

# Hawai'i to California: International Seabed Authority (ISA) traineeship on board R/V Kilo Moana

**Safiyya Sedick**

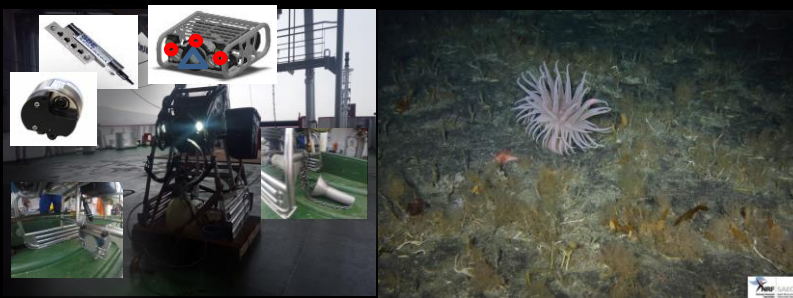
Anchor Environmental Consultants, Tokai, Cape Town, 8000

Email: [safiyya@anchorenvironmental.co.za](mailto:safiyya@anchorenvironmental.co.za)

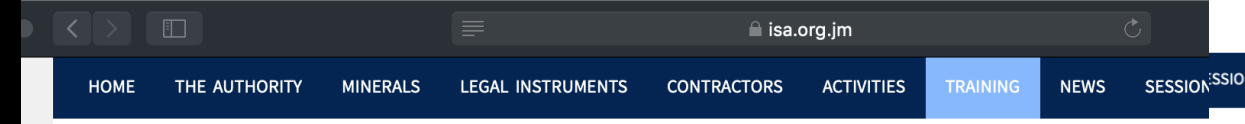
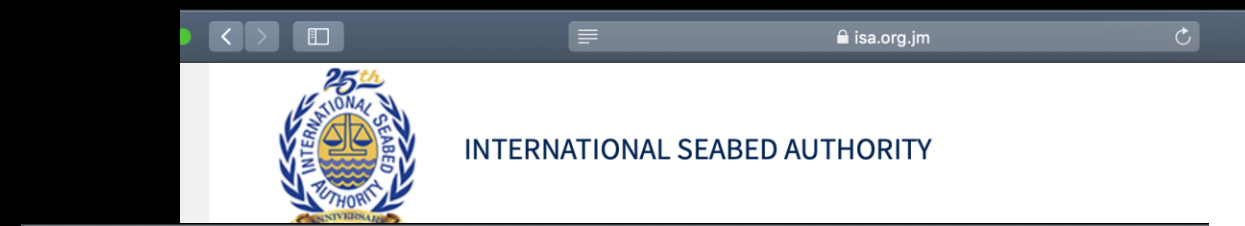




# Opportunities



## Deep Sea Node



**At-Sea Training Programmes for 2018** CLOSED  
UPDATE : (10 April 2010) The following candidates have been selected:

### 1. Opportunity under the Polymetallic Nodules Contract

NAME	GENDER	COUNTRY
<i>First Ranked</i>		
1. Isabel Garcia Arevalo	Female	Ecuador
2. Safiyya Sedick	Female	South Africa
<i>Alternates</i>		
1. Ahmed Mohamed Gad	Male	Egypt
2. Hai Trinh Le	Male	Vietnam
3. Karina Melias Astriandhita	Female	Indonesia

The Ministry of Oceans and Fisheries, Republic of Korea (MOF) in accordance with the *contract for the exploration for polymetallic nodules* with the International Seabed Authority, is offering **two (2)** at-sea, on-board training places for candidates from developing states, in the field of environmental baseline survey. The cruise will be organized by the Korea Institute of Ocean Science and Technology (KIOST) and is planned between March and April 2018 for about 30 days with R/V *Kilo Moana* operated by the University of Hawaii. The survey will be focused on geological and biological sampling and collection of environmental baseline data in the Korean Contract Area for polymetallic nodules.

Candidates must meet the following requirements:

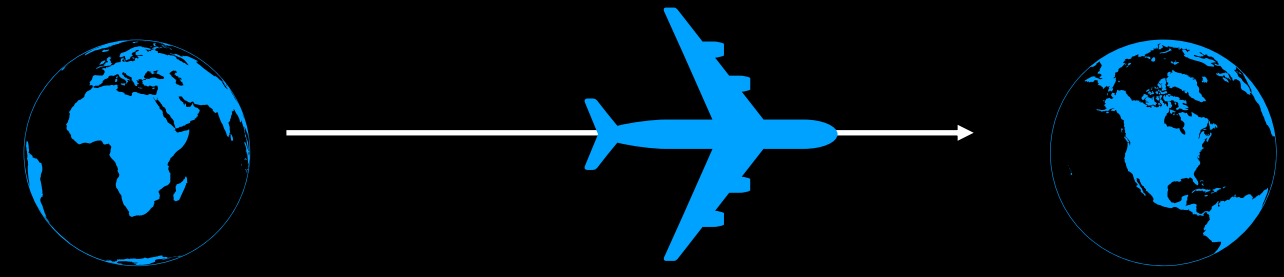
1. Education: hold a qualified bachelor or master's degree in the field of ocean science and biology or have an



