



Shinsei-maru Cruise Report KS-22-J04C

DONET Maintenance

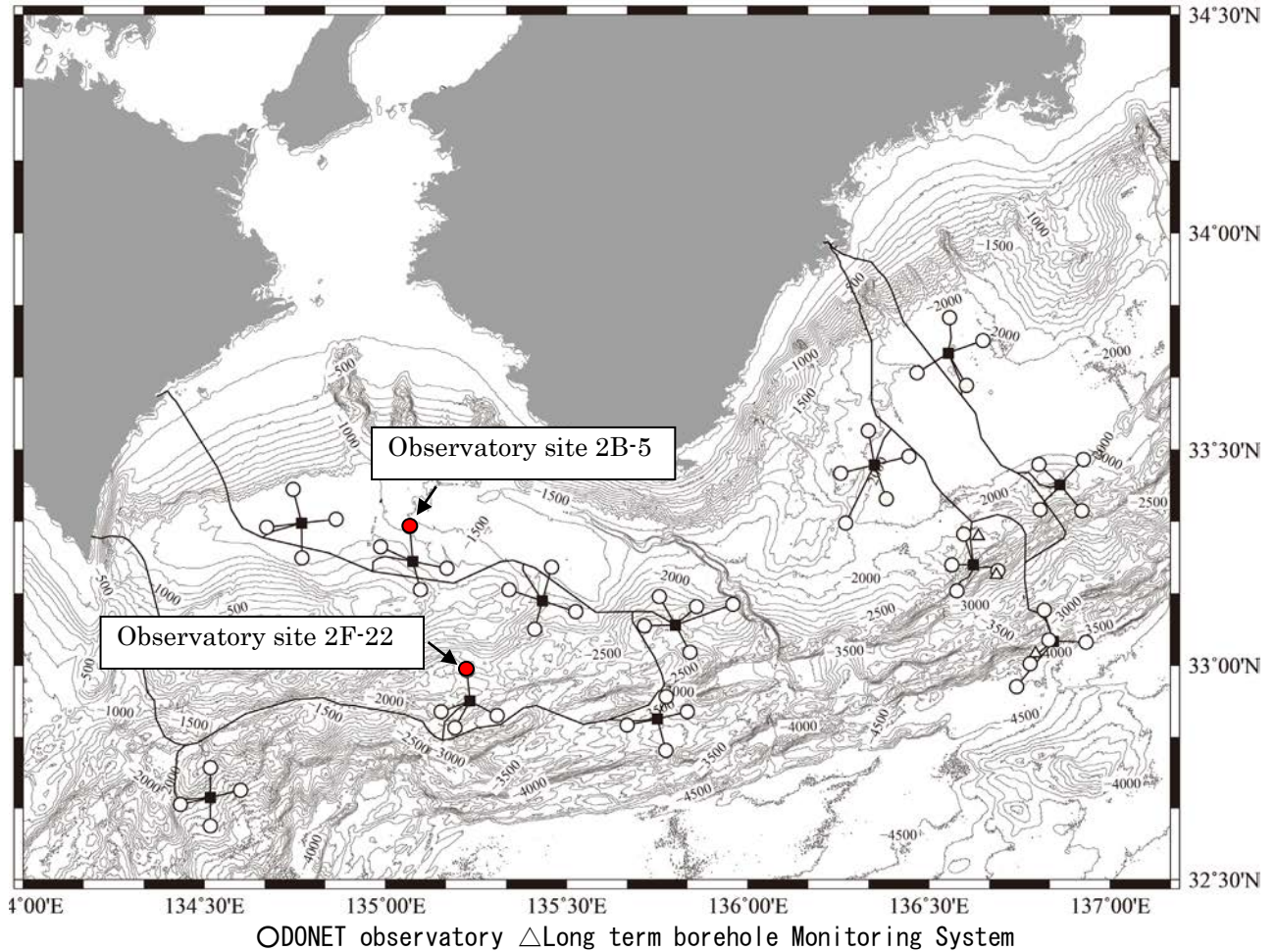
Kumano-nada
Off Kii-channel

27th May 2022 - 2nd June 2022

Japan Agency for Marine-Earth Science and Technology
(JAMSTEC)

1. Cruise Information

• Cruise ID	KS-22-J04C
• Name of vessel	R/V Shinsei-maru
• Title of cruise	DONET Maintenance
• Chief Scientist [Affiliation]	Takashi YOKOBIKI [JAMSTEC]
• Cruise period	27 th May 2022 – 2 nd June 2022
• Ports of departure / arrival	JAMSTEC Yokosuka – Wakayama port
• Research map	



Observatory No.	Latitude	Longitude	Depth [m]
2B-5	33-19.334°N	135-04.004°E	1,470
2F-22	32-59.277°N	135-13.500°E	2,104

