

Chinese mooring and buoy observations in the open-ocean

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Main oceanographic institutions of China

First Institute of Oceanography	Qingdao	State Oceanic Administration /SOA
Second Institute of Oceanography	Hangzhou	
Third Institute of Oceanography	Xiamen	
Polar Institute of China	Shanghai	
Institute of Oceanography	Qingdao	Chinese Academy of Science /CAS
South China Sea Institute of Oceanography	Guangzhou	
China Ocean University, Xiamen University	Qingdao/ Xiamen	Ministry of Education
Tongji University, East China Normal university, Tsinghua University, Peiking University, etc.	Shanghai/ Beijing	



State Oceanic Administration, SOA

First Institute of Oceanography, FIO

Second Institute of Oceanography, SIO

Third Institute of Oceanography, TIO

Political Map of China

Provinces, Special Administrative Regions,
Autonomous Regions,
and Autonomous Prefectures

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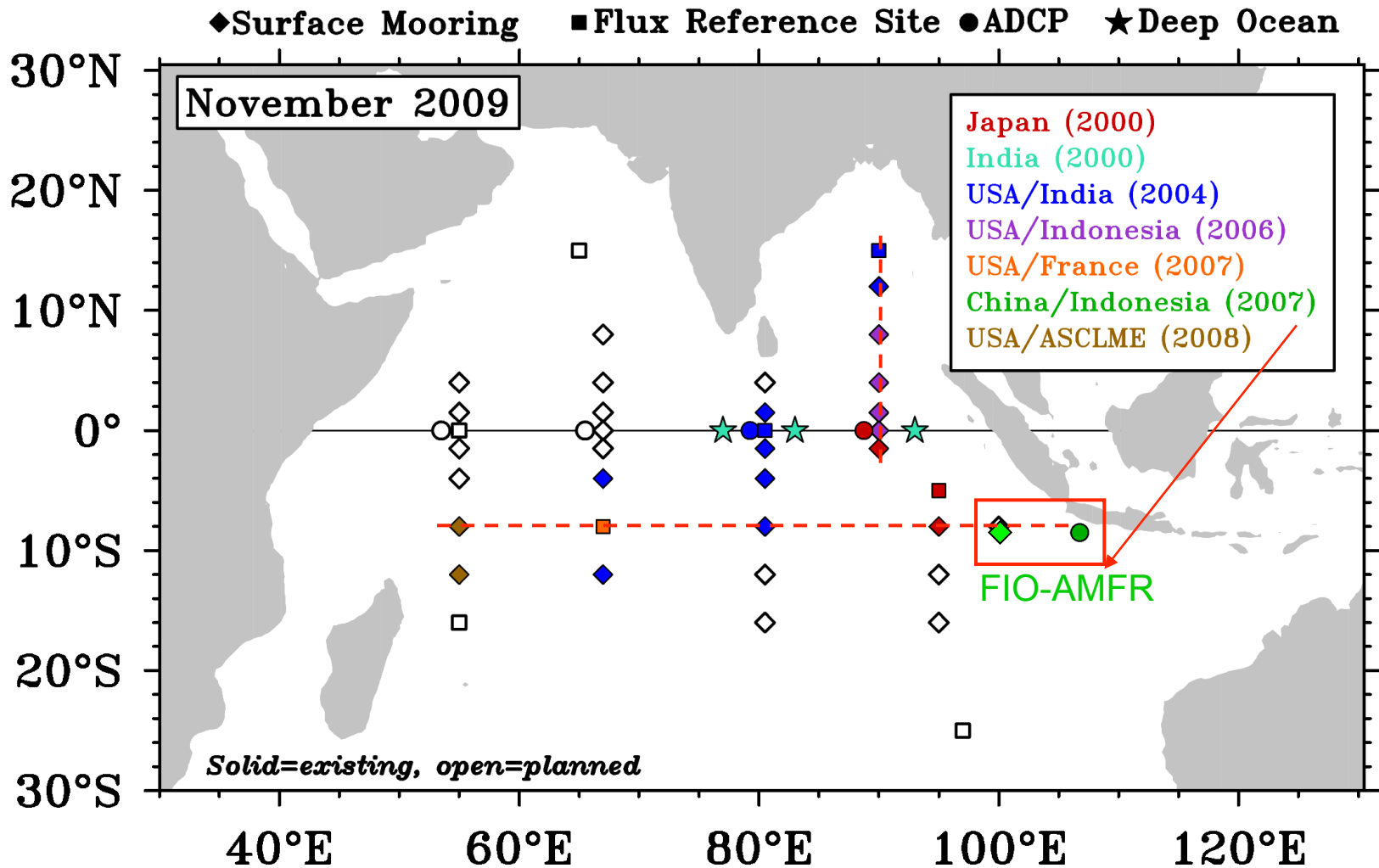
- Guizhou Province, Provincial Level Municipality
- Ningxia Autonomous Region, Special Admin. Region, Taiwan
- Ganze Autonomous Prefectures