## SEAmester



## M.Sc. polychaete taxonomy





# Delayed Flights







# Aloha! Honolulu, Hawai'i







**Princess Kaiulani  
Hotel**

**Waikiki**







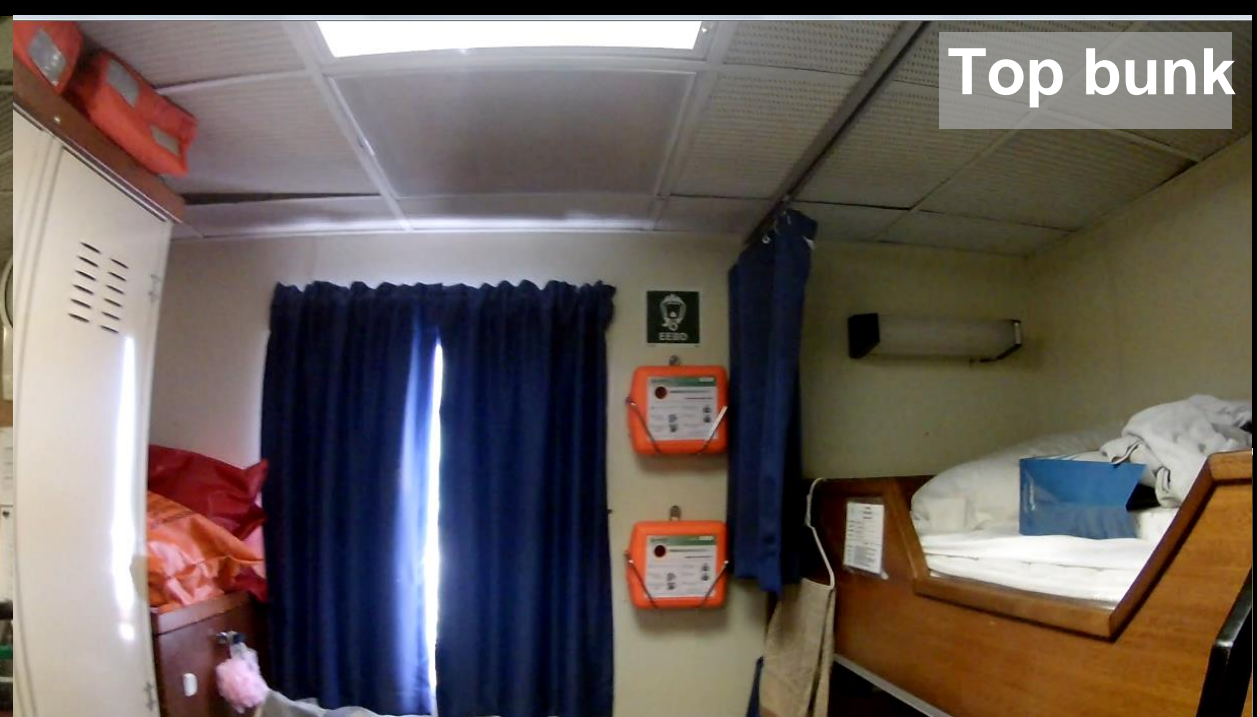
# R/V Kilo Moana



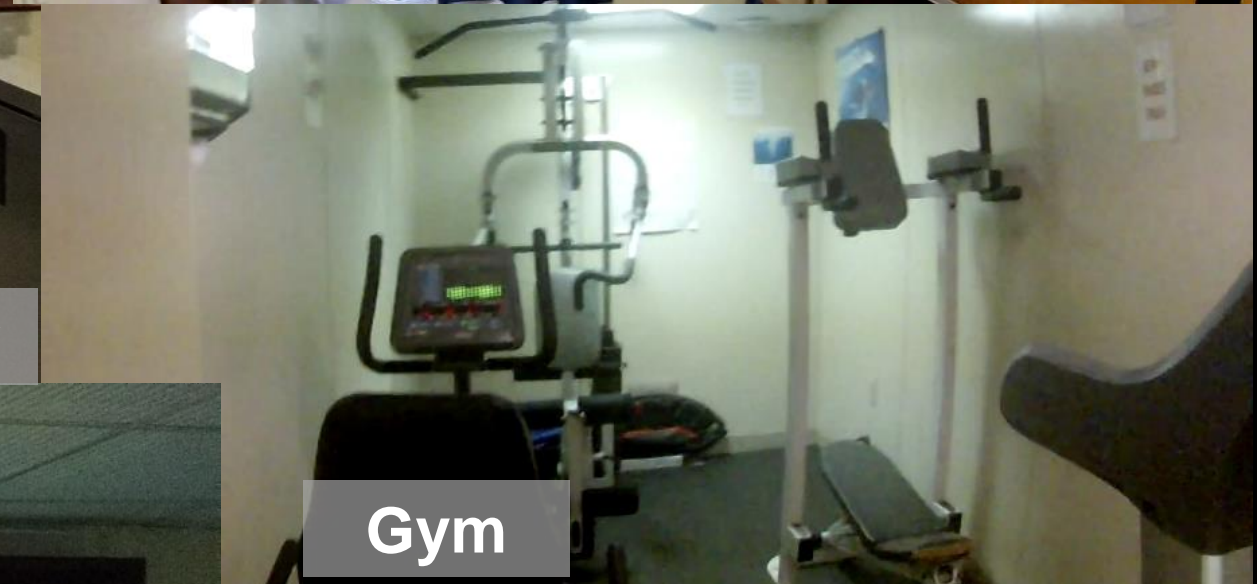




Galley



Top bunk



Gym



Lounge

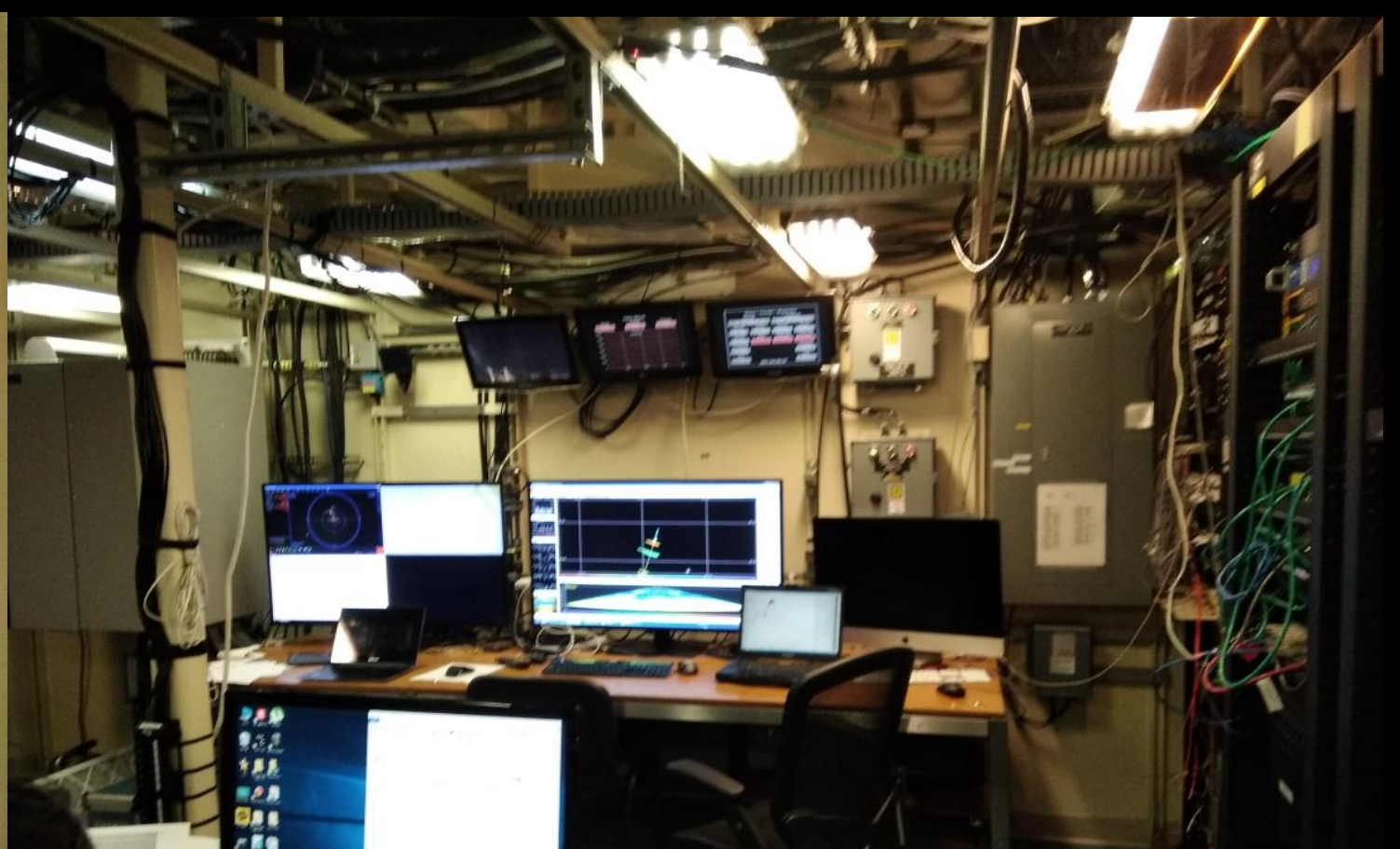


Library





Storage Room



Control Room



Wet Lab



Staging Bay



# Deep sea – DAY 1



KODOS 1801 

**INTERNET STATUS**  
 GREEN = AS GOOD AS IT GETS  
 SEATEL SYSTEM ONLINE  
 ANTENNA IS TRACKING WELL  
 WIRELESS ACCESS POINTS  
 EVERYONE HAS ACCESS  
 DATA TRANSFER RATES ARE GOOD

HiSeasNet Satellite

The captive portal is **ACTIVE**  
 Log on via: 192.168.1.1:8090

2018년도 망간단락 및 선량간류물 사업 실행의 참가자 지휘

1. 발령 분야 조문번호 및 운영시간 변경  
 A.E (11:00 - 22:00) 이근형, 김병환, 박종성, 이윤성, 오지현, 박희진, 김지영  
 Isabel Garcia Arevalo  
 박희진, 이근우, 문학진, 김성철, 김희정, 이윤성, Sofaya Deock

