

Week 1 Drilling and Scientific Report for IODP Expedition 386 Japan Trench Paleoseismology, 2021



27th Apr 00:00 – 3rd May 24:00 JST Japan Standard Time (UTC+9)

1. Operations

- Apr 27th: The 6th GPC operation was conducted with a 20 m barrel string at Site JTPN-10A. The 20 m GPC assembly was deployed at 0850 hrs, and spudded-in and released from Holes M0085 A and B at 1130 hrs, and then recovered on deck by 1500 hrs. Withdrawing and cutting core into 1 m sections was completed by 1610 hrs. Sampling from each bottom end was conducted in No.3 laboratory. MBES/SBP survey around Sites M0084 (JTPN-09A) and M0085 was started from 2100 hrs, after preparation for the next GPC was completed.
- Apr 28th: MBES/SBP survey was continued by 0700 hrs and suspended for the 7th GPC operation at Site M0084 (JTPN-09A). The 40 m GPC assembly was deployed at 0900 hrs, and spudded-in and released from Hole M0084 C and D at 1144 hrs, and recovered on deck by 1500 hrs. Cutting into 1 m sections while collecting sediment samples from each bottom end was completed by 1930 hrs, while preparation for the next GPC was completed at 2130 hrs. Soon after all deck work finished, MBES/SBP survey was resumed.
- Apr 29th: MBES/SBP continued throughout the night and suspended at 0445 hrs for the 8th GPC operation at Site M0085. The 40 m GPC assembly was run into water at 0730 hrs, spudded-in and released from Holes M0085 C and D at 1011 hrs, and recovered on deck by 1315 hrs. Trigger corer was dismantled and sampled, while only the core bit was removed from the GPC main corer. The GPC was secured due to rough weather. The ship evacuated to a stand-by point off Miyako at 1400 hrs, arriving by 2300 hrs.
- Apr 30th: Core M0085 was withdrawn and cut into 5 m segments in the morning. The science party started cutting 5 m segments into 1 m sections while each section bottom end was sampled beginning 1130 hrs and completed by 1600 hrs. Meanwhile the deck crew and GPC operation team made up the 40 m GPC assembly for the next run. The ship start sailing to M0083 (Site JTPC-05A) at 2300 hrs.
- May 1st: The ship arrived at Site M0083 by 0800 hrs for the 9th GPC operation of the expedition. The 40 m GPC assembly was run into water at 0930 hrs, spudded-in and released from Holes M0083 C and D at 1208 hrs, and recovered on deck by 1515 hrs. Cutting segments into 1 m sections began at 1600 hrs and was completed by 1910 hrs. Sampling at each section bottom end was carried out in No. 3 laboratory. Making up 20 m GPC assembly was completed by 2030 hrs, and then the ship left the site to avoid an incoming low pressure system.
- May 2nd: MBES/SBP survey above the Site JTPN-05A was conducted from 0740 hrs after deployment of the XBT. The 10th GPC operation was conducted from 0950 hrs with a 20 m barrel string. Holes M0086 A and B were spudded-in at 1227 hrs, and the GPC assembly was recovered to deck by 1530 hrs. Withdrawing and cutting core into 1 m sections was completed by 1715 hrs, while deck crew and GPC operation team made up 20 m GPC assembly for the next run. MBES/SBP survey began at 2030 hrs after XBT deployment.
- May 3rd: MBES/SBP survey was completed by 0330 hrs. The 11th GPC operation was conducted with 20 m barrel string at Site JTPN-02A. The 20 m GPC assembly was run into water at 0855 hrs, spudded-in and released from Holes M0087 A and B at 1124 hrs and recovered to deck by 1345 hrs. Withdrawing and cutting core into sections were completed by 1515 hrs, while sampling at each section bottom end was conducted in No.3 laboratory and completed by 1600 hrs. Preparation of 20 m GPC for the next run was completed by 1800 hrs. The ship moved to Site JTPC-09A and stood-by for WOW from 2030 hrs.

