

11th Dec 00:00 – 18th Dec 08:00 EET Eastern European Time (UTC+2)

1. Operations

Between the 11th and 14th December, coring continued without interruption at a variable rate of advance due to frequent changes in ground conditions.

The final core from Hole M0080A was recovered at 03:30 hrs on the 15th achieving a final depth of 534.10 mbsf. Logging operations began with spectral gamma ray (SGR) data collected in the pipe and were followed by magnetic susceptibility-conductivity (EM51 tool) in the lower section of the hole.

Downhole logging in Hole M0080A continued in the lower and middle sections of the hole throughout the 16th. Sonic was run successfully in the lower section of the hole. An obstruction just below the bit limited the SGR run. Magnetic susceptibility-conductivity (EM51), Sonic, and DIL tools were all run successfully in the middle section of the hole. The SGR tool was deployed around 24:00 hrs.

On the 17th, logging of the middle section with the SGR tool was completed by 02:45 hrs. Following this, pipe was pulled to 50 mbsf and logging of the upper section of the hole commenced. Data was collected using the EM51, Sonic, SGR, and DIL tools, and all logging activities were completed by 12:30 hrs. Demobilization of the containerized laboratories and offices continued for the remainder of the day, along with tripping the remaining pipe.

Transit to the Port of Corinth took place during the early hours of Monday 18th December, with the *Fugro Synergy* alongside at approx. 08:00 hrs. This marks the end of the offshore phase of Expedition 381.

2. Hole summary

Hole	M0080A
Latitude	38° 7' 12.1467" N
Longitude	23° 5' 10.6138" E
First core	113R
Last core	146R
Cores recovered	34
Drilled length (Coring)	131.10
Drilled Length (Open Hole)	0
Recovered length	101.82
Depth in hole	534.10
Hole recovery	78%

Table 1 - Hole M0080A progress (11th Dec 00:00 – 18th Dec 08:00)

Hole	M0078A	M0078B	M0079A	M0080A
Status	Complete	Complete	Complete	Complete
Cores recovered	176	15	163	146
Drilled length (Coring, m)	610.43	55.85	704.90	534.10
Drilled length (Open hole, m)	0	0	0	0
Recovered length (m)	533.99	52.17	610.80	447.83
Recovery (%)	87%	93%	87%	84%
Final depth / Depth at midnight (mbsf)	610.43	55.85	704.90	534.10
Proposed site depth (mbsf)	750.00	N/A	750.00	479.00

Table 2 - Expedition 381 progress update

Expedition 381 – Final Summary	
Total cores recovered	500
Total drilled length (Coring, m)	1905.28
Total drilled length (Open hole, m)	0
Total recovered length (m)	1644.79
Overall recovery (%)	86%

Table 3 - Final summary for Expedition 381

3. Science

Shipboard scientists characterized the lower ~140 m recovered at Hole M0080A, which included diverse lithologies and paleoenvironments, and downhole logging data were acquired in this Hole.

Reddish brown siltstone dominated the upper portion of these core materials (Seismic Unit 1B), with occasional coarser material. These cores were characterized by uniformly high density and magnetic susceptibility values in MSCL data. At greater depths, in Seismic Unit 1A, a change in sedimentary rock type was observed with increased carbonate content. This was associated with changes in physical properties recorded by MSCL data, including a sharp drop in gamma ray and in magnetic susceptibility values. At the base of the Hole, a section of coarse conglomerate was recovered.

Microfossils were observed in some of the deepest cores, some of which will be able to provide important age constraints on the oldest sediments recovered in Hole M0080A.

Pore-fluid samples were obtained to 504 mbsf, including from highly indurated cores. Salinity data from these samples included some of the highest values measured during the expedition. Surface water samples will also be taken on the way to port in Corinth.

Core-log seismic integration using MSCL data enabled preliminary links between major changes in lithology in the cores and prominent reflections in and at the base of the lower seismic unit.

The shipboard science party held two meetings in the last week to synthesize observations from M0080A and to discuss highlights from the three sites and considerations for the OSP in Bremen. A live ship-to-shore expedition overview and ship tour was given to students and faculty at the University of Athens.