2. 선실 운영 변경 요청 : 운영실 ↔ 오지현

3. 근무조 운영시간 : 3월 10일 오전 10시(Local time) A.E 근무 시작

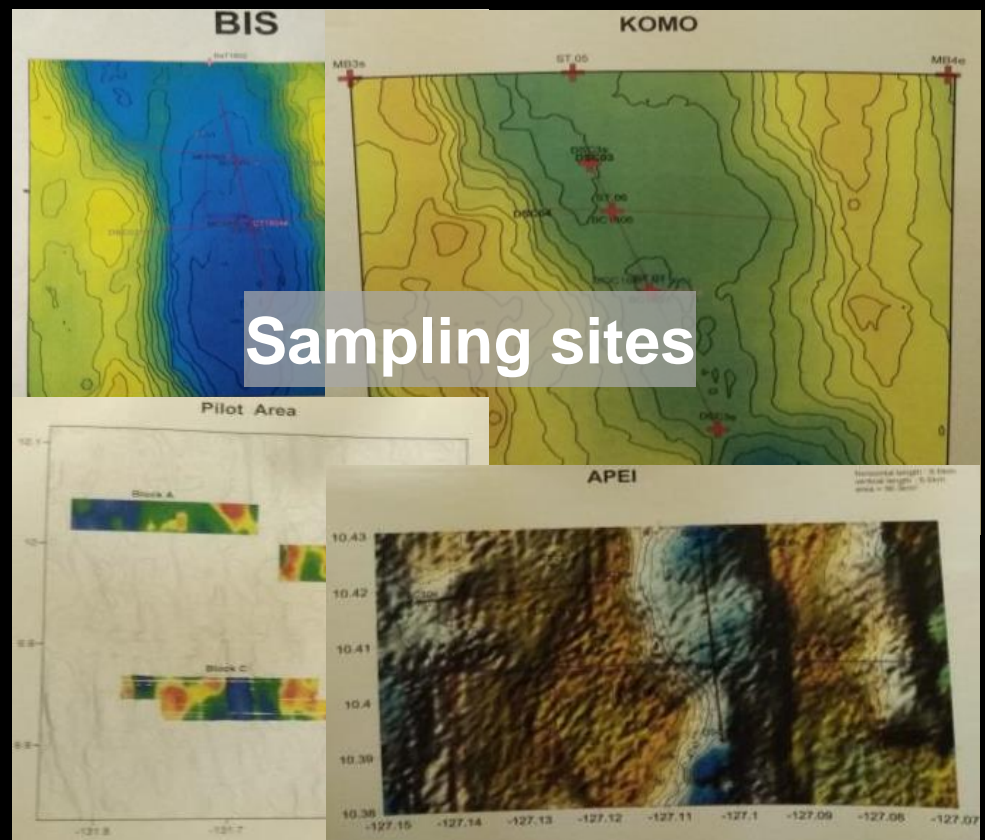
4. 주요 장비 현황과 문제

HiSeasNet (CTDI) 18 (월사번호) 01 (정명 번호) - C18 V14 (10/2/26)  
 HiSeasNet (NW) 18 (월사번호) 01 (정명 번호)  
 HiSeasNet (IDSC) 18 (월사번호) 01 (정명 번호)

시작 시간	종료 시간	작업 내용	담당자
11:00	12:00	선실 운영	이근형
12:00	13:00	선실 운영	김병환
13:00	14:00	선실 운영	박종성
14:00	15:00	선실 운영	이윤성
15:00	16:00	선실 운영	오지현
16:00	17:00	선실 운영	박희진
17:00	18:00	선실 운영	김지영
18:00	19:00	선실 운영	이근형
19:00	20:00	선실 운영	김병환
20:00	21:00	선실 운영	박종성
21:00	22:00	선실 운영	이윤성

HiSeasNet (CTDI) 18 (월사번호) 01 (정명 번호) - C18 V14 (10/2/26)  
 HiSeasNet (NW) 18 (월사번호) 01 (정명 번호)  
 HiSeasNet (IDSC) 18 (월사번호) 01 (정명 번호)

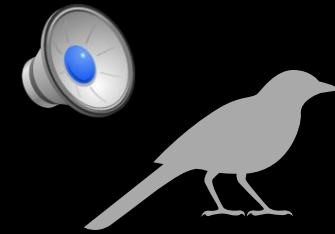
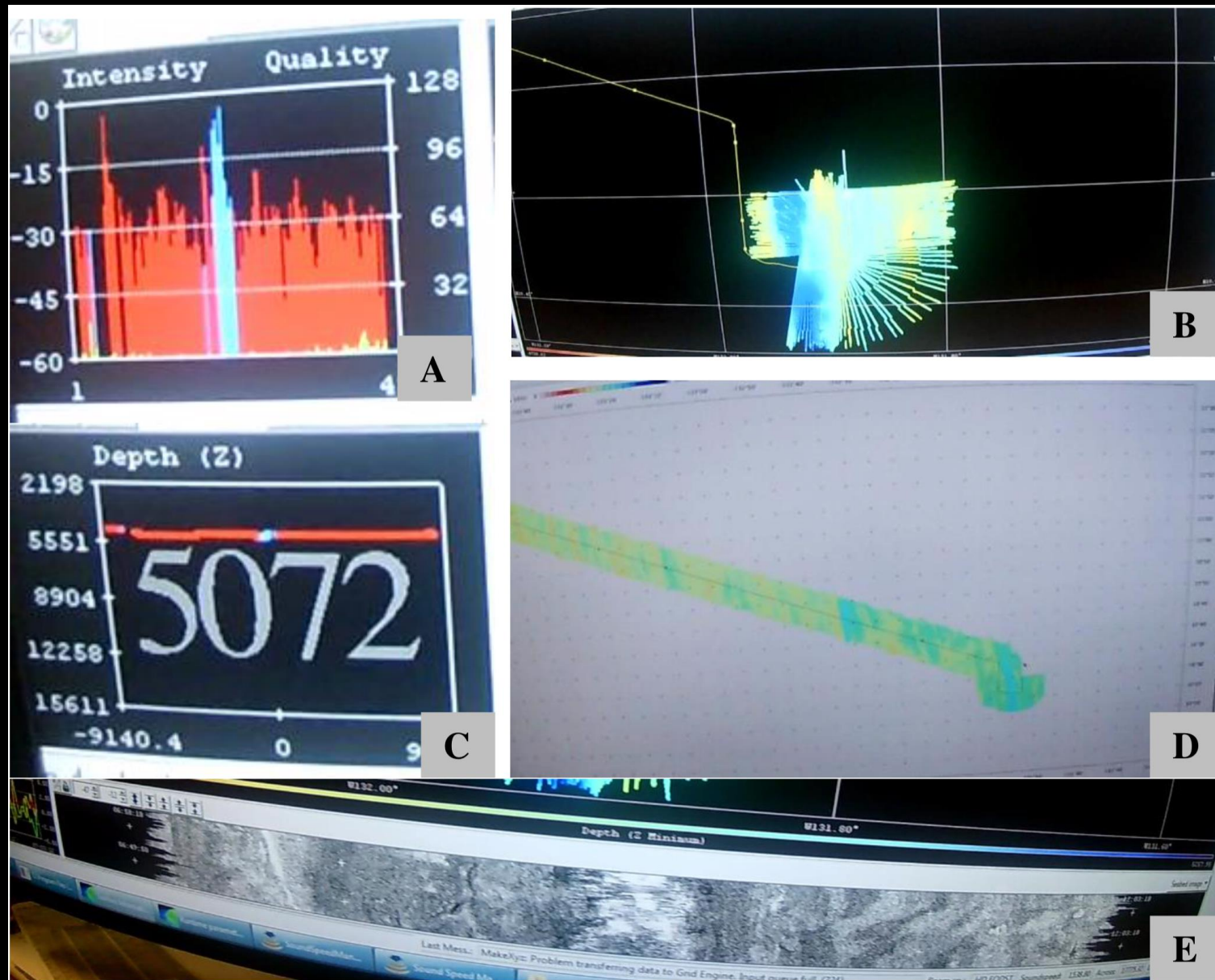
Shifts:  
 10am - 10pm  
 10pm - 10am