2. Research Proposal and Science Party

• Title of proposal	DONET Maintenance	
• Representative of Science Party	Takane HORI	[JAMSTEC]
• Science Party (List)	Takashi YOKOBIKI	[JAMSTEC]
	Shuhei NISHIDA	[JAMSTEC]
	Kyohiko MITSUZAWA	[JAMSTEC]
	Toshikatsu NASU	[NME]
	Michiyasu KATAGIRI	[NME]
	Yousuke KAWAMURA	[NME]

3. Dive summary

3.1 DIVE#2170 on 29 May 2022: DONET Sensor unit recovery at the Observatory Site 2B-5.

In this dive, the DONET Sensor unit that is consist of the ground motion sensing system and the pressure sensor package was recovered due to the trouble in the wide band seismometer. The pressure sensor package is linking with the ground motion sensing system by a cable and the extension cable from the science node and the battery equipment were connected with the pressure sensor package by using underwater mateable connectors. After landing on the seafloor, the ground motion sensing system was pulled out from the caisson and then the connectors for extension cable and the battery equipment were pulled out. After that, the rope for recovery was hooked on the ground motion sensing system and the pressure sensor package respectively. Lastly, the ROV “Hyper-Dolphin” left the seafloor at 15:20.

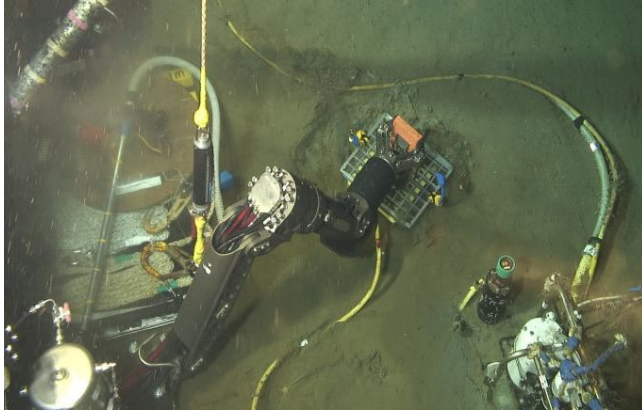


Photo 3. 1-1 Disconnected the underwater mateable connector for extension cable



Photo 3. 1-2 Pull out the ground motion sensing system



Photo 3. 1-3 Removal of the sediment inside the casing

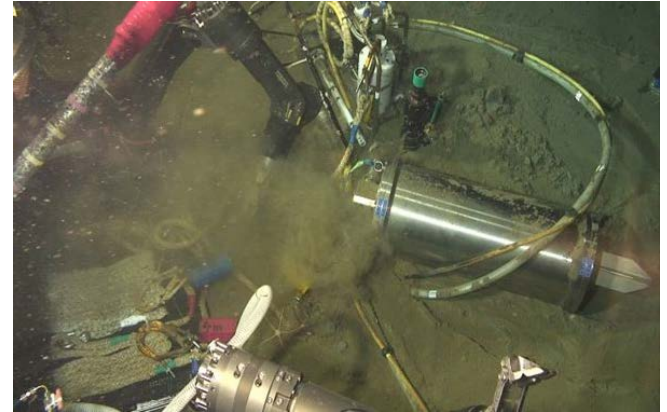


Photo 3. 1-4 Connection of Recovery line

3.2 DIVE#2171 on 30 June 2022: Preparation for cable laying operation

The ROV Homer, a miniature transponder, was put in the Observatory site 2F-22 for preparing the cable laying operation. HPD disconnected the Underwater Mateable Connector (UMC) of extension cable from the pressure sensor package, OTDR measurement was carried out through the umbilical cable. After confirming the location of the optical loss in the 2F-22 extension cable, HPD leaved from the seafloor.

