



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



11th May 00:00 – 17th May 24:00 JST Japan Standard Time (UTC+9)

1. Operations

May 11th: MBES/SBP survey continued around Site M0089 until 0145 hrs, and then the Kaimei moved to Site M0083 to commence 40 m GPC operations. The 16th GPC operation began at 0800 hrs. The 40 m GPC assembly was deployed into water at 0855 hrs, spudded in Holes M0083 E and F at 1121 hrs, and recovered to deck by 1415 hrs. Cutting core into 1 m sections and sampling from each section bottom end was completed by 1900 hrs. The ship started sailing to Site M0084 at 2045 hrs after making up 40 m GPC assembly for the next run.

May 12th: The ship arrived at Site M0084 by 0445 hrs and stood-by for the 40 m GPC operation. The 17th GPC operation began at 0800 hrs. The 40 m GPC assembly was deployed into water at 0850 hrs, and spudded-in Holes M0084 E and F at 1118 hrs, and recovered to deck by 1415 hrs. Cutting core into 1 m sections and sampling from each section bottom end were completed by 1900 hrs. MBES/SBP survey around Site M0084 commenced at 2100 hrs, after making up the 40 m GPC for the next run.

May 13th: MBES/SBP survey around Site M0084 continued and was completed by 0215 hrs. The ship started sailing to southern area to check Kuroshio current situation. Sailing while monitoring surface current continued throughout the day.

May 14th: The ship arrived at Site M0081 at 0400 hrs. By 0830 hrs, the surface current lessened to below 1.5 kt, and the 18th GPC operation was able to begin. The 40 m GPC was deployed into water at 0920 hrs, spudded-in at 1206 hrs, and recovered to deck at 1545 hrs. Cutting into 1 m sections and sampling at each section bottom end were completed by 2000 hrs. Making up the 40 m GPC assembly was completed by 2130 hrs. No MBES/SBP survey was conducted due to strong surface current.

May 15th: The 19th GPC operation was conducted at Site M0082. The 40 m GPC was deployed into the water at 0850 hrs, spudded-in Holes M0082 C and D at 1146 hrs, and then recovered to deck by 1445 hrs. Cutting core into 1 m sections and sampling at each section bottom end were completed by 1830 hrs, and making up the 20 m GPC assembly was completed by 2015 hrs. MBES/SBP survey was conducted along 1 line above JTPS-06B.

May 16th: The ship left the site to WOW and arrived at a stand-by point off Ishinomaki by 1000 hrs. WOW.

May 17th: WOW was continued until 2100hrs, then the ship set sail for Site JTPC-03B.

2. Hole summary

Site	M0083		M0084		M0081		M0082	
Latitude	38° 45.538' N		40° 23.765' N		36° 4.263' N		36° 6.007' N	
Longitude	144° 7.769' E		144° 25.258' E		142° 44.000' E		142° 45.374' E	
Water depth (m)	7614		7603		8023		8008	
Date	May 11		May 12		May 14		May 15	
Spud-in time	11:21		11:18		12:06		11:46	
Hole	E	F	E	F	E	F	C	D
On deck time	13:40	14:15	13:45	14:15	15:00	15:45	14:20	14:45
Barrel length (m)	1.5	40	1.5	40	1.5	40	1.5	40
Cored length (m)	0.92	36.61	0.5	38.775	1.07	37.74	0.97	36.77
Number of sections	2	36	2	39	2	37	2	36

3. Science

A review was completed on 2 May and 4 May of image data from hydroacoustic surveys conducted along two N-S and four E-W lines at the JTC15 and JTN05 basins described by Kioka et al. (2019). The JTC15

basin is separated into north and south sub-basins by a topographic high. The southern basin floor is slightly tilted towards the north. The southern basin is characterized by a stratified acoustic pattern. Several acoustically transparent layers are found and amplitude of each reflector is large. The northernmost part of northern basin shows a stratified acoustic pattern with some transparent layers. A thick chaotic layer occurs in the central part of northern basin. The southern part of northern basin is thickly stratified and reflectors are undulated with weak amplitudes. M0087 (Site JTPN-02A) is located in the central part of southern basin, where acoustic penetration is ~35 m. A number of thick acoustically transparent layers occur in the JTN05 basin where Site M0087 (JTPN-07A) is located. The acoustic pattern is similar to that of the northernmost part of the JTC15 north sub-basin. Acoustic penetration is ~50 m at site M0087.