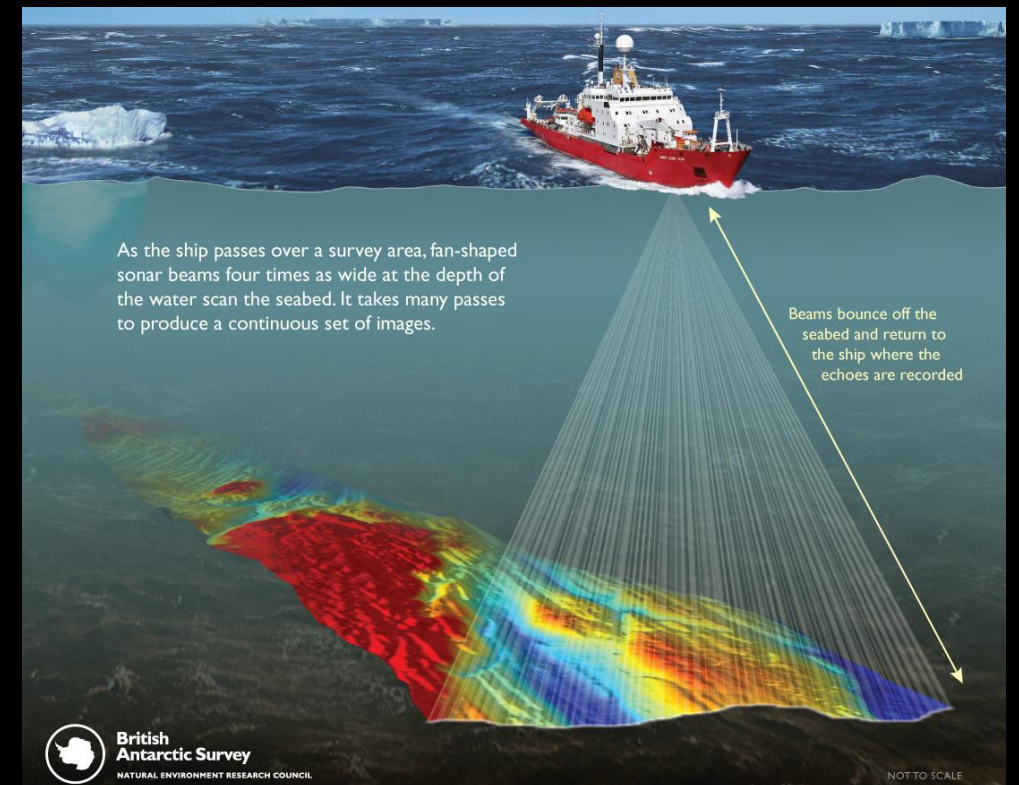
Sampling sites



# Multibeam Bathymetry Survey



- Several transducers on the hull transmit and receive sound pulses
- Time between each pulse translated into depth



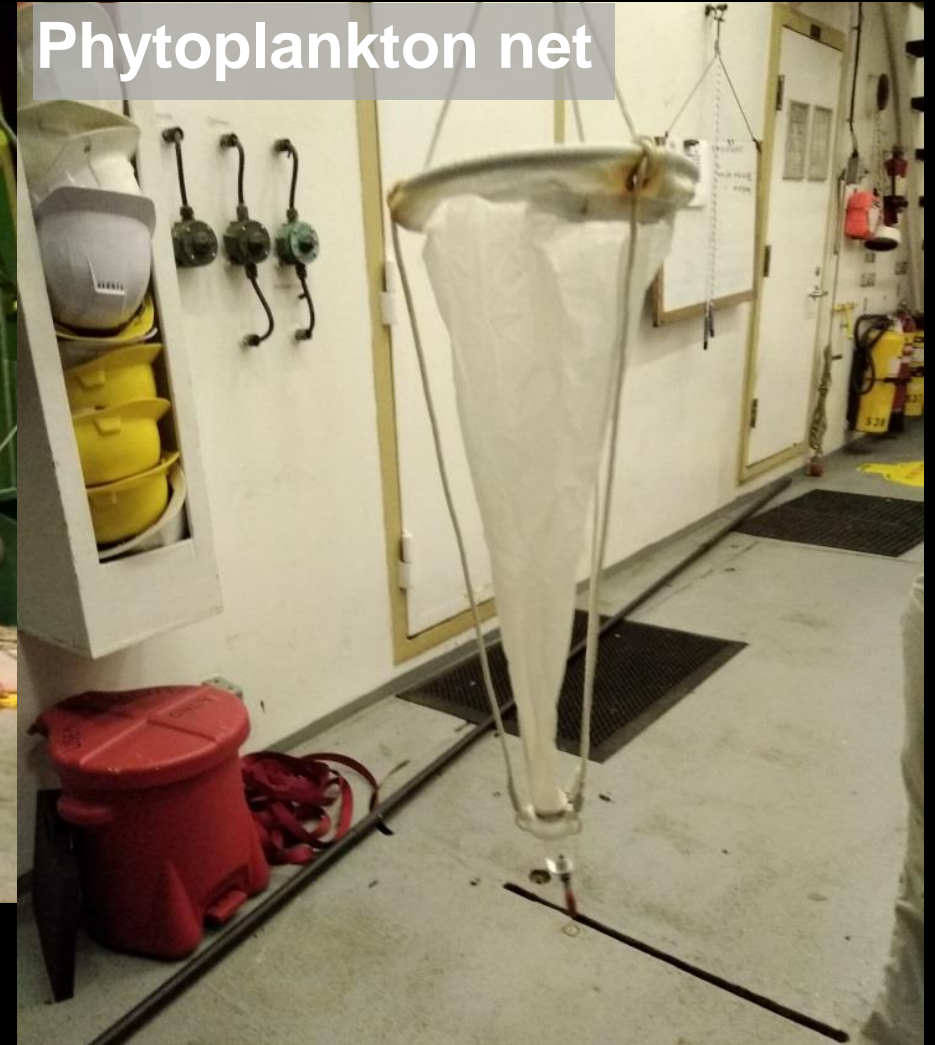


# Zooplankton/Phytoplankton Nets

Zooplankton net



Phytoplankton net



Lab cultures



- Identification of existing communities
- Toxicity tests



# Multiple Open and Closing Net, with an Environmental Sensing System (MOCNESS)



- Nets are able to open and close at desired depths
- Fitted with CTD
- Collecting bucket at cod end

- Mainly midwater sampling
- Samples up to 6km depth



# Baited trap

- Seafloor sampling of benthic megafauna



Acoustic release



# Conductivity, Temperature, Depth (CTD)



Operational training

Water sample collection



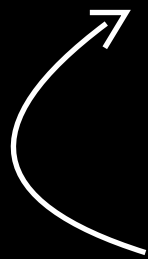
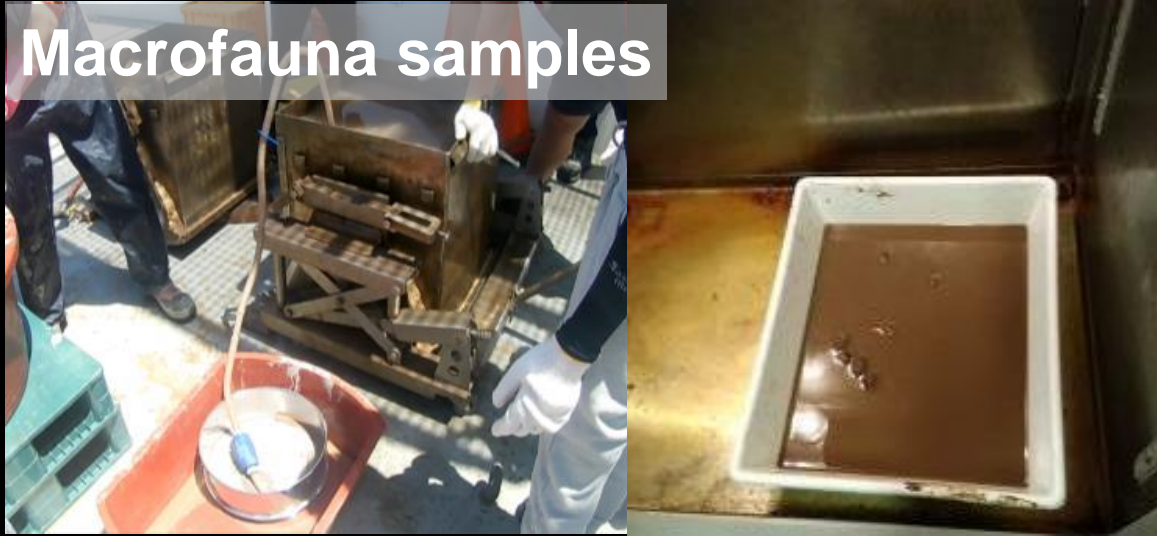
- Collects discrete water samples at user specified depths
- Conductivity, temperature, pressure, oxygen concentration, salinity and depth derived



