



**Daily Drilling and Scientific Report for IODP Expedition 386  
Japan Trench Paleoseismology, 2021**



**19th April 00:00 – 20<sup>th</sup> April 24:00 JST Japan Standard Time (UTC+9)**

### 1. Location

Position 36° 4.336' N, 142° 44.14' E  
IODP-MSP borehole: M0081  
Prospectus borehole: JTPS-01A  
Water Depth: 8016 m

### 2. Operations Report

MBES/SBP survey across the trench axis lines around Sites JTPS-01A/02A was completed by 0600 hrs. GPC operation started at Site JTPS-01A from 0730 hrs, and the GPC was deployed at 0840 hrs. After transponder and inclinometer were set on a winch cable, GPC was run down at 1.2 – 1.5 m/s of winch speed. Running was paused for 3 minutes at 8200 m of the cable length at 1130 hrs to stabilize GPC assembly, then resumed with 0.3 m/s of winch speed. Spud-in was confirmed at 1140 hrs by tension meter profile at 8290 m of the cable length. GPC was released from the seafloor by 7.1 ton overpull, and run back to surface with ~1.5 m/s of winch speed. GPC was recovered on deck at 1445 hrs. Withdrawing core liner from GPC barrel and cutting into 5 m segment commenced at 1530 hrs, and full recovery was confirmed by 1700 hrs. Cutting into 1 m sections began while sampling was started from 1800 hrs and continued by 2030 hrs. Curation and IW sampling started at 2100 hrs and continued until past the end of this reporting period.

### 3. Science Report

Hydroacoustic surveys were conducted along seven WNW-ESE survey lines at the southernmost Japan Trench basin on the night of 19–20 April. A well-stratified acoustic pattern with several acoustic transparent layers was evident and found to be characteristic of the sub-bottom profiler records in the basin, in agreement with the SBP records along NNE-SSW survey lines. A few-m thick acoustic transparent layer covers the basin floor. Penetration reduces from >60 m in the central and northern part of the basin to ~45 m at the southern part, and strength of each reflector becomes stronger at the southern two lines suggesting presence of coarser sediments. Site JTPC-01A is located in the central part of the basin with its acoustic penetration of > 60 m.

### 4. Core Recovery Details

Hole	A (trigger corer)	B (GPC main)
Barrel length (m)	1.5	20
Initial recovery (m)	1.21	20
Curated length (m)	1.21	19.89
Recovery (%)	81	99
Number of sections	2	21

### 5. Time Breakdown

00:00 Continue MBES/SBP

#8(NW-SE): From Lat: 36°05.0612' N, Long: 142°41.4111' E to Lat: 36°02.9854' N, Long: 142°45.4282' E

#9(NW-SE): From Lat: 36°02.6463' N, Long: 142°44.3913' E to Lat: 36°04.0045' N, Long: 142°41.6492' E

#10(NW-SE): From Lat: 36°03.2484' N, Long: 142°41.4013' E to Lat: 36°02.0505' N, Long: 142°43.5513' E

02:30 Stand-by at Site JTPS-01A

06:00 Prepare for running GPC

07:30 Start 20 m GPC operation at 1.6 miles upstream from Site JTPS-01A

07:40 Set trigger and fill seawater in GPC.

08:30 Set and run Trigger corer into water

08:40 Deploy GPC into water and set transponder and inclinometer at 50 m and 20 m above the weighthead respectively. Run GPC down to 8200 m of cable length (winch speed from 0 to 500 m: <1m/s, 500 to 8200 m ~1.5 m/s)

11:30 Hold GPC at 8200 m of cable length

11:40 Spud-in M0081 Holes A and B (tension before shoot: ~3.8 tonf, after shoot: 5.2 tonf, overpull: 7.1 tonf)

11:45 Run GPC back to surface with ~1.5 m/s

13:50 Recover transponder and inclinometer

14:00 Recover Trigger corer on deck  
 14:45 Recover GPC on deck  
 15:00 Dismantle trigger corer, remove bottom water, withdraw core liner and collect samples from the surface.  
 15:30 Withdraw core liner from the GPC barrel and cut into 5 m segment.  
 18:00 Cut into 1 m sections while collect sediment sample from the bottom, while preparing GPC assembly for the next operation.  
 21:00 Start curation and IW sampling

#### 6. Hours (inc. cumulative total) – no contractual implications can be made from these figures

<b>In port</b>	10.0
<b>Transiting</b>	22.65
<b>Operating</b>	36.0
<b>Technical downtime</b>	0.0
<b>Weather downtime</b>	113.15
<b>Other downtime (specify)</b>	0.0

#### 7. Weather

Fine but cloudy and ~18 degC. Southeasterly wind speed of ~8 m/s during the day, increasing to >12 m/s overnight. The surface current at Site JTPS-01 kept ~1.7 knot.

