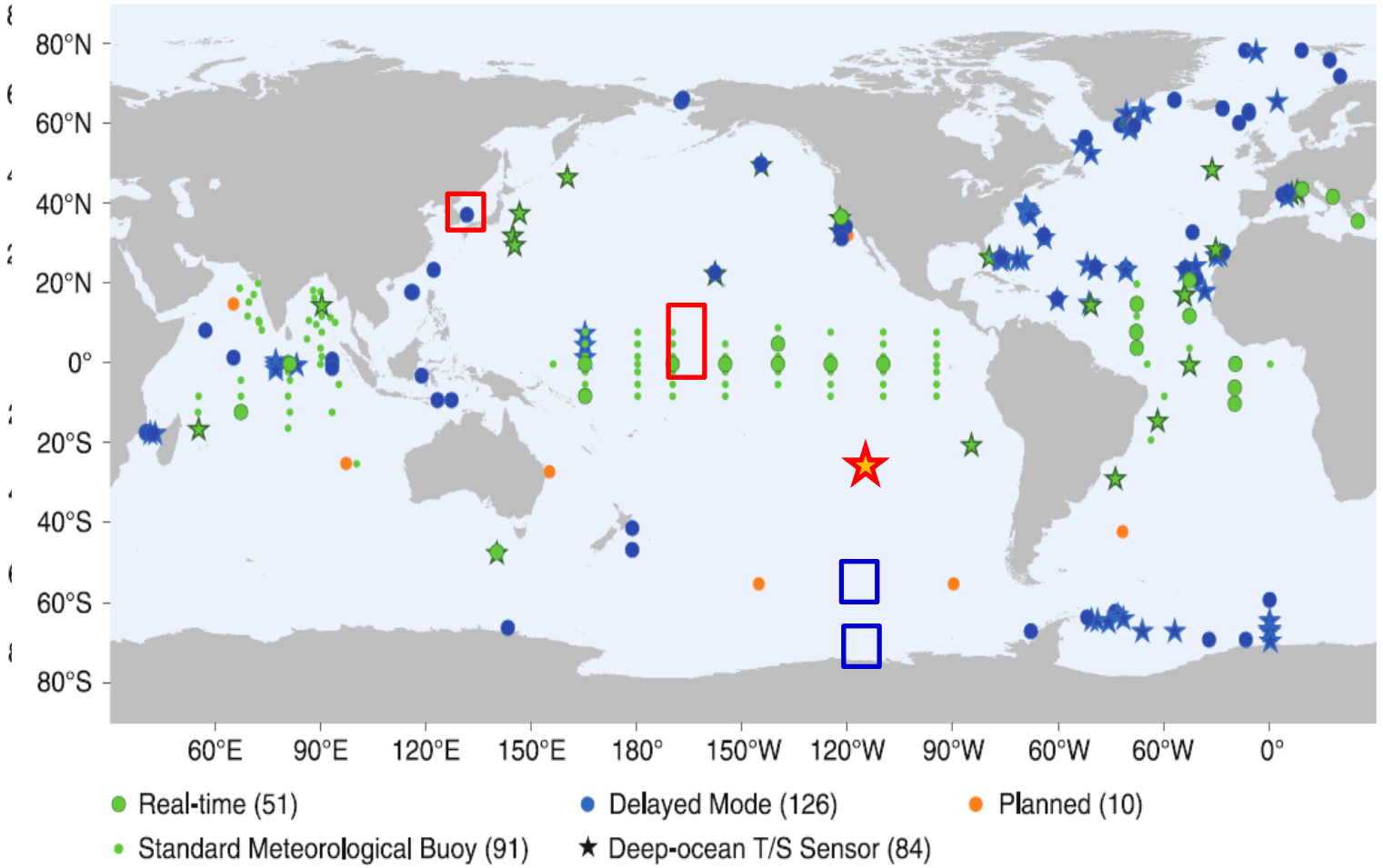


Call for proposals in 2015.
We need your help & strong supports for this station to be an OceanSITES !



- **Develop ocean reference station with mobile and fixed platforms in the south Pacific subtropical gyre**
  - **Low productivity**
  - **Strong CO2 out-gassing**
  - **Boundaries of expanding OMZ**
  - **Largely unknown ENSO impacts**

OceanSITES


80°N
60°N
40°N
20°N
0°
20°S
40°S
60°S
80°S
60°E
90°E
120°E
150°E
180°
150°W
120°W
90°W
60°W
60°W
0°
Real-time (51)
Delayed Mode (126)
Planned (10)
Standard Meteorological Buoy (91)
Deep-ocean T/S Sensor (84)