# Box core

- Collects relatively large areas of seafloor sediment

Macrofauna samples



Meiofauna samples

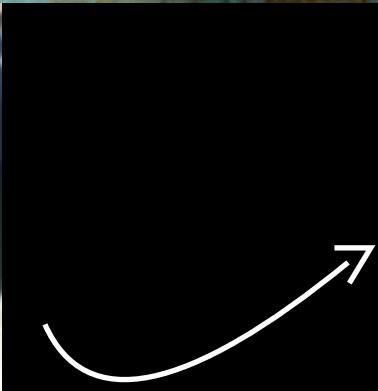
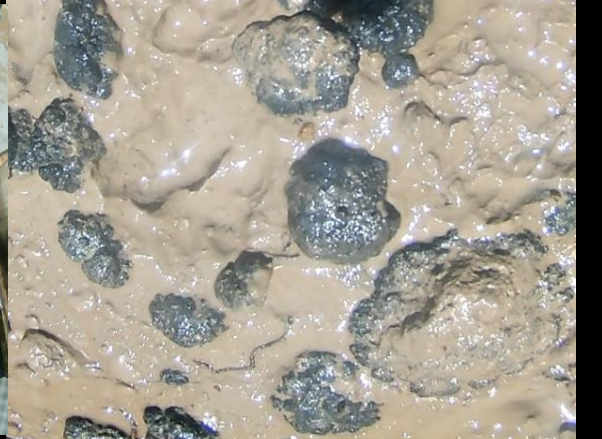




# Box core

- Collects relatively large areas of seafloor sediment

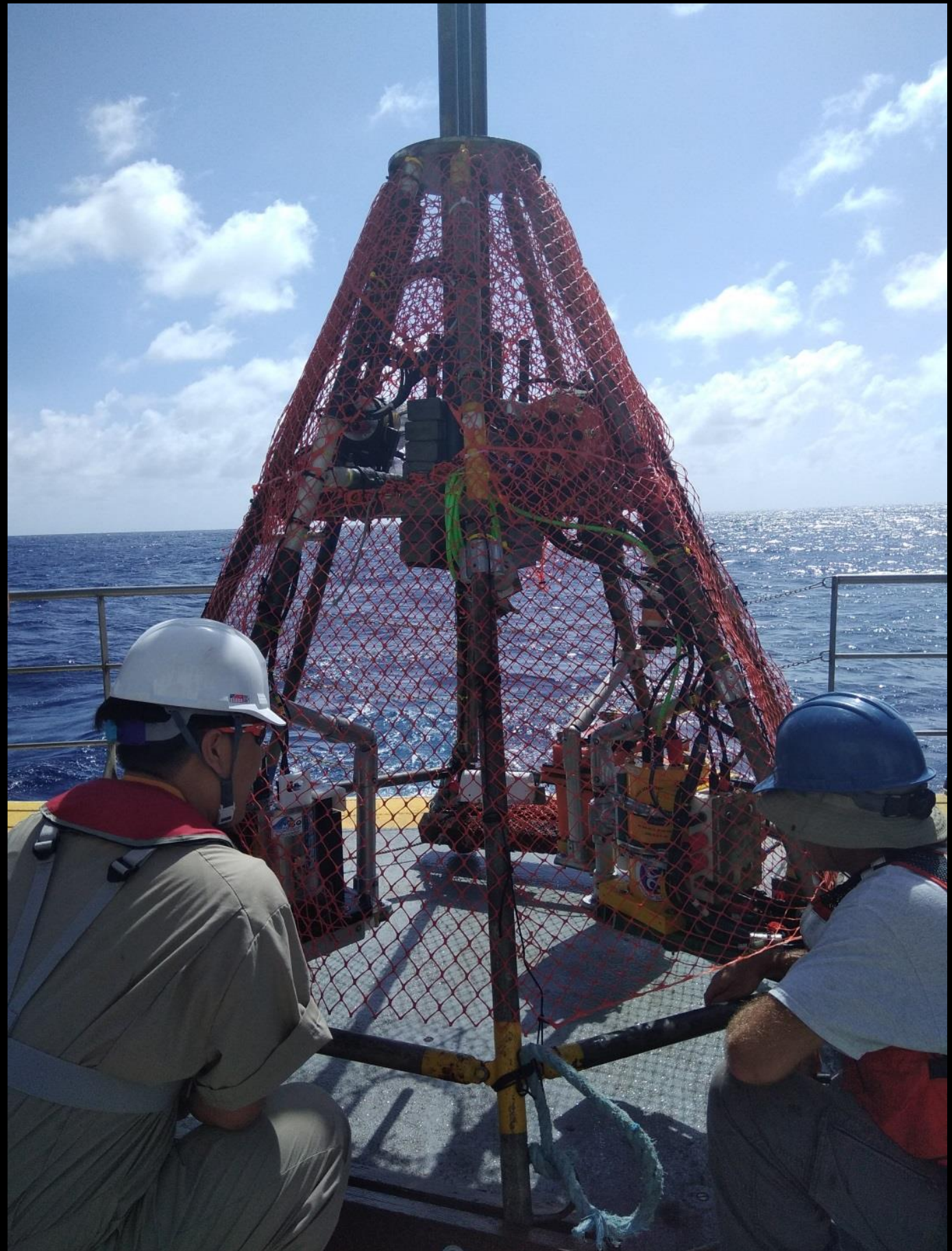
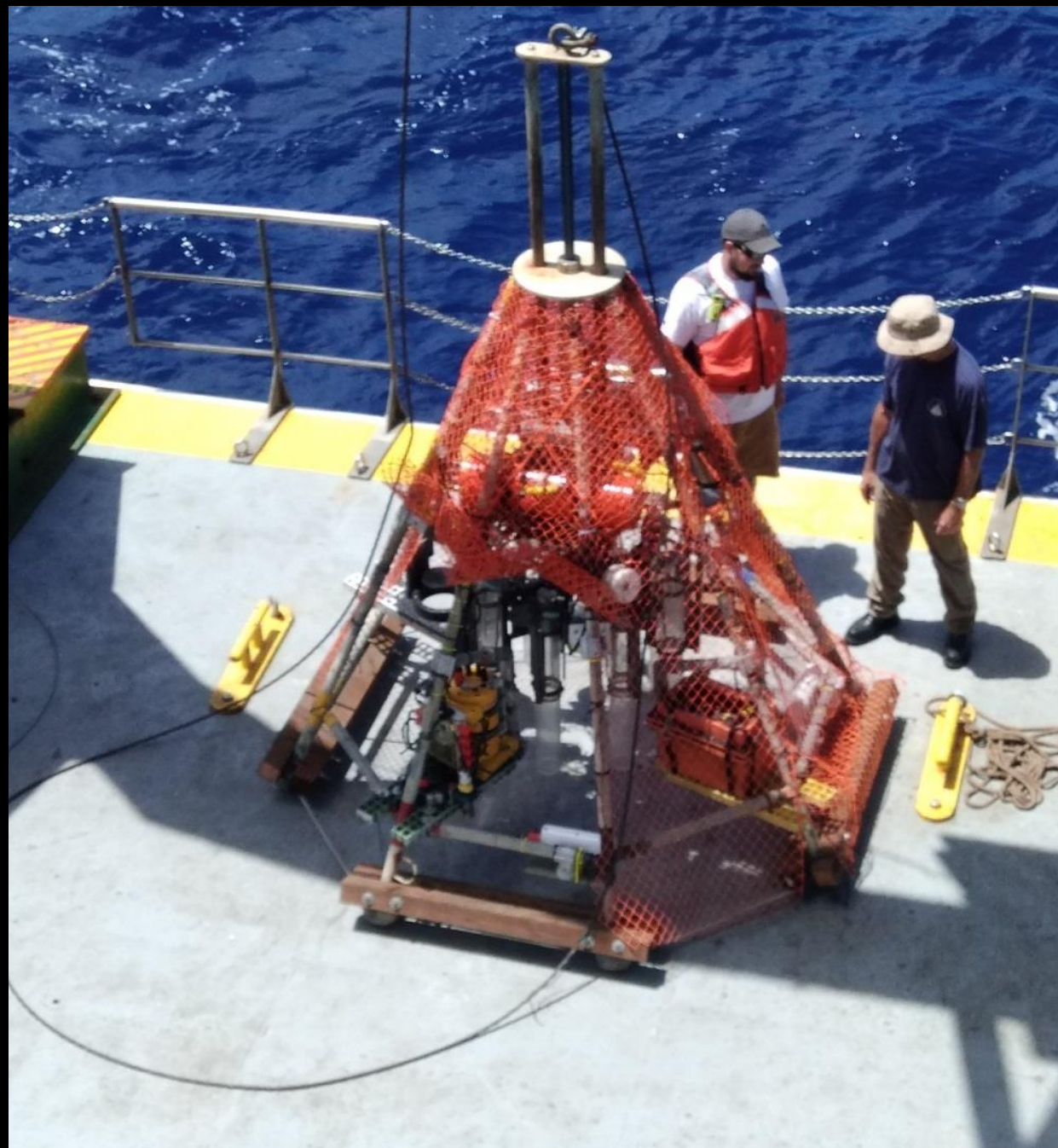
Macrofauna samples