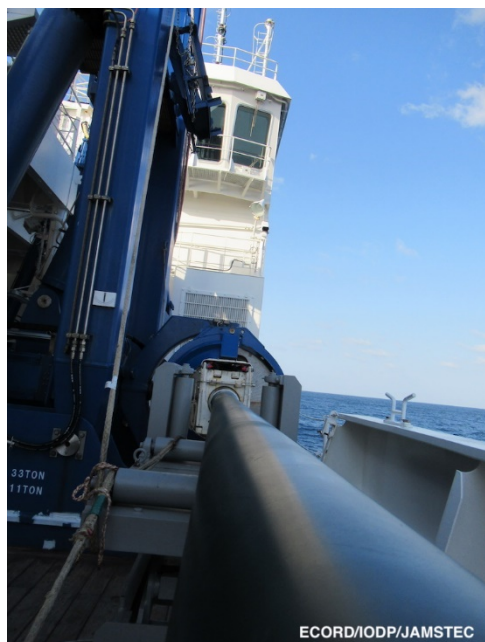
#### 8. Planned Activity for the next 24 hours

Conduct 20 m GPC at Site JTPS-02A

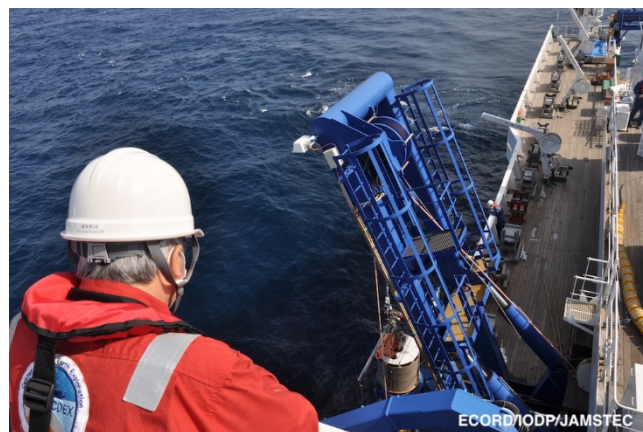
#### 9. Health and Safety and Environmental

N/A

#### 10. Photo of the day

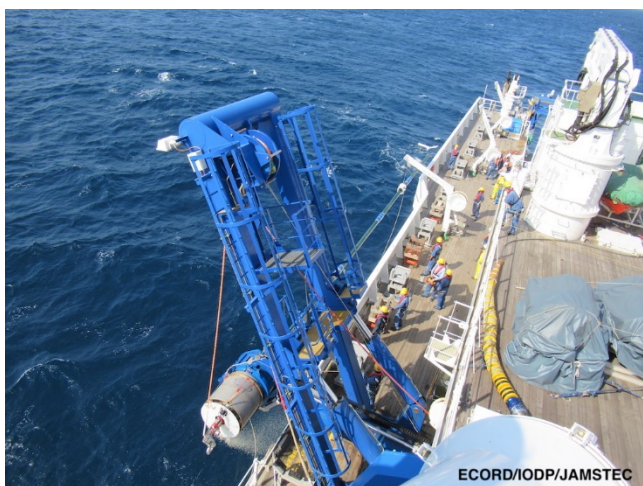


1) GPC barrel (photo by NSakurai@ECORD/IODP/JAMSTEC)



2) GPC running into water (photo by LMaeda@ECORD/IODP/JAMSTEC)





3) GPC running back to surface (photo by NSakurai@ECORD/IODP/JAMSTEC)



4) Ken Ikehara, Captain (next to Ken) and Radio Officer (right) monitoring transponder response display to check GPC position (photo by NOKutsu@ECORD/IODP/JAMSTEC)



5) Removing the weighthead of Trigger corer (photo by LMaeda@ECORD/IODP/JAMSTEC)



6) 5 m segment waiting to be cut into 1 m sections (photo by NOKutsu@ECORD/IODP/JAMSTEC)



7) Kana Jitsuno collecting a sediment from the bottom of Trigger core (photo by NOKutsu@ECORD/IODP/JAMSTEC)