FIO is operating 2 buoy
stations and 1 mooring at
2 sites

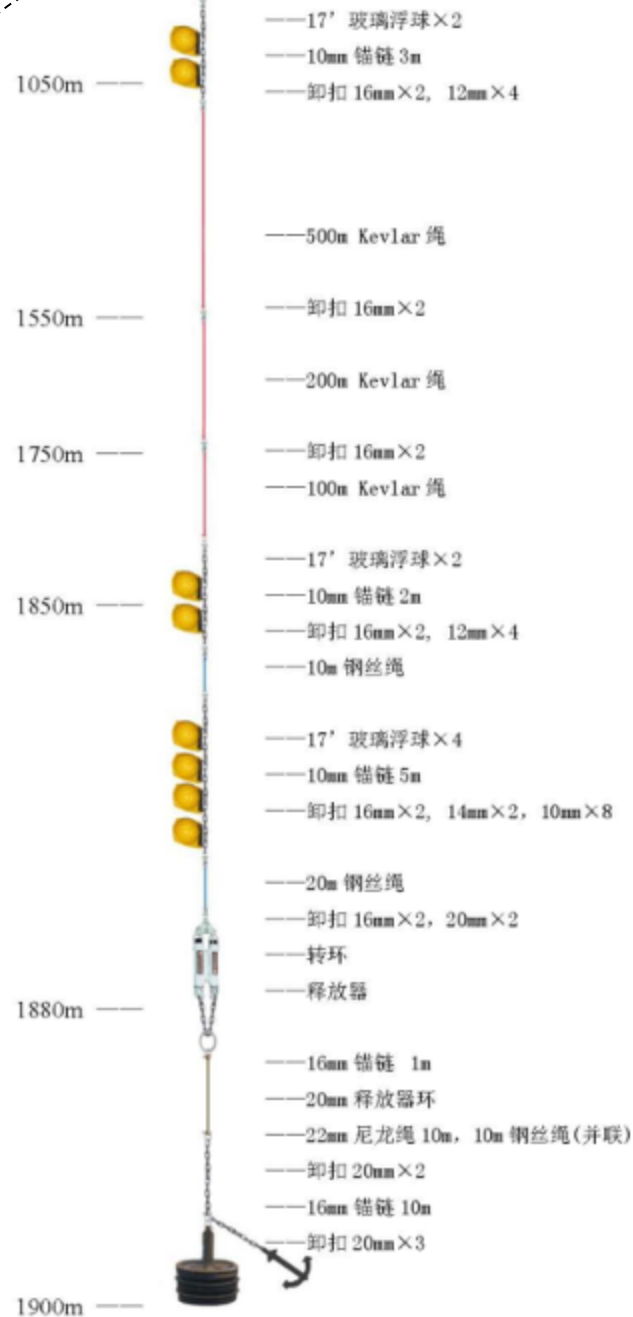
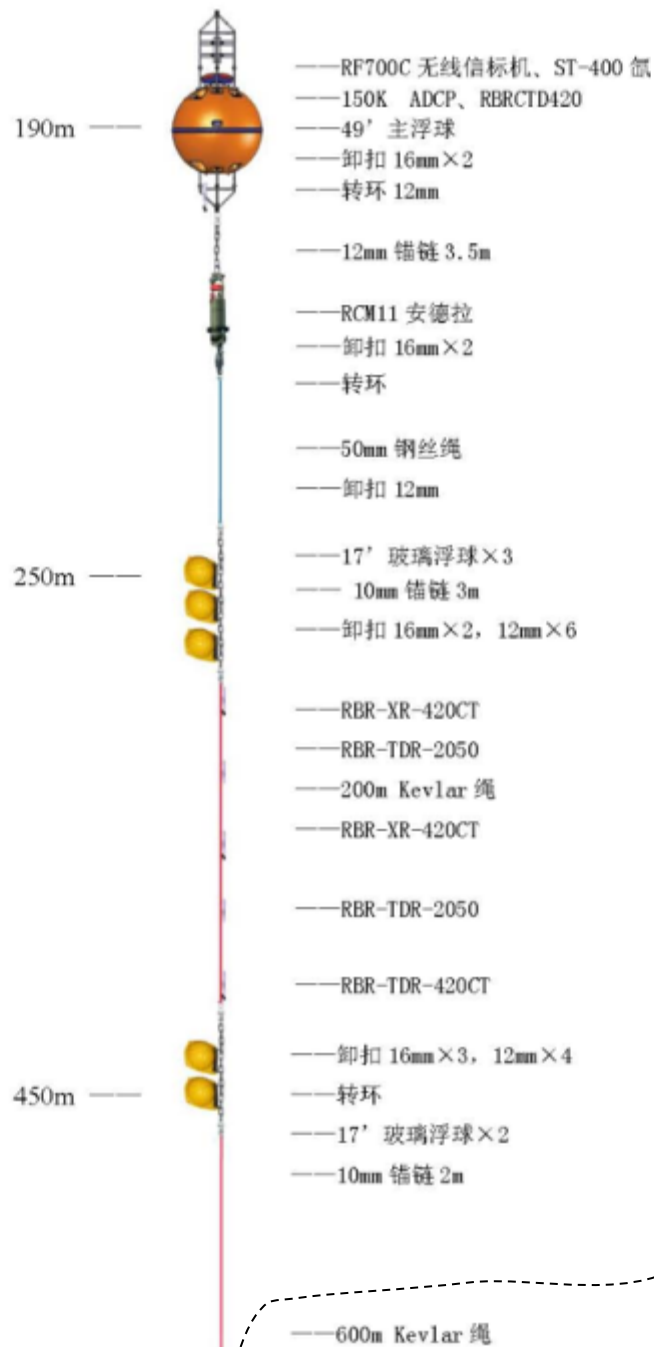
Long-term buoy station in eastern Indian Ocean operated by FIO

Research Moored Array for African-Asian-Australian Monsoon Analysis and Prediction (*RAMA*)