# Multiple corer

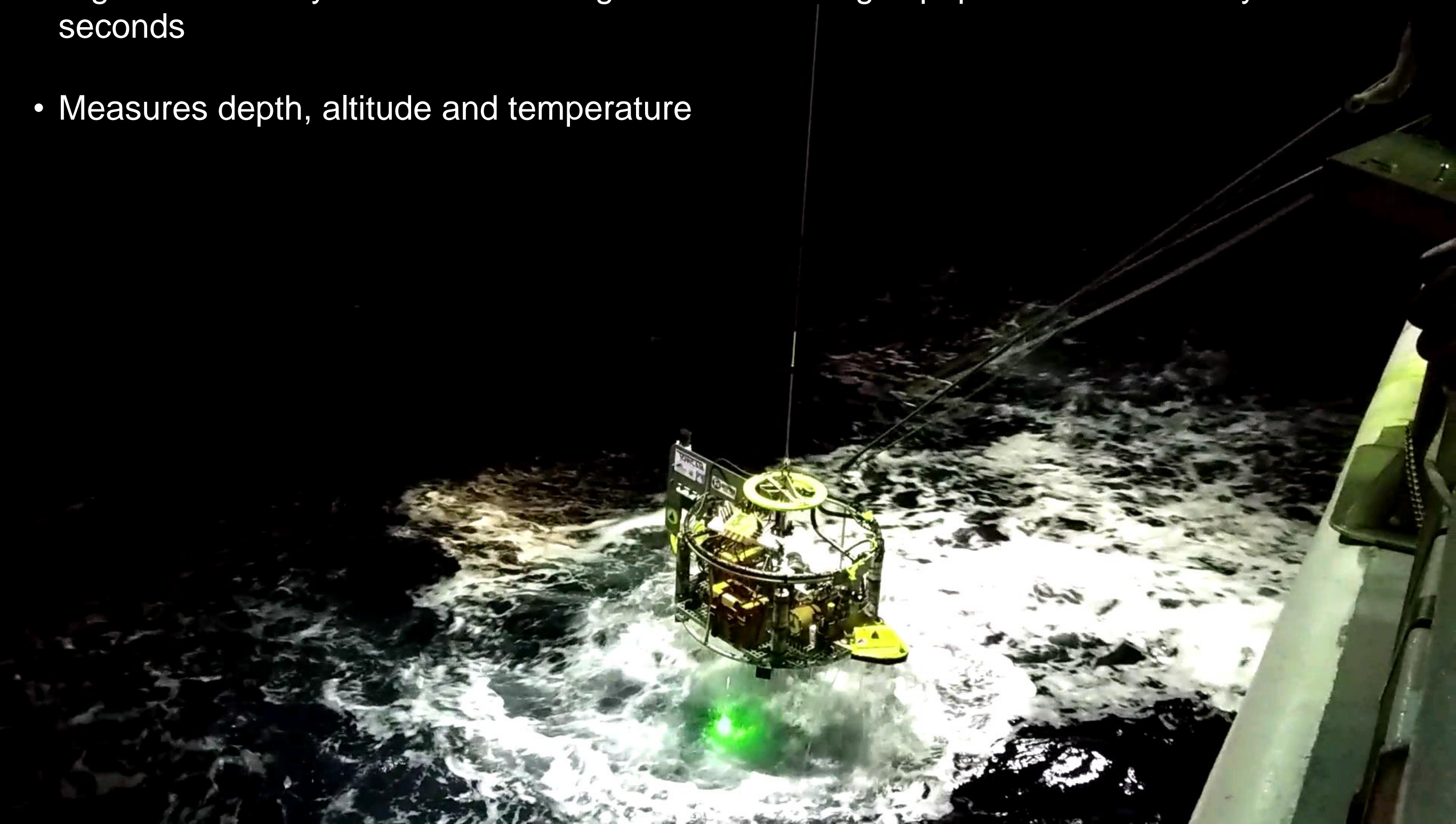
- Collects neat, undisturbed, subsamples of seafloor sediments



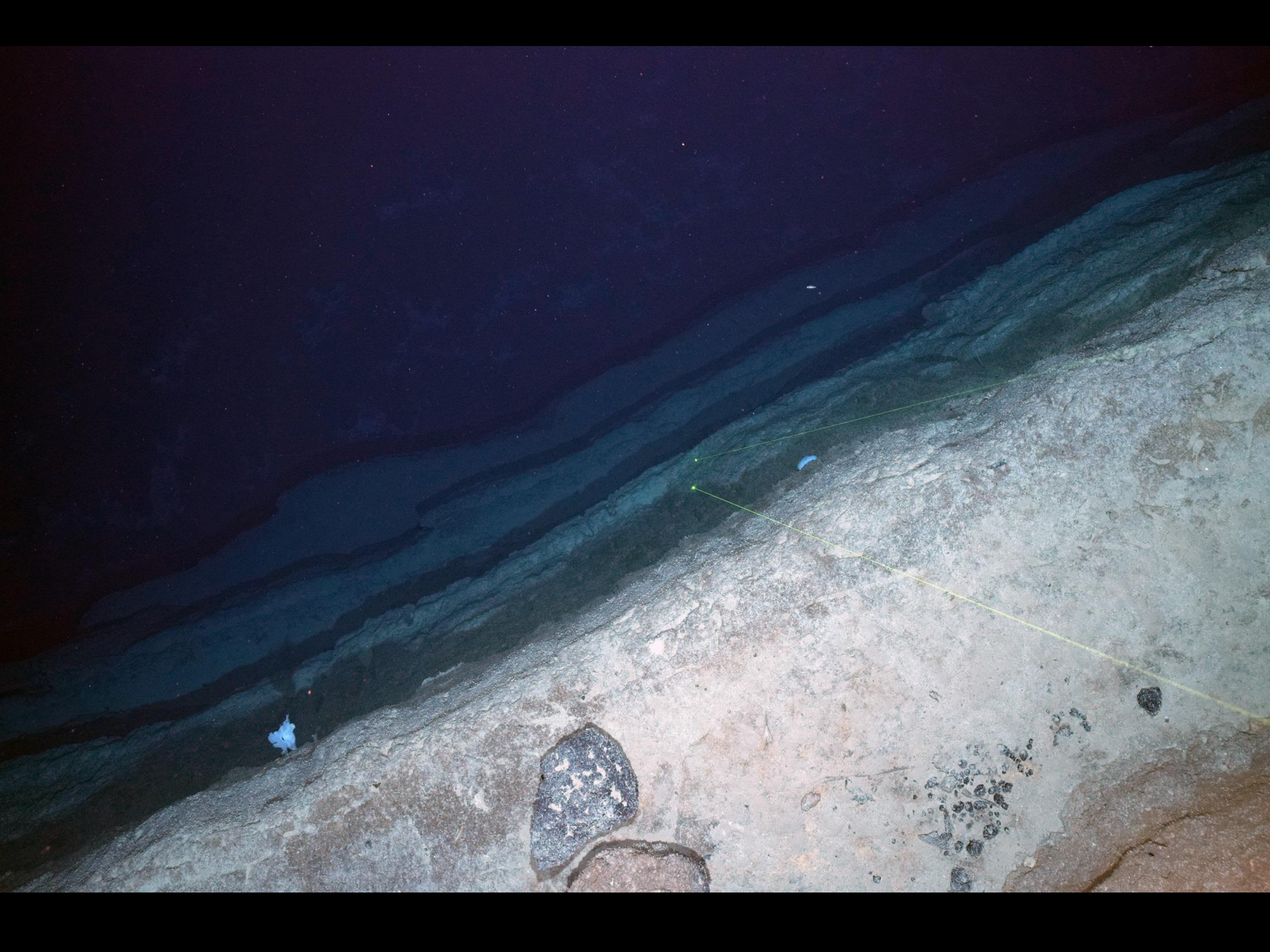


# Deep Sea Towed Camera

- Digital Camera system that takes high resolution images pop the seafloor every ten seconds
- Measures depth, altitude and temperature