4. HSE Activity

N/A

5. Outreach Activity

Ten posts were made to the Facebook page - a mixture of photo galleries and videos. Ten videos were posted to the YouTube site.

Between the 11th and 18th of December, the Expedition blog-site received 450 views, 118 visitors, and is being followed in 17 countries. The Facebook posts reached 3,000 users and the YouTube videos were watched 370 times.

The Co-Chief scientists and other members of the Science Party made a live Ship to Shore presentation to staff postgraduate and undergraduate students at the University of Athens, assisted by UoA staff member Katerina Kouli, a member of the OSP. The presentation included an introduction to the science, a tour of the back deck area and drill floor, and a Q&A session.

6. Figures

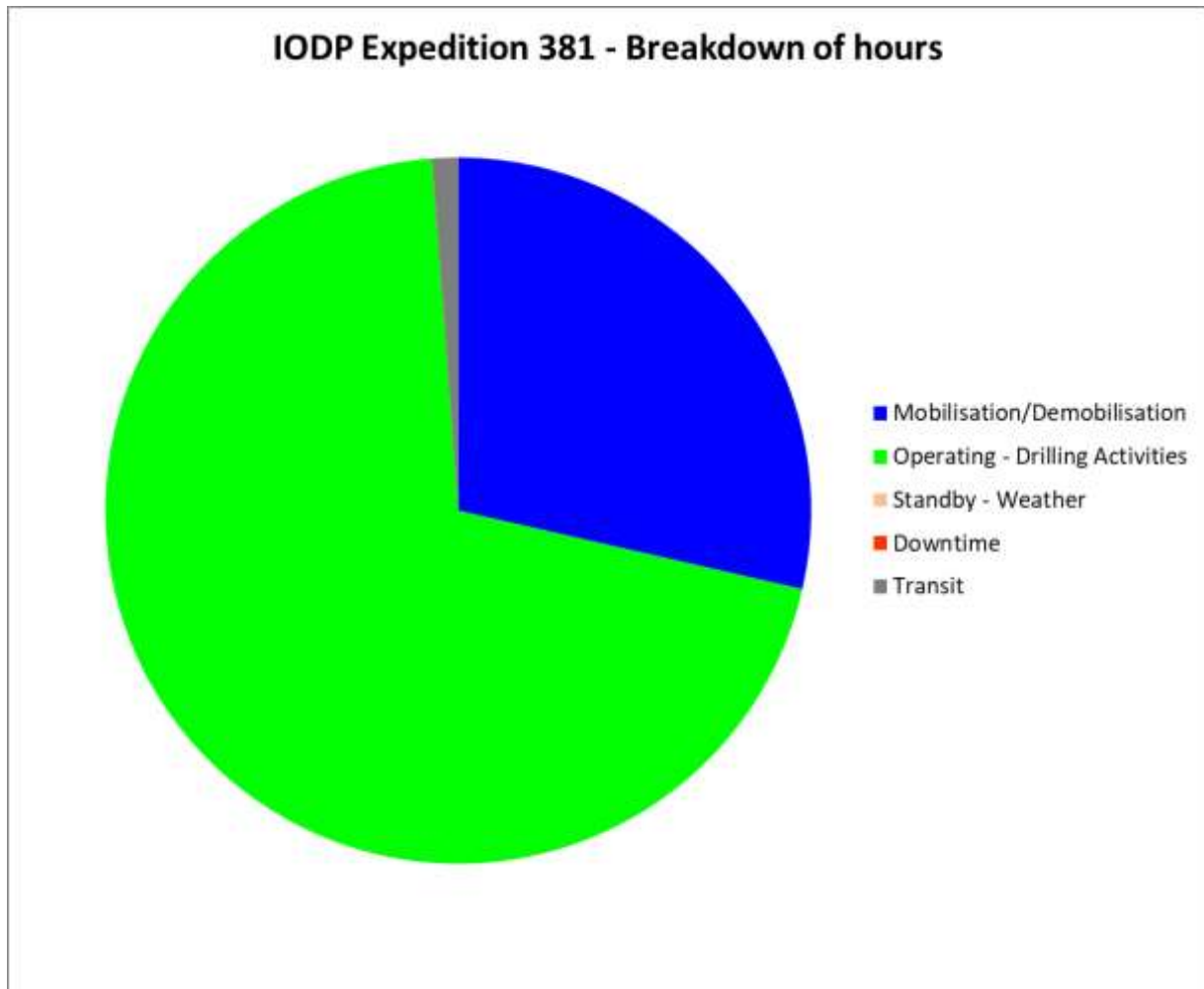


Figure 1: Breakdown of hours from 00:00 December 11th to 08:00 December 18th 2017. Note: this includes time from Monday 18th December, to capture the final hours of Expedition 381 offshore phase.

Expedition 381
Corinth Active Rift

M0080A

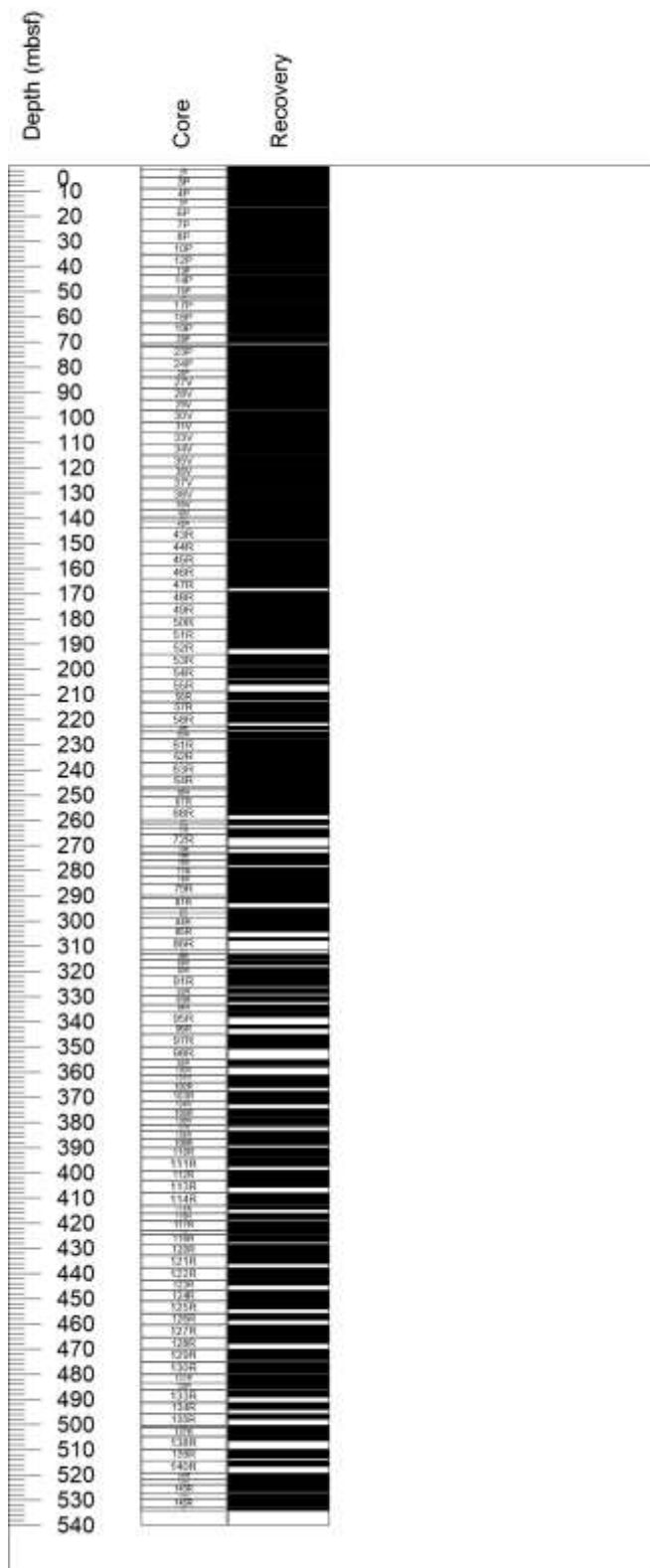


Figure 2: Core recovery for Week 8 (11th Dec to 18th Dec 2017).