中国 海洋一所



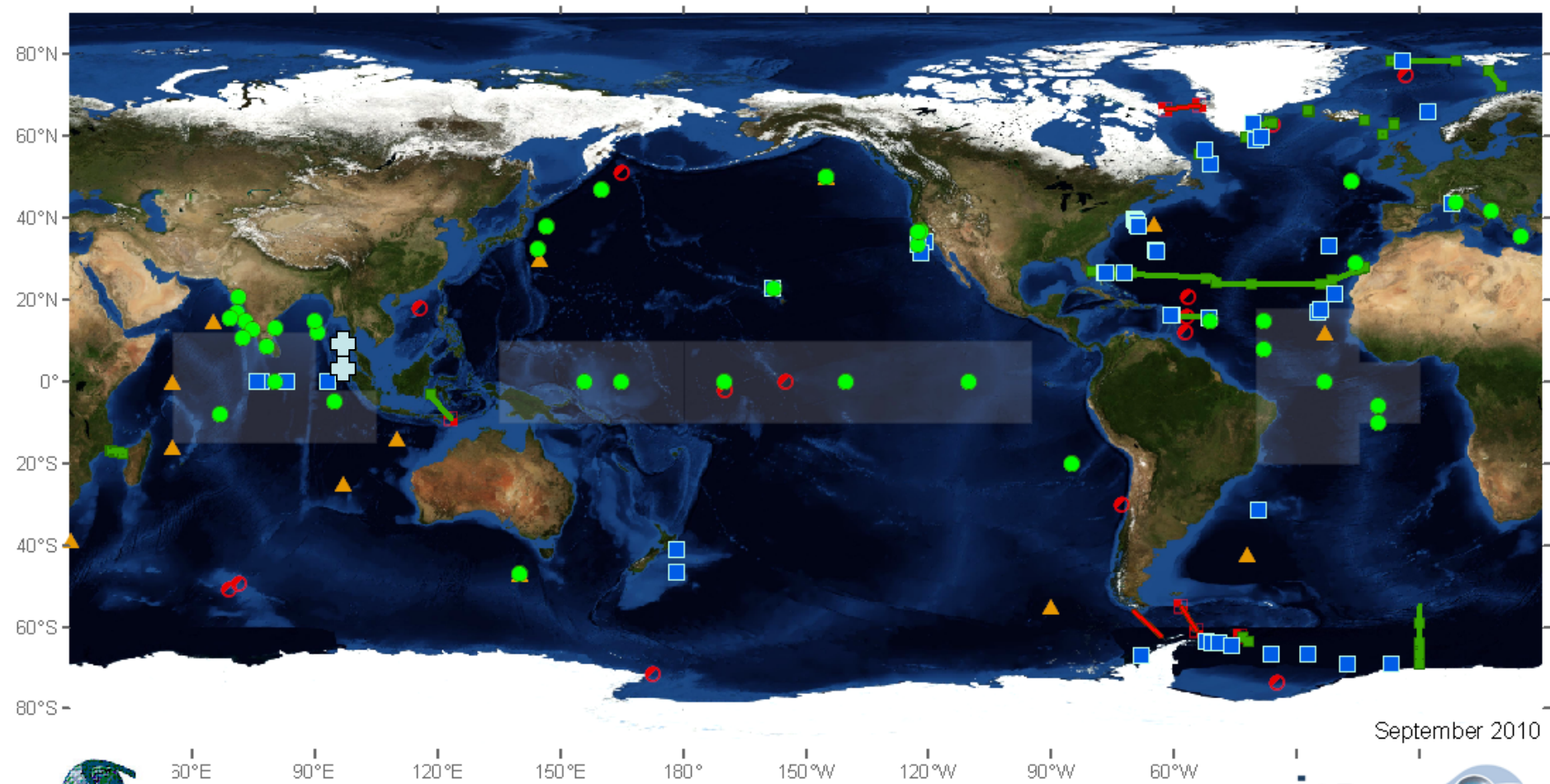
FIO Progress Report

1. Surface buoy at (100E, 8S)

- In place since 30 May 2010
- Daily data will be posted on PMEL and FIO website soon
- Data includes the meteorological parameters: *wind speed and direction, air temperature, relative humidity, air pressure, shortwave radiation, long wave radiation, unfortunately precipitation missed due to damage in the deployment*
- Data includes the T-profile down to 700m and S-profile down to 100m

2. Surface buoy at (100E, 8S)

- In place since Nov. 2007 and data stream since 26 Dec. 2008
- 18 months data will be posted on FIO website soon
- Data includes: *0-200m current profile and 200-500m T-profile*



September 2010



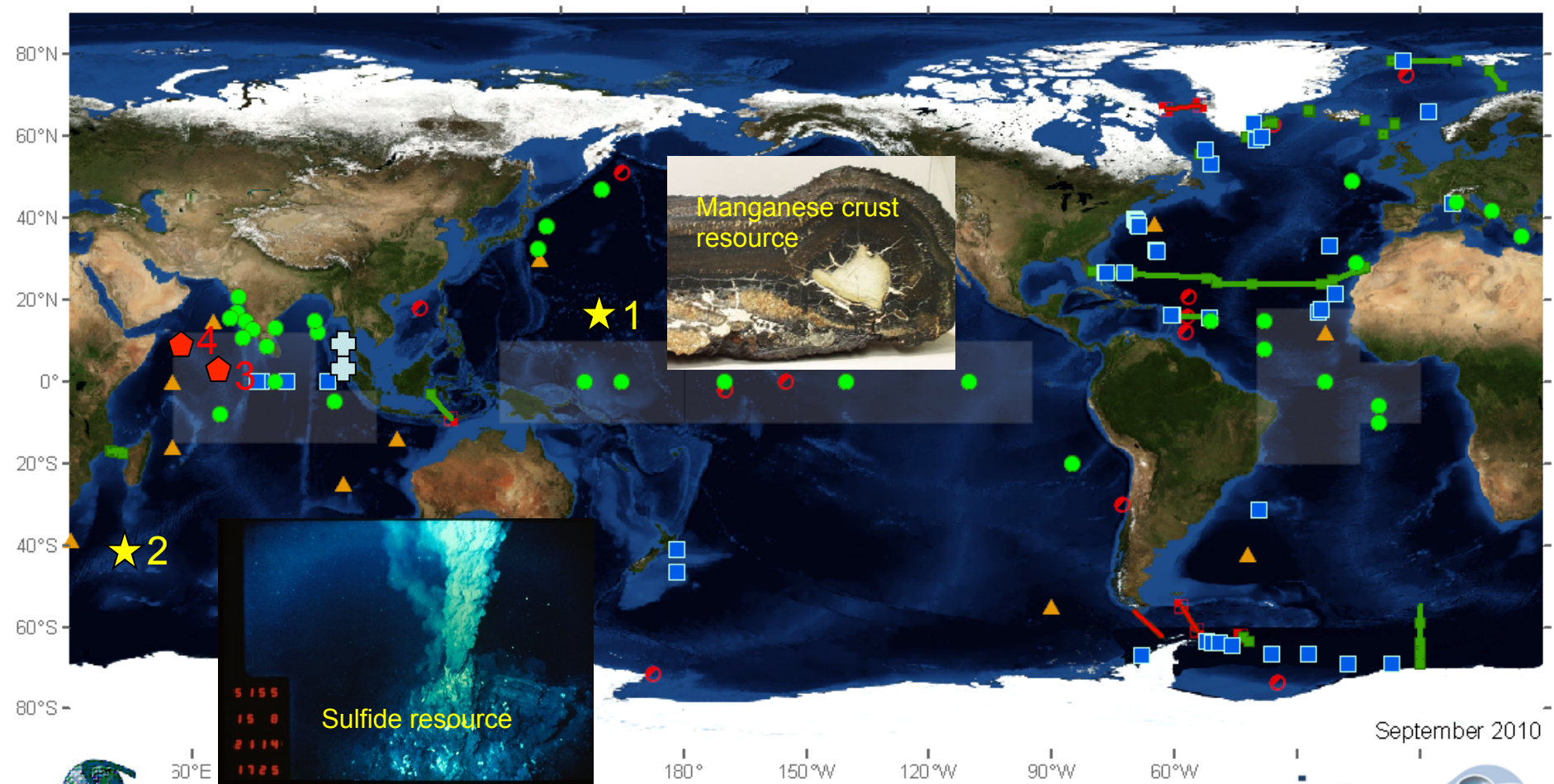
OceanSITES Vision Map - All Planned Sites



- | | | | | | |
|--|---|---|---|---|--|
| OceanSITES Moorings and Observatories (89) | | Transport sites (19) | | Planned or Discontinued (33) | |
| ● OPERATING Real Time Data (42) | — OPERATING (16) | ■ Discontinued | ▲ PLANNED Real Time Data (16) | ■ PLANNED Delayed Mode data (0) | |
| ■ OPERATING Delayed Mode Data (47) | — DISCONTINUED (3) | | ○ DISCONTINUED (17) | | |