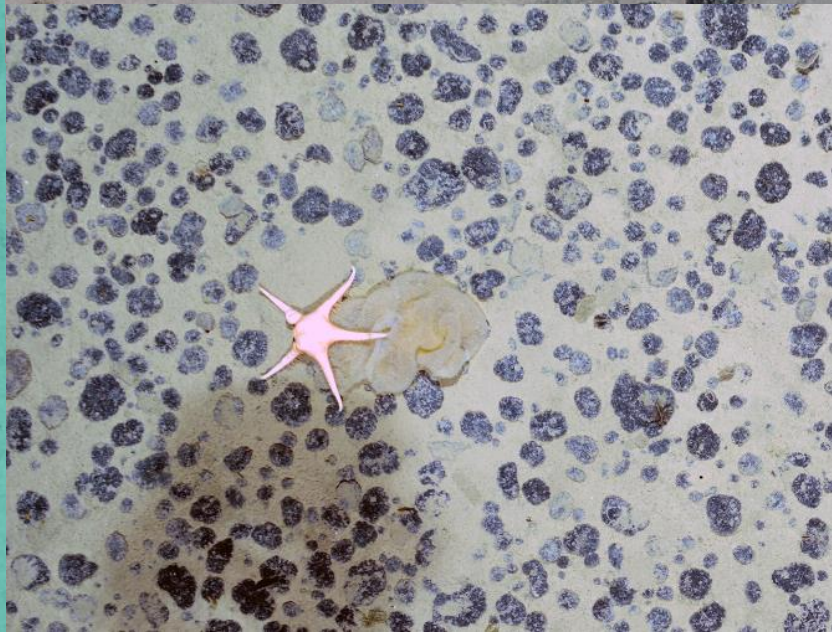
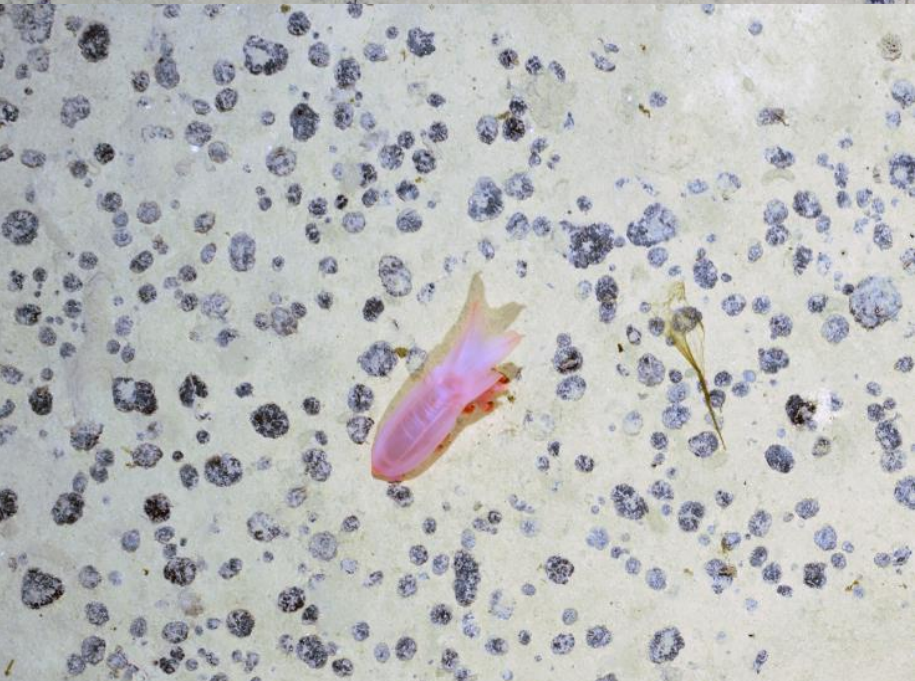
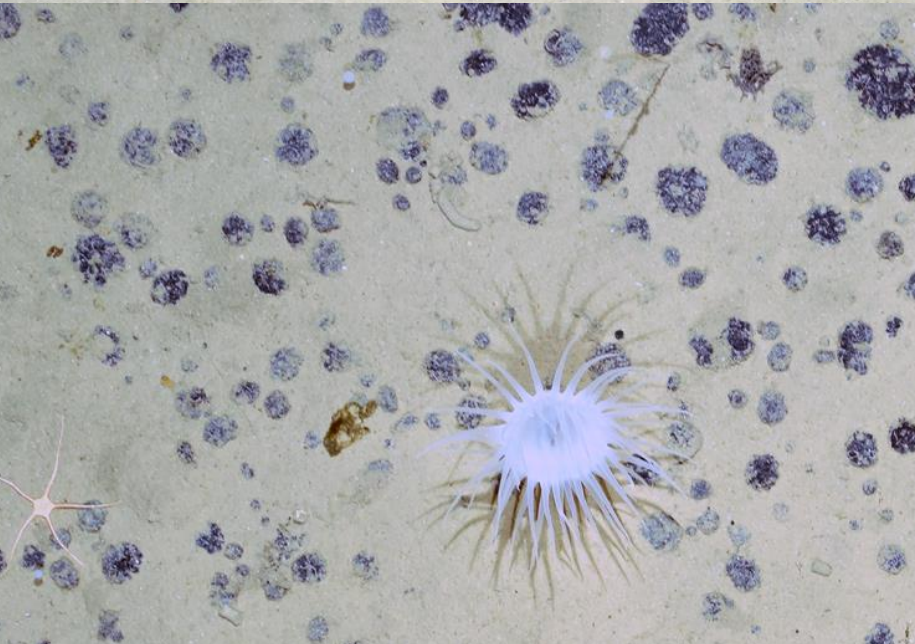
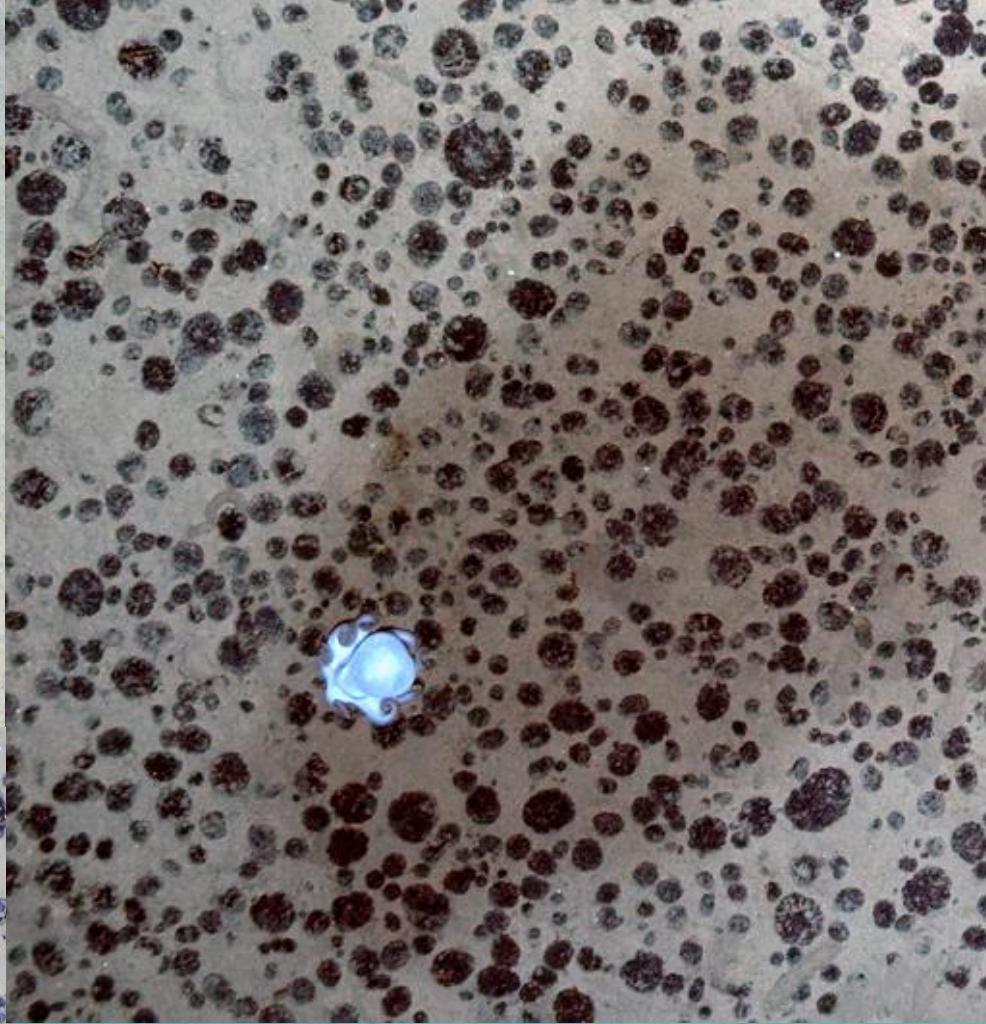


