Photographs

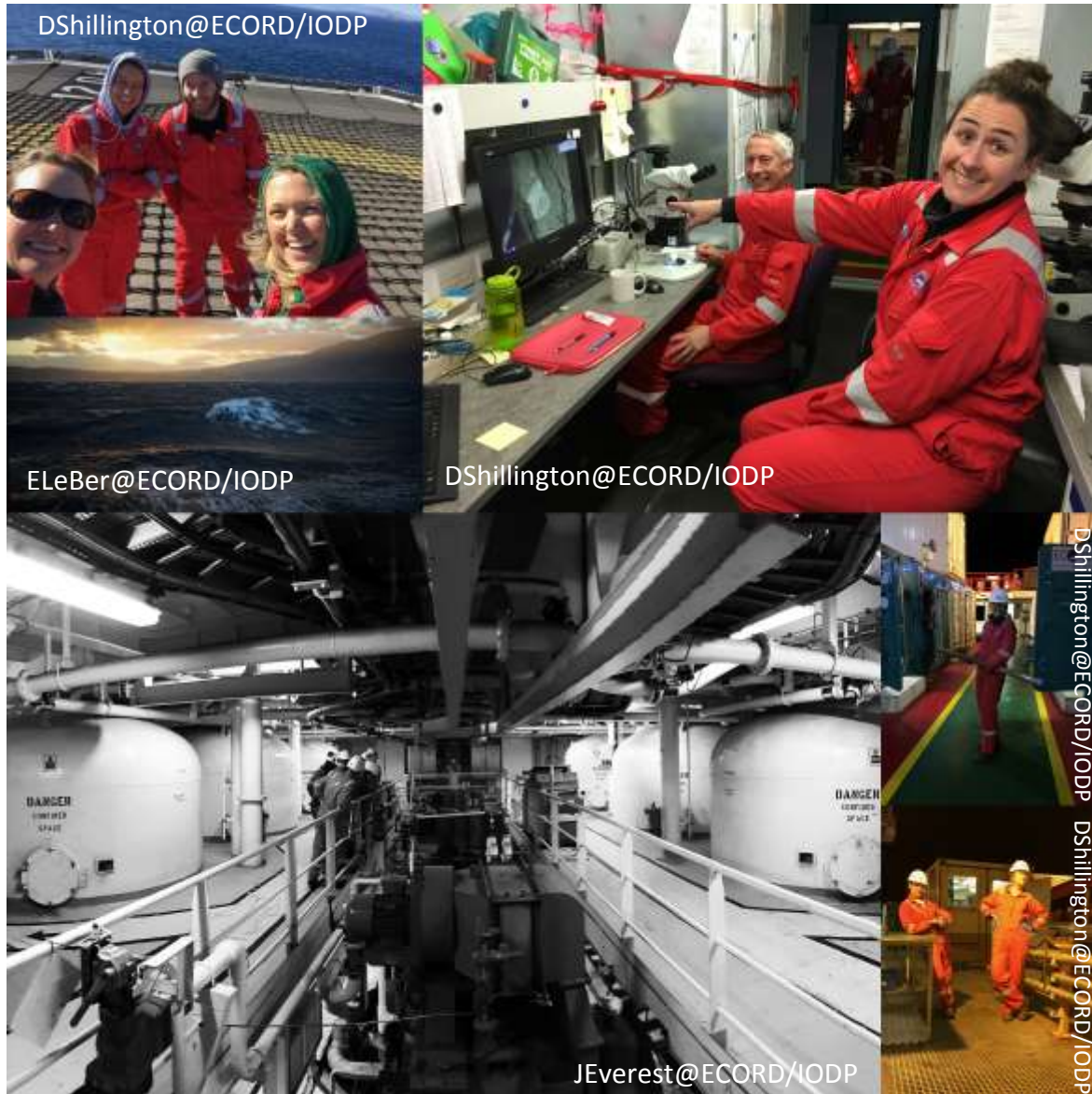


Figure 3: Photos from Week 8 of Expedition 381.