SIO is operating 2 buoy
stations and 2 moorings at
4 sites



September 2010

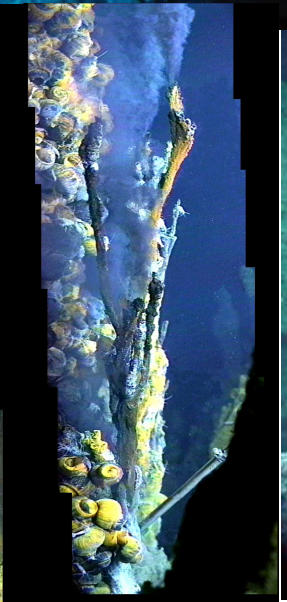
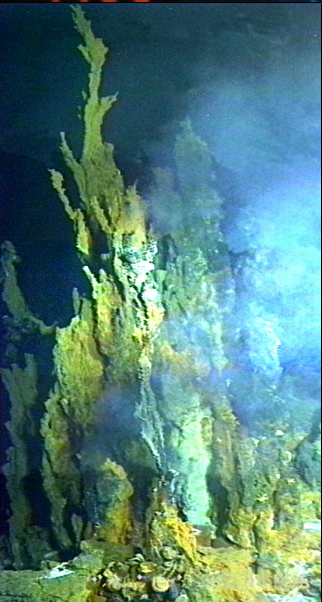
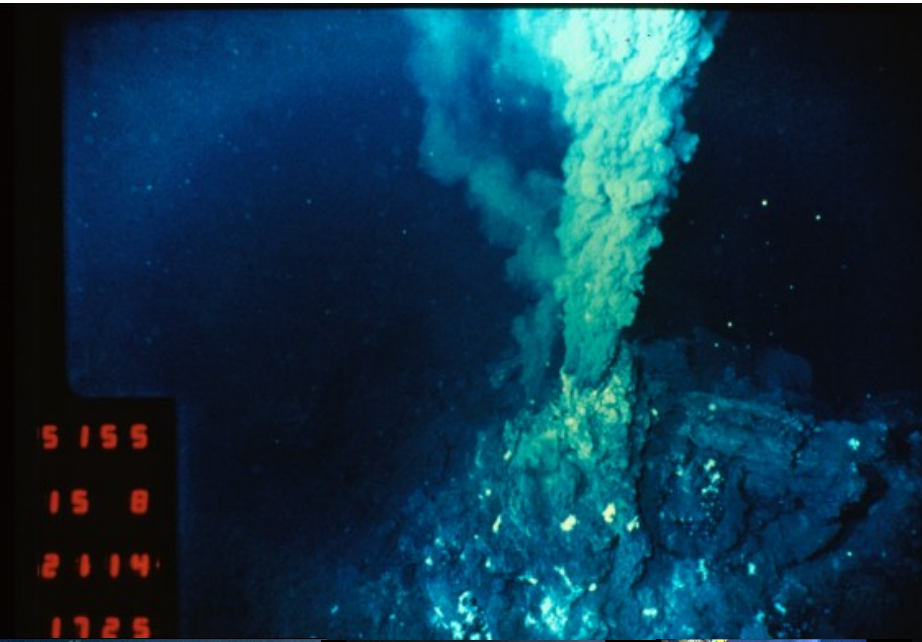