# Kimchi





# Adapting to life at sea





# Adapting to life at sea





# San Diego, California





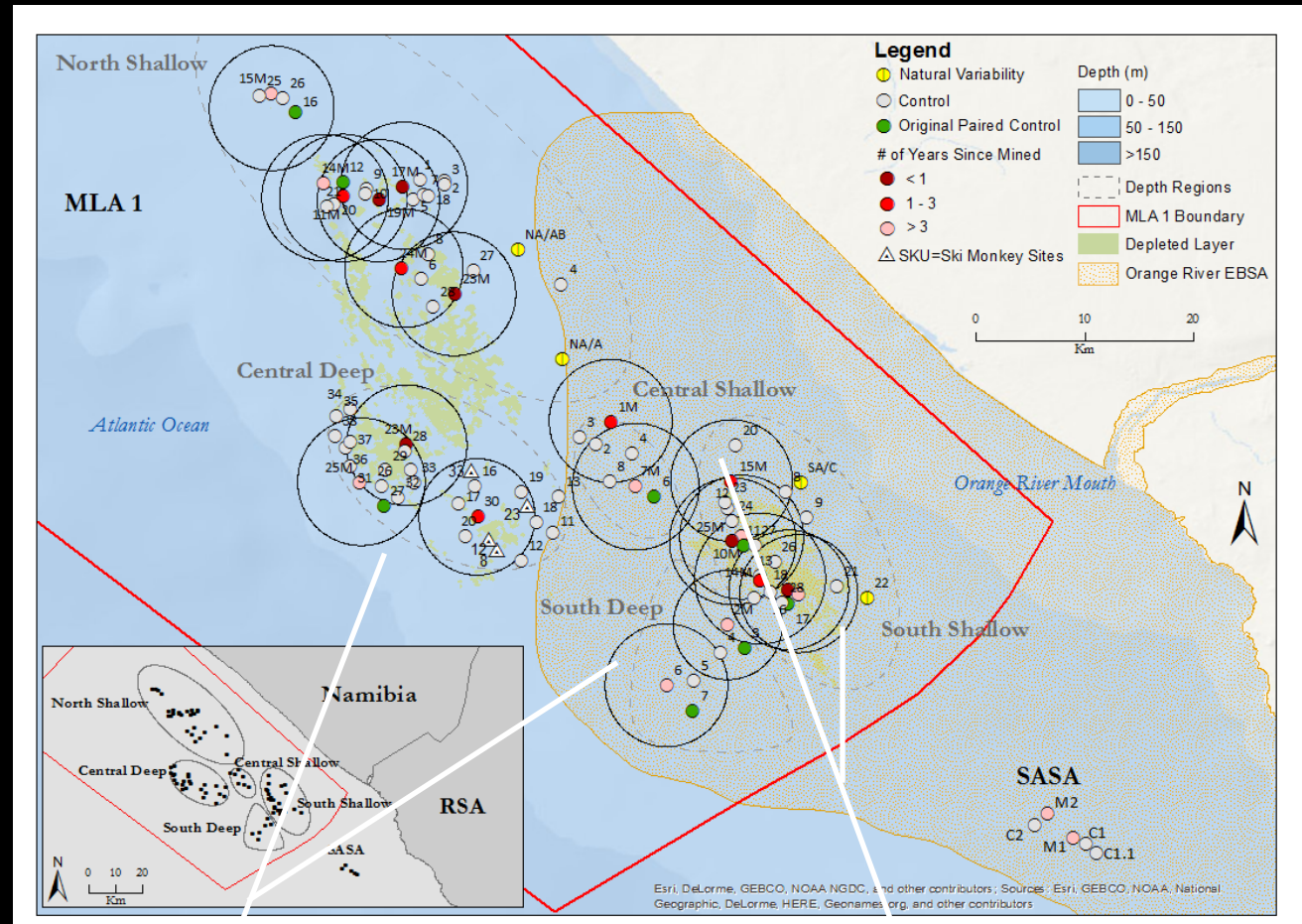
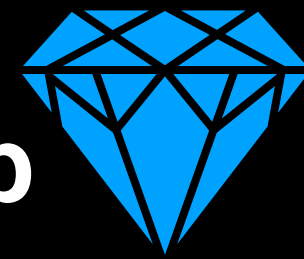




# PADRES





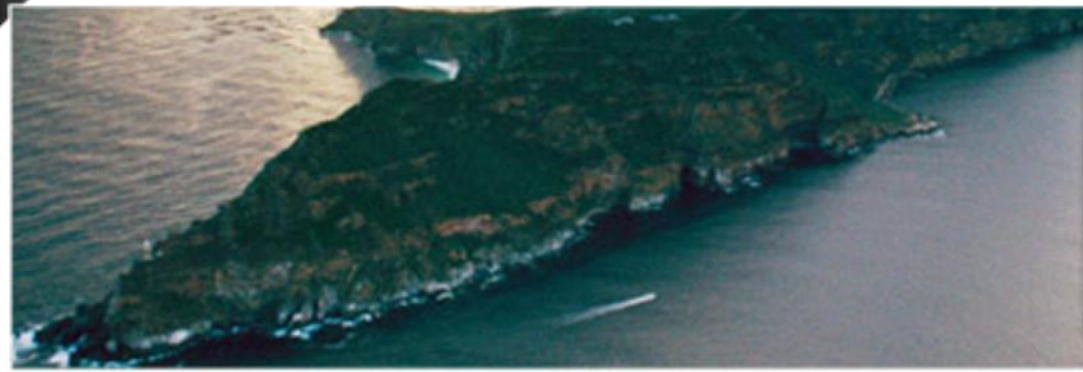


*Ninoe* spp.



*Nereis* spp.





Subjects and Publications

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## Delayed flights, deep sea and kimchi: My experience as an ISA trainee on board the R/V Kilo Moana

By Safiyya Sedick, Intern, SAEON Egagasini Node



**“While the idea of exploring a different country was truly enticing, it was the knowledge of the science that I was about to learn that left me feeling like I had been handed an all-access pass to the greatest show on earth”**

arrived in San Diego, California on 6 April 2018.

On March 5, I was at Cape Town International Airport in South Africa, waiting to board the flight that would kick-start my journey to the tropical islands of Hawaii.

I was practically dancing with excitement at the prospect of leaving my home country for the first time to rove international waters.



# Acknowledgements



De Beers Group