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

<table>
<thead>
<tr>
<th>No</th>
<th>Location</th>
<th>Depth</th>
<th>Deployment</th>
<th>Recovery</th>
<th>Deployment</th>
<th>Recovery (plan)</th>
<th>Remark</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>165E, 2N</td>
<td>4165 m</td>
<td>August 2013</td>
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<td>June 2015</td>
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<tr>
<td>2</td>
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<td>August 2013</td>
<td>June 2014</td>
<td>June 2014</td>
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<td>3</td>
<td>165E, 7N</td>
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<td></td>
<td></td>
<td>June 2014</td>
<td>2016</td>
<td>Not in OceanSITES</td>
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</tbody>
</table>

- 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: 37° 19.693’N, 131° 26.943’E
- Mooring depth: 2354 m
- Moored CM & Microcat

<table>
<thead>
<tr>
<th>Sensor Model</th>
<th>Moored depth [m]</th>
<th>Serial No.</th>
<th>Mooring period</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBE 37</td>
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<tr>
<td>SBE 39</td>
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<td>425</td>
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<td>SBE 39</td>
<td>205</td>
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<td>SBE 39</td>
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<td>423</td>
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<tr>
<td>SBE 39</td>
<td>304</td>
<td>3593</td>
<td>2011.03.12 ~ 2012.07.28</td>
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<tr>
<td>SBE 39</td>
<td>354</td>
<td>1803</td>
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<tr>
<td>ADCP</td>
<td>554</td>
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</tr>
<tr>
<td>RCM 9</td>
<td>1050</td>
<td>1241</td>
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</tr>
<tr>
<td>RCM 9</td>
<td>1454</td>
<td>1236</td>
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</tr>
<tr>
<td>RCM 11</td>
<td>2304</td>
<td>459</td>
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</table>
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
    - $Q_{indicator} = 0$, $Q_{procedure} = 0$
OceanSITES EC1 (2012-2014)

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

### Sensor Model

<table>
<thead>
<tr>
<th>Sensor Model</th>
<th>Moored depth [m]</th>
<th>Serial No.</th>
<th>Calibration</th>
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<tbody>
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<td>RCM 7</td>
<td>436</td>
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<td>RCM 9</td>
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<td>RCM 11</td>
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<td>487</td>
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<td></td>
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<tr>
<td>SBE 39</td>
<td>2237</td>
<td>1558</td>
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</tbody>
</table>

RCM-7 rotor problem. Data will be uploaded soon.
OceanSITES EC1 (2014-)

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

<table>
<thead>
<tr>
<th>Sensor Model</th>
<th>Moored depth [m]</th>
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<td>Aquadopp</td>
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<td>8496</td>
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<td>SBE 37 SM</td>
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<td>7779</td>
<td>2010.04.21</td>
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</table>
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**: 40° 12.598’N, 133° 46.054’E
- **Mooring depth**: 2000 m
- **Moored Microcat**

<table>
<thead>
<tr>
<th>Sensor Model</th>
<th>Moored depth [m]</th>
<th>Serial No.</th>
<th>Date</th>
<th>Calibration</th>
<th>Mooring period</th>
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<td>1950</td>
<td>2273</td>
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<td>2013.01.14</td>
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</table>
Other Moorings in the northern EJS

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

<table>
<thead>
<tr>
<th>Sensor Model</th>
<th>Moored depth [m]</th>
<th>Serial No.</th>
<th>Date</th>
<th>Calibration</th>
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<td>‘12.08.22</td>
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</table>
KOPRI’s Long-term monitoring in Amundsen Sea

2010/2011
- 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

- 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

Icebreaker ARAON (2010-)
- Tonnage: 6,950 ton
- Length: ~110 m
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

- Real-time (51)
- Standard Meteorological Buoy (91)
- Planned (10)
- Delayed Mode (126)
- Deep-ocean T/S Sensor (84)