OceanSITES Vision Map - All Planned Sites

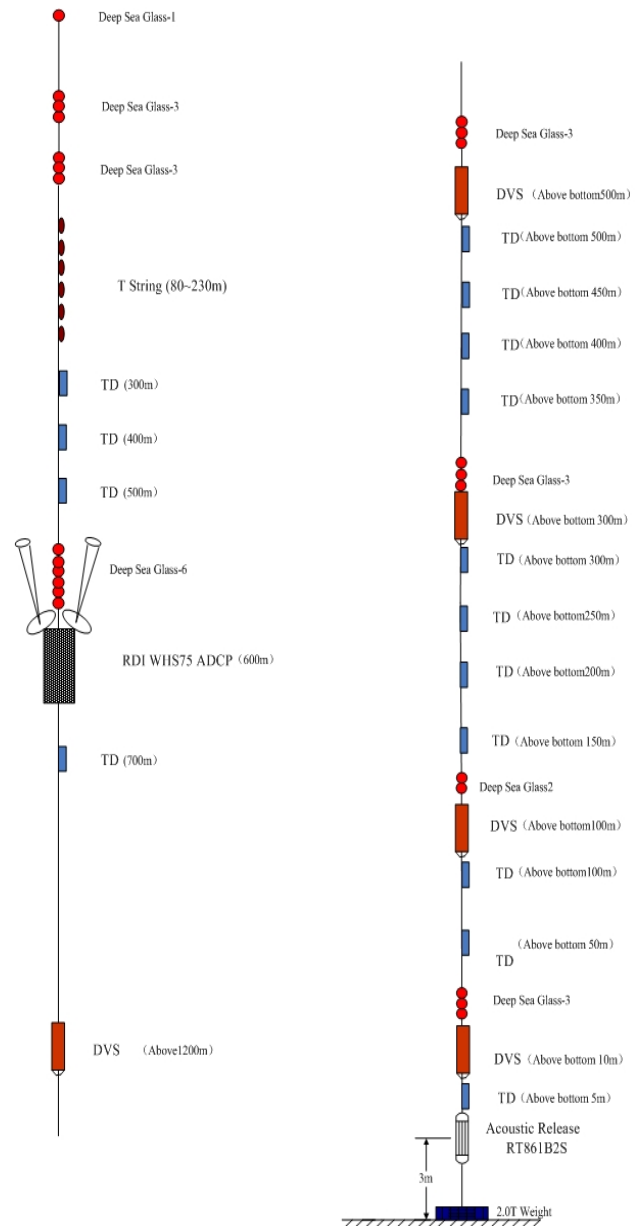
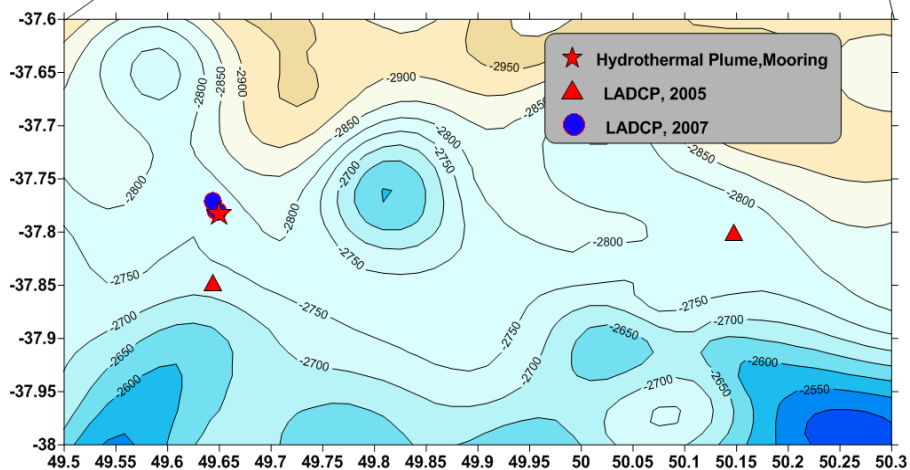
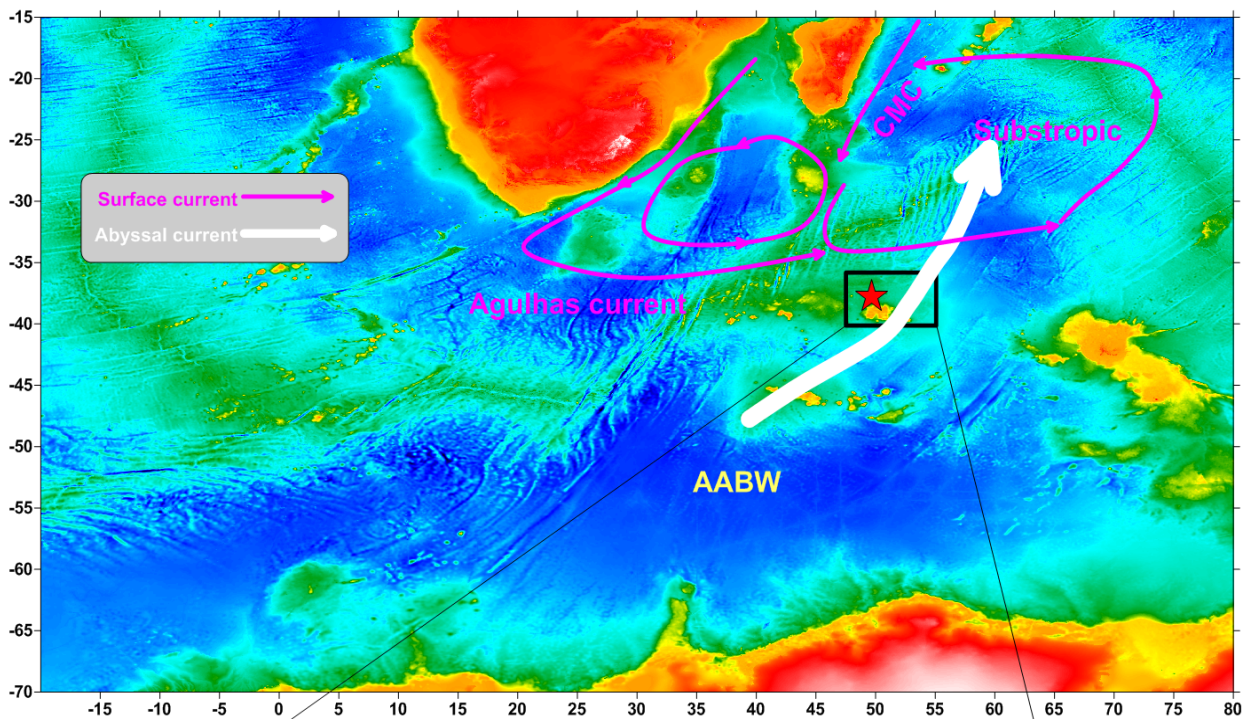


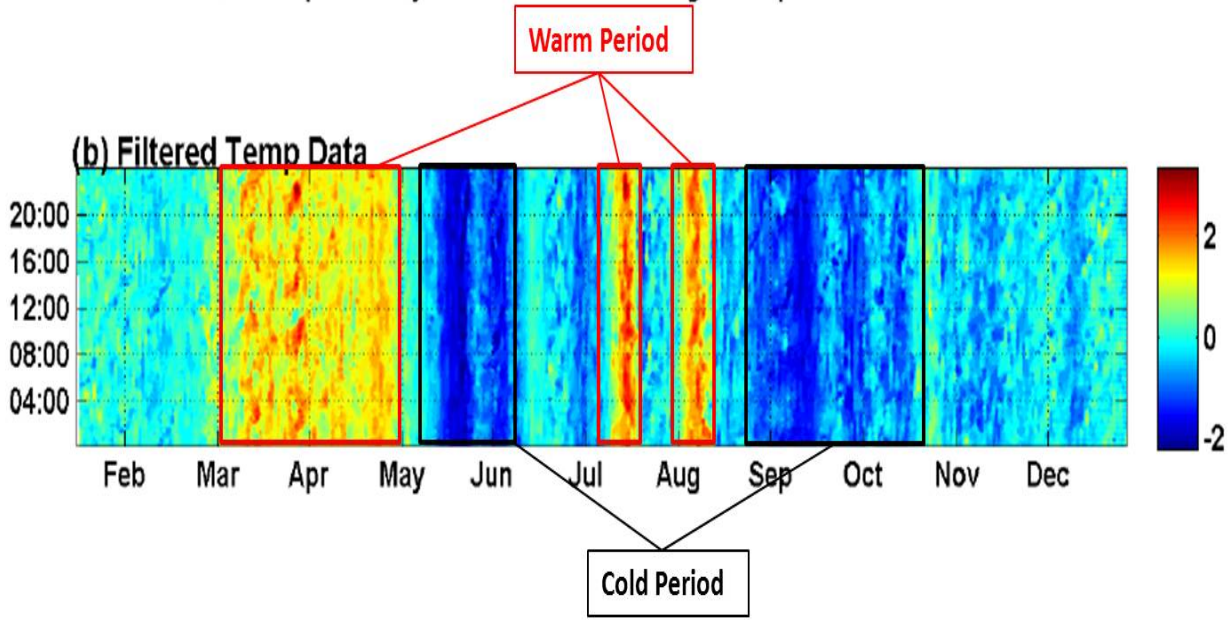
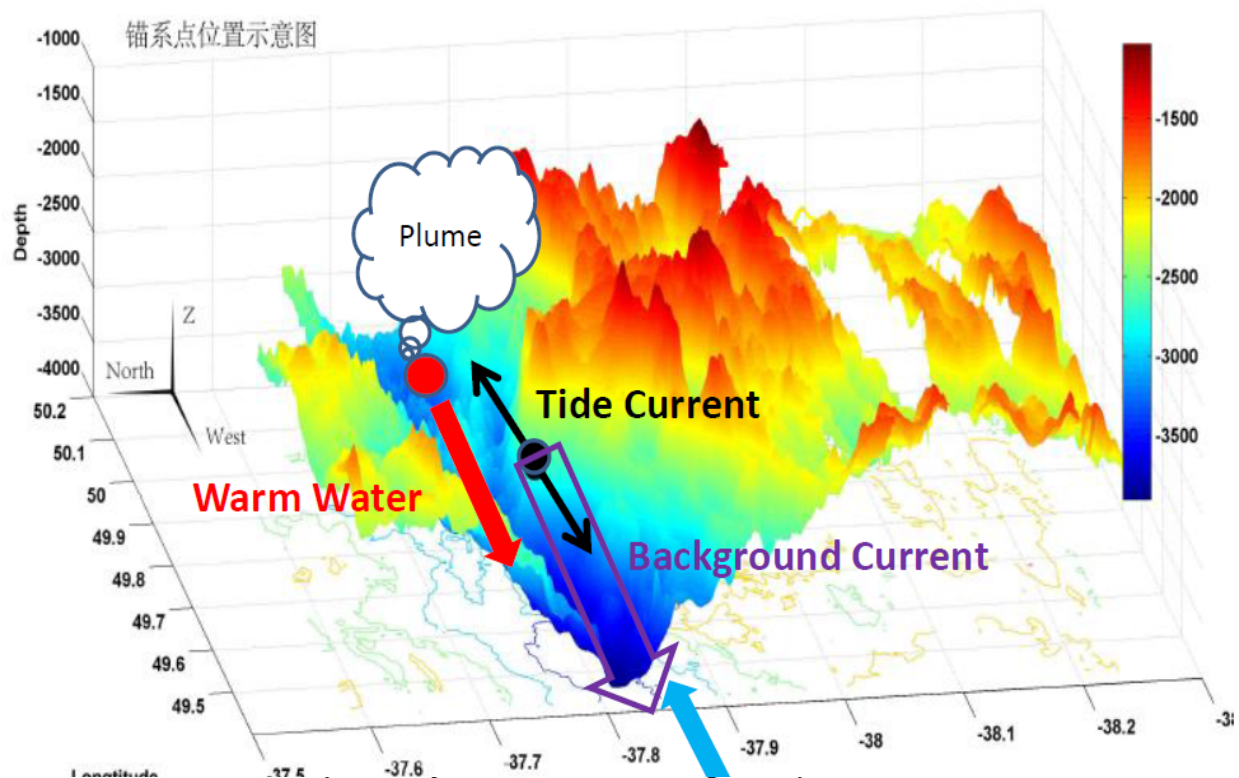
- | | | | | | |
|---|--------------------|-----------------------------|---------------------------------|-------------------------------------|--|
| OceanSITES Moorings and Observatories (89) | | Transport sites (19) | | Planned or Discontinued (33) | |
| ● OPERATING Real Time Data (42) | — OPERATING (16) | ■ Transport Stations | ▲ PLANNED Real Time Data (16) | ■ PLANNED Delayed Mode data (0) | |
| ■ OPERATING Delayed Mode Data (47) | — DISCONTINUED (3) | ◻ Discontinued | ▲ PLANNED Delayed Mode data (0) | ◻ DISCONTINUED (17) | |