2. Hole summary

Site	M0085		M0084		M0085		M0083		M0086		M0087	
Latitude	40° 26.244 N		40° 23.69' N		40° 26.18 N		38° 45.51' N		39° 46.756' N		39° 26.439' N	
Longitude	144° 26.231' E		144° 25.267' E		144° 26.196' E		144° 7.719' E		144° 16.524' E		144° 12.971' E	
Water depth (m)	7600		7600		7600		7626		7502		7520	
Date	Apr 27		Apr 28		Apr 29		May 1		May 2		May 3	
Spud-in time	11:30		11:44		10/11		12:08		12:27		11:24	
Hole	Α	В	С	D	С	D	С	D	Α	В	Α	В
On deck time	14:05	15:00	14:10	14:40	12:35	13:15	14:20	15:15	14:50	15:30	13:05	13:45
Barrel length (m)	1.5	20	1.5	40	1.5	40	1.5	20	1.5	20	1.5	20
Cored length (m)	0.72	18.31	0.46	35.44	0.43	33.69	1.4	36.89	1.02	18.255	1.475	18.975
Number of section	2	19	2	37	2	34	3	37	2	19	3	20

3. Science

Hydroacoustic survey was conducted along 5 NNE-SSW and 13 ESE-WNW lines at the JTN08 basin of Kioka et al. (2019) on 25th, 27th and 28th of April. The basin floor tilts slightly toward west. At the location of M0084 (JTPN-09A) the basin displays a characteristically stratified acoustic pattern with a number of thick acoustically transparent layers, and at the topographic high at the location of M0085 (JTPN-10A) a gentle slope and a well-stratified pattern with a number of thin transparent layers is evident. The uppermost transparent layer is covered by a thin well-stratified layer with weak reflectance, and at its thickest it is ~15 m. Acoustic penetration is ~50 m at site M0084 (JTPN-09A) and ~40 m at site M0085 (JTPN-10A).

MSCL logging and IW measurement continued throughout the reporting period and the data was sent to the ESO onshore team for evaluation.

4. HSE Activity

Toolbox meeting before each GPC operation.

5. Outreach Activity

EGU town hall meeting live chat on Apr 28.

- 3 Blog posts
- 4 Tweets

6. Figures

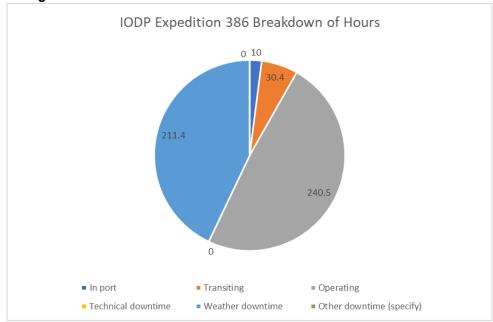


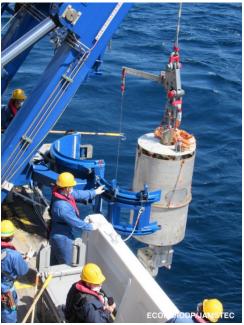
Figure 1: Breakdown of hours from 00:00 27th Apr to 24:00 3rd May 2021.

,		20 m GPC				1st 40 m GPC		:			
Proposal Site	Site	Trigger core (Hole A)	GPC main (Hole B)	Date collected	Trigger core (Hole C)	GPC main (Hole D)	Date collected	Trigger core (Hole E)	GPC main (Hole F)	Date collected	% Recovered vs planned
JTPS-01A	M0081	1.21	19.89	20/04/2021	1.07	35.57	22/04/2021				55.5
JTPS-02A	M0082	1.455	18.71	21/04/2021							31.2
JTPS-05B											0.0
JTPS-06B											0.0
JTPS-07A											0.0
JTPS-09A											0.0
JTPS-10A											0.0
JTPC-01A											0.0
JTPC-02A											0.0
JTPC-03B											0.0
JTPC-04B											0.0
JTPC-05A	M0083	1.615	19.52	24/04/2021	1.4	36.89	01/05/2021				56.4
JTPC-08A											0.0
JTPC-09A											0.0
JTPN-02A	M0087	1.475	18.975	03/05/2021							31.6
JTPN-05A	M0086	1.02	18.255	02/05/2021							30.4
JTPN-07A											0.0
JTPN-09A	M0084	0.95	19.94	26/04/2021	0.46	35.44	28/04/2021				55.4
JTPN-10A	M0085	0.72	18.31	27/04/2021	0.43	33.69	29/04/2021				86.7

Planned Southern area sites Planned Central area sites Planned Northern area sites Not planned (2nd 40m GPC)

Figure 2: Cores recovered for Weeks 1 to 3 (27th Apr to 3rd May 2021).

7. Photographs



1) Open the cradle! (photo by NSakurai@ECORD/IODP/JAMSTEC)



2) Taking turns to sample from the bottom of a section (photo by NOkutsu@ECORD/IODP/JAMSTEC)



3) Deck crew and GPC operation team transport a 5 m segment (photo by LMaeda@ECORD/IODP/JAMSTEC)



4) Scientist Kana Jitsuno transferring filtered bottom water (photo by LMaeda@ECORD/IODP/JAMSTEC)