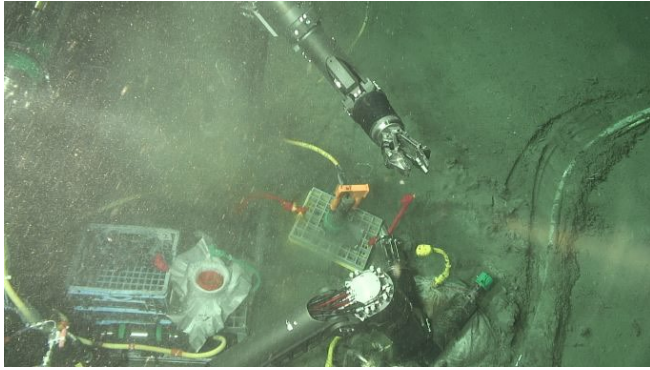


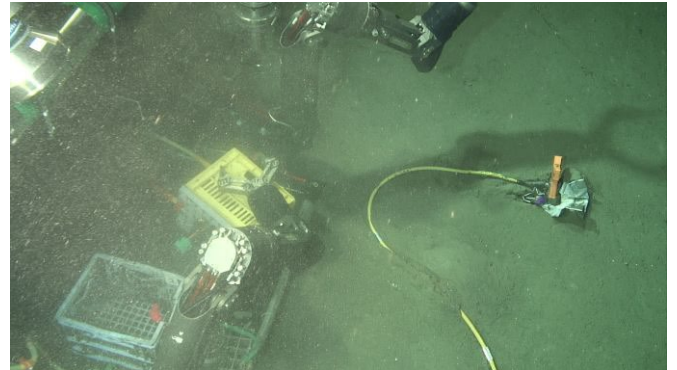
Photo 3.2-1 OTDR measurement using UMC



Photo 3.2-2 Installation of the ROV Homer



Photo 3.2-3 UMC was put near the Cable bobbin



3.3 Dive#2172 on 1 July 2022: Cable laying operation at observatory site 2F-22

The cable-laying operation from the Node 2F to the observatory 2F-22 was carried out using the automated cable-laying system. First, the HPD connected the underwater mateable connector to the port 8 of the Node2F. After that, the junction box was put on the seafloor. Then, the cable laying operation was started. The HPD laid down the cable from the Node2F to the observatory 2F-22, and then the cable bobbin was put on the seafloor near the observatory 2F-22. At last, the HPD connected the lower end of the cable to the DONET sensor and activate the sensor. The operation was completed by confirming that the sensor was boot up normally.



Photo 3.3-1 Connection to the Node 2F port 8

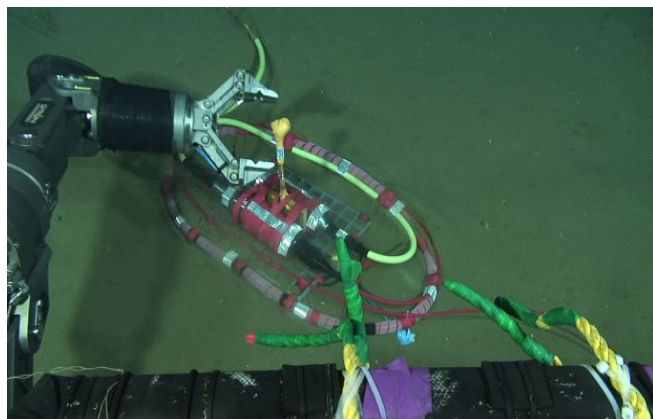


Photo 3.3-2 Junction box

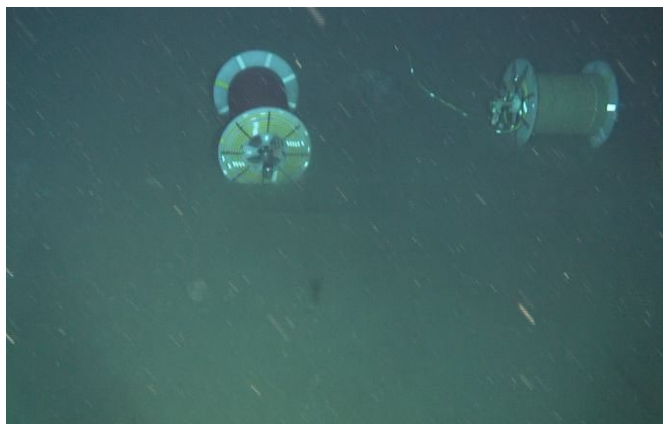


Photo 3.3-3 New Cable bobbin (left)

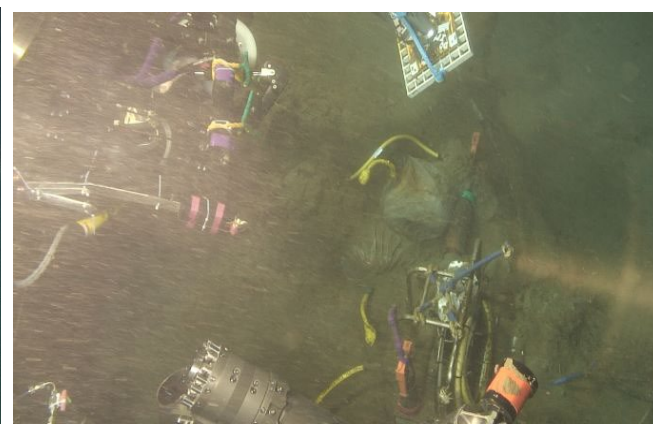


Photo 3.3-4 The cable was connected to DONET sensor

4. Notice on Using

This cruise report is a preliminary documentation as of the end of cruise.

This report is not necessarily corrected even if there is any inaccurate description (i.e. taxonomic classifications). This report is subject to be revised without notice. Some data on this report may be raw or unprocessed. If you are going to use or refer the data on this report, it is recommended to ask the Chief Scientist for latest status.

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<http://www.godac.jamstec.go.jp/darwin/explain/1/e#report>

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