Investigation of Benthic Ecosystem around Hydrothermal Vent

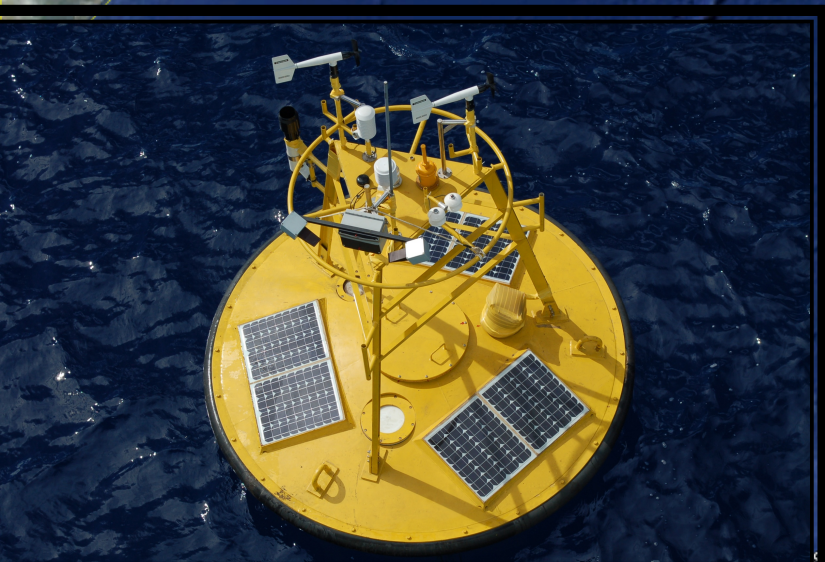


Long-term mooring for monitoring of hydrothermal vent in southwest Indian Ridge

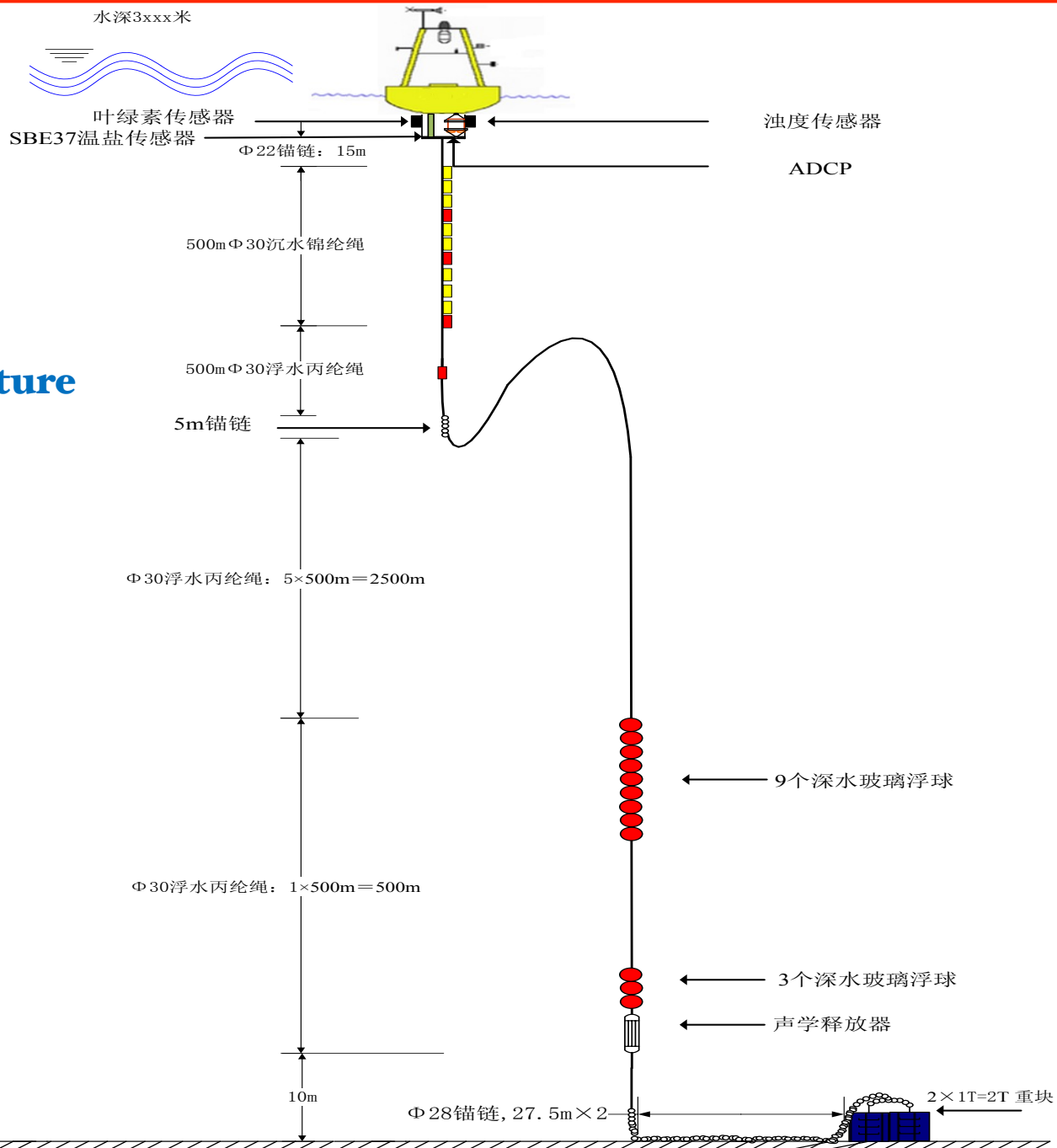




Installed 2 buoys along Carlsberg Ridge

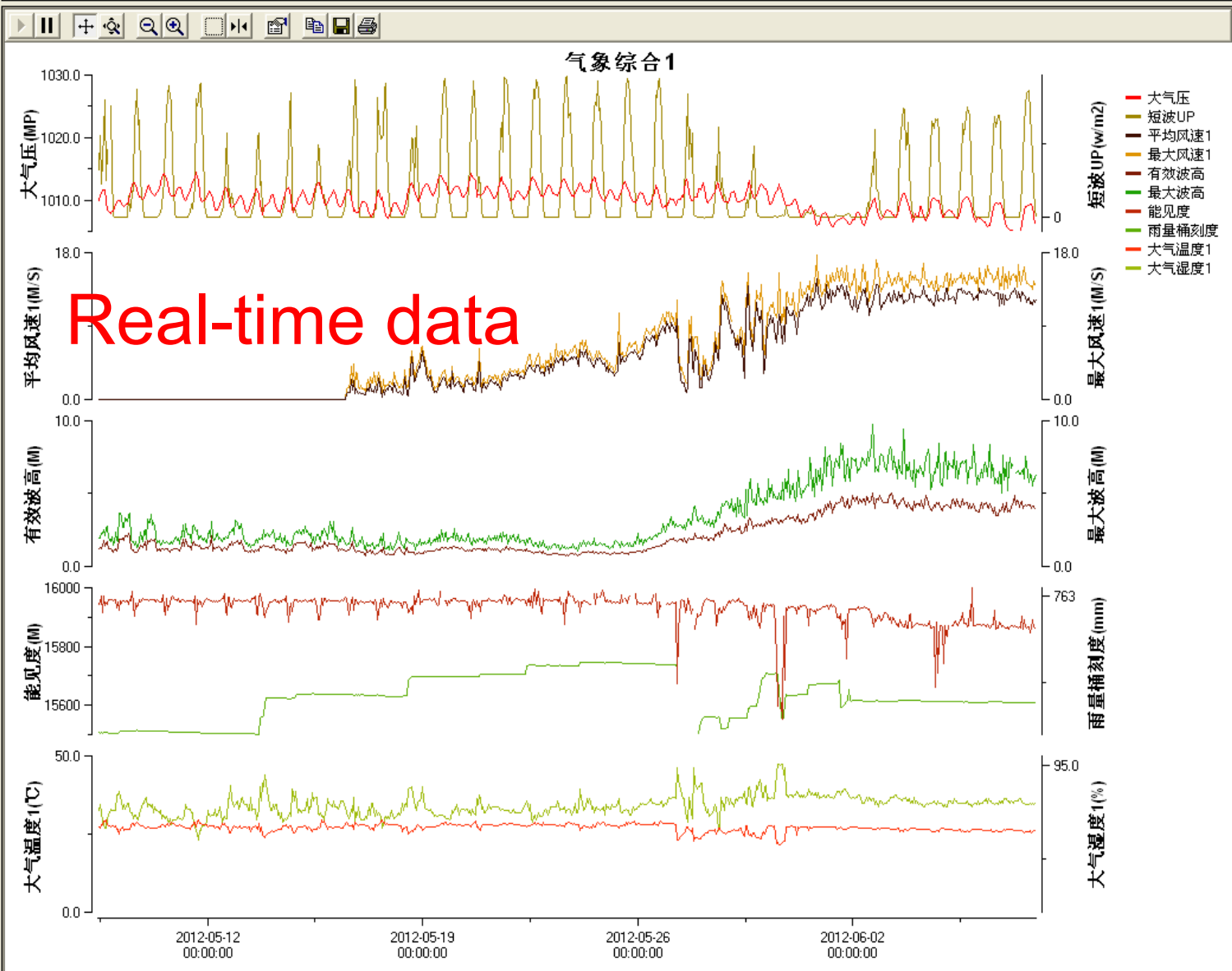


Mooring structure



- All sensors
 - Location info
 - Location
 - 系统信息
 - 系统电压1
 - 系统电压2
 - 自测温度1
 - 自测温度2
 - 气象数据
 - 大气温度1
 - 大气温度2
 - 大气湿度1
 - 大气湿度2
 - 电子罗盘1
 - 电子罗盘2
 - 平均风速1
 - 平均风速2
 - 最大风速1
 - 最大风速2
 - 大气压
 - 雨量桶刻度
 - 能见度
 - 短波UP
 - 短波DOWN
 - 长波UP
 - 长波DOWN
 - 长短波温度
 - 有效波高
 - 最大波高
 - 波浪周期
 - 主要波向
 - 波向延伸
 - 气象综合1
 - 水文水质数据
 - 叶绿素
 - 水温
 - 电导
 - 深度
 - 锚系数据
 - ADCF数据
 - ADCF单点温度