4. HSE Activity

Toolbox meeting before each GPC operation

Ship drill on May 13

General safety meeting on May 17

5. Outreach Activity

N/A

6. Figures

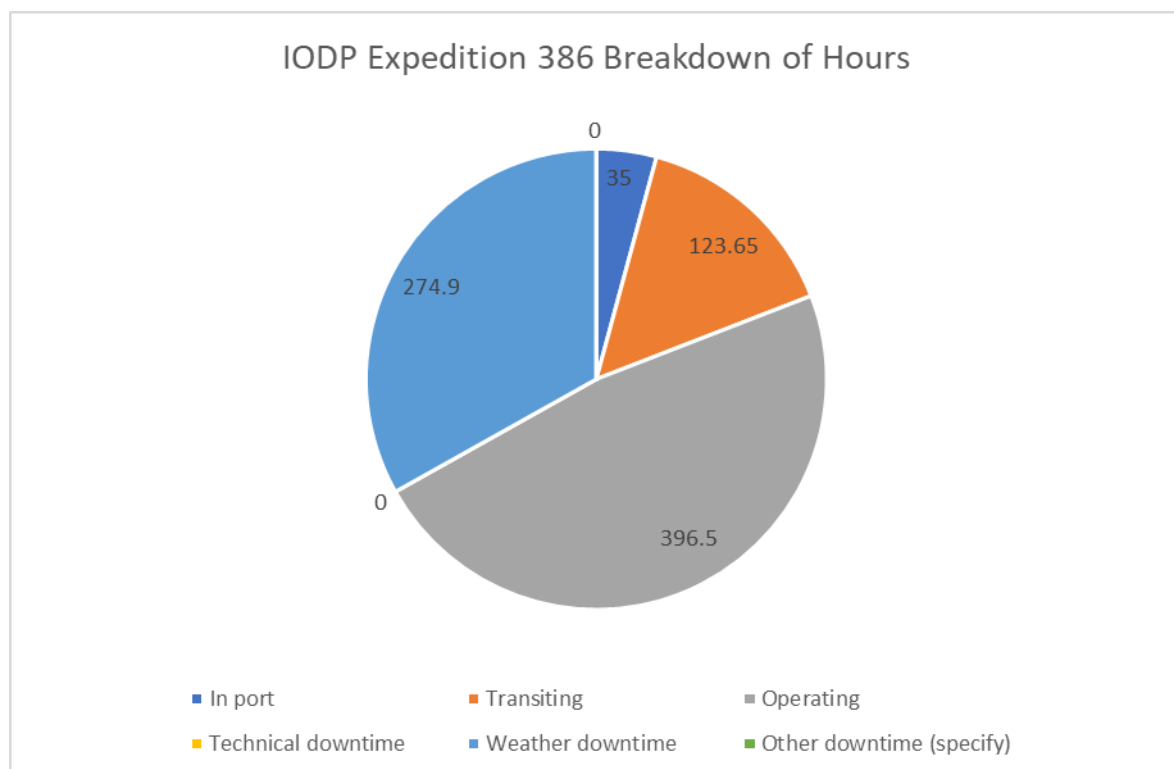


Figure 1: Breakdown of hours from 00:00 11th May to 17th May 2021.

Proposal Site	Site	20 m GPC			1st 40 m GPC			2nd 40 m GPC			% Recovered vs planned
		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	
JTPS-01A	M0081	1.21	19.89	20/04/2021	1.07	35.57	22/04/2021	1.07	37.74	14/05/2021	93.2
JTPS-02A	M0082	1.455	18.71	21/04/2021	0.97	36.67	15/05/2021				92.3
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	M0089	1.43	18.1	09/05/2021	0.705	36.9	10/05/2021				91.7
JTPC-05A	M0083	1.615	19.52	24/04/2021	1.4	36.89	01/05/2021	0.92	36.61	11/05/2021	93.0
JTPC-08A											0.0
JTPC-09A											0.0
JTPN-02A	M0087	1.475	18.975	03/05/2021							31.6
JTPN-05A	M0086	1.4	18.24	02/05/2021							30.4
JTPN-07A	M0088	1.09	17.69	05/05/2021	0.96	36.48	06/05/2021				90.3
JTPN-09A	M0084	0.95	19.94	26/04/2021	0.46	35.44	28/04/2021	0.5	37.82	12/05/2021	93.2
JTPN-10A	M0085	0.72	18.31	27/04/2021	0.33	33.69	29/04/2021				86.7

PLANNED	UNDERWAY	COMPLETE	SOUTHERN
PLANNED	UNDERWAY	COMPLETE	CENTRAL
PLANNED	UNDERWAY	COMPLETE	NORTHERN
NOT PLANNED			

(not inc. Trigger Cores)

TOTAL CORES RECOVERED	19
% OF EXP.386 PLANNED CORES	46.3
TOTAL LENGTH RECOVERED (m)	533.181
TOTAL % REC LENGTH vs PLANNED	42.3

Figure 2: Cores recovered for Week 5 (11th May to 17th May 2021).

7. Photographs



1) Co-Chief Ken Ikehara taking urgent action for rapidly expanding core (photo by NOKUTSU@ECORD/IODP/JAMSTEC)



2) Visually confirmed GPC at surface (photo by NOKUTSU@ECORD/IODP/JAMSTEC)



3) Co-Chief Ken Ikehara checking pressure release holes (photo by NOKutsu@ECORD/IODP/JAMSTEC)



4) Scientists Kana Jitsuno, Kan-Hsi Hsiung, and Toshiya Kanamatsu, the sampling team (photo by NOKutsu@ECORD/IODP/JAMSTEC)



5) A lab technician pipetting IW for analysis (photo by LMaeda@ECORD/IODP/JAMSTEC)



6) Deploying a tender boat for function test (photo by TKanamatsu@ECORD/IODP/JAMSTEC)