Start: 2012-05-08 10:17:00 End: 2012-06-03 23:17:49 Realtime data



- All sensors
 - Location info
 - Location
 - 系统信息
 - 系统电压1
 - 系统电压2
 - 自测温度1
 - 自测温度2
 - 气象数据
 - 大气温度1
 - 大气温度2
 - 大气湿度1
 - 大气湿度2
 - 电子罗盘1
 - 电子罗盘2
 - 平均风速1
 - 平均风速2
 - 最大风速1
 - 最大风速2
 - 大气压
 - 雨量桶刻度
 - 能见度
 - 短波UP
 - 短波DOWN
 - 长波UP
 - 长波DOWN
 - 长短波温度
 - 有效波高
 - 最大波高
 - 波浪周期
 - 主要波向
 - 波向延伸
 - 气象综合1
 - 水文水质数据
 - 叶绿素
 - 水温
 - 电导
 - 深度
 - 锚系数据
 - ADCP数据
 - ADCP单点温度

Start: 2012-05-19 10:17:00 End: 2012-06-03 23:17:49 Realtime data

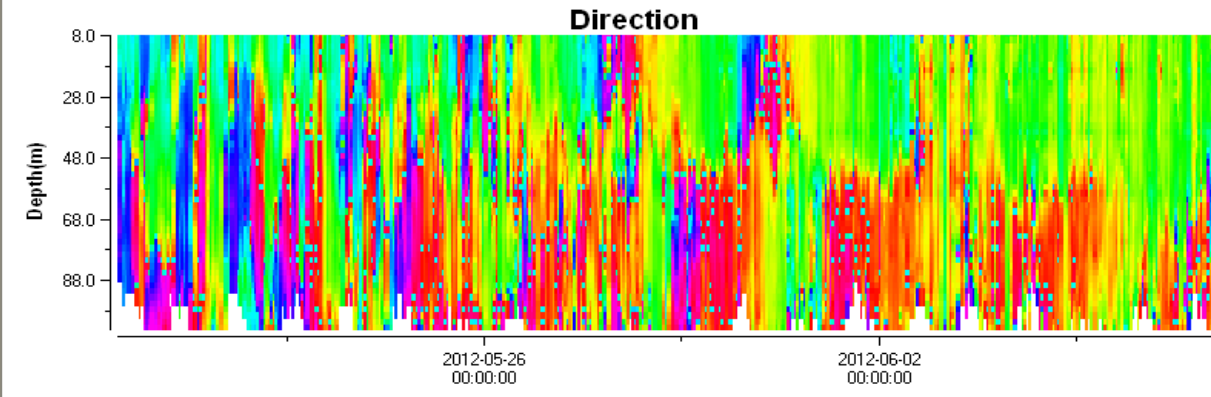
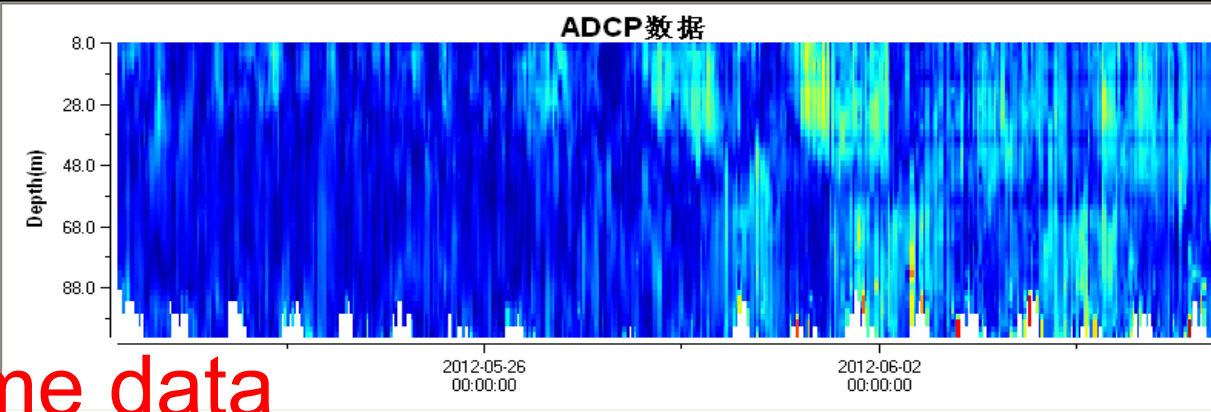
Valid range
Min 0 cm/s Max 100 cm/s

Vector plot
 Time serial plot
 Contour plot
 Current profile plot
 Standard

Speed Dir

Min: 0
 Span: 10

Real-time data



Time/Sensors	ADCP-L1 (8m)	ADCP-L2 (12m)	ADCP-L3 (16m)	ADCP-L4 (20m)	ADCP-L5 (24m)	ADCP-L6 (28m)	ADCP-L7 (32m)	ADCP-L8 (36m)	ADCP-L9 (40m)
2012-06-07 23:00	20.50	23.90	23.90	19.70	22.40	23.60	25.20	23.40	17.00
2012-06-07 22:00	20.80	21.30	24.70	21.10	22.80	23.00	24.70	21.10	12.80
2012-06-07 20:00	30.10	29.20	27.00	23.80	28.70	25.90	24.20	22.60	23.80
2012-06-07 19:00	19.30	12.60	16.50	18.00	21.60	21.00	23.70	18.60	15.50
2012-06-07 18:00	20.30	22.80	24.60	19.80	25.10	23.70	24.50	25.30	19.70
2012-06-07 17:00	13.90	14.00	16.20	13.90	17.80	22.30	18.70	15.20	12.80
2012-06-07 16:00	18.10	28.30	29.00	27.60	30.70	30.50	28.80	26.10	20.70

Magnitude Direction Statistics

Our Coming Project in Indian Ocean

- Deploy 7 moorings and real-time buoys in West Indian Ocean
- The project period will be more than 10 years
- A new built research vessel is dedicated to project

China weather severely affected by Indian Ocean



Monsoons

Typhoon

Warm Pool



An architectural rendering of a modern, multi-story office building. The building features a mix of glass facades and solid-colored panels in shades of grey and brown. It has a prominent corner section with large glass windows. The sky is a clear, light blue. In the foreground, there is a landscaped area with green grass, trees, and a few small figures of people walking. A large, semi-transparent white rectangle is overlaid on the center of the image, containing the word "Thanks" in a blue, serif font.

Thanks