

5th Oct 00:00 – 5th Oct 24:00 GMT

1. Location

17° 47.7 E 62° 57.35' N

BSB-10 and 11 Ångermanälven River Estuary

2. Activity Summary

Complete operation at BSB-10 and move to BSB-11 to begin coring operations.

3. Science Report

The coring of Hole M0061A at BSB-10 in the Ångermanälven Estuary ended just after midnight. The last cores had been difficult to retrieve as the sediment became more and more sandy. At the end, a hard layer was reached where hammer coring brought back only a granite rock of about 5 cm diameter.

Moved 20 m to start Hole M0061B. Piston coring was offset vertically by 1 m relative to Hole A and retrieved a good surface core of 280 cm with only the uppermost 20 cm disturbed. The core was a loose black mud that became slightly more consolidated at depth. The following cores showed a gradual coarsening in grain size from clay, gray with some black spots, to silty clay and silty sand. The grain size became even coarser and was fine sand at about 20 mbsf, below which silty clay and silty sand was found. As we first moved down into the silty sand, OSL samples for dating were taken at regular depths. The hole was terminated at a depth of 29 mbsf after a significant number of cores of sand had been recovered. The total % recovery was very high.

The third hole at BSB-10, Hole M0061C, was located 50 m away from M0061A in order to target the central part of the basin, away from possible washed-out silt and sand. The sediment sequence of Hole C more or less repeated the two previous holes with clay, sometimes visibly varved, in the upper part. At 13.0 mbsf the sediment gradually changed into clayey silt and, further down-core, more or less pure fine silt. The drilling was stopped at 23 mbsf as the corer returned only fine sand without any indication of varves.

Coring was moved to the next site BSB-11 further up the river. At this site the uppermost 0.5 meter of the sediment will not be recovered as this part of the sequence is contaminated and may constitute a health risk due to long lasting discharge of toxic waste from the local paper industry. The first core was on deck at 22:00 (local time) and, after the necessary safety measures had been taken, it was visible that the sediment was varved throughout the entire core. The following two cores down to 10.4 mbsf also displayed varved clays.

4. Core Recovery Details

Hole	M0061B	M0061C	M0061K	M0061L	M0061M	M0062A
Cores recovered	9	7	1	1	1	7
Drilled length (Coring)	28.7	23.1	1.0	1.0	1.0	0.5
Drilled length (Open hole)	N/A	N/A	N/A	N/A	N/A	0.5m
Recovered length	28.46m	23.12	0.97	0.96	0.92	19.53
Recovery	99.16%	100.09%	97%	96%	92%	101.72%
Depth at Midnight	28.7m	23.1m	1.0m	1.0m	1.0m	19.7m

5. Weather

Fair with isolated showers in the evening, wave heights of 0.1 – 0.3 m; winds SSW swinging to WNW, 10 - 15 kts, gusting to 19 kts; 10°C.

Next 24 hrs: Fair with possible light rain and fog, wave heights of 0.1 – 0.2 m, winds W – SW to WSW, 8 –14 kts, gusting 12 -17 kts. 10°C.

A low pressure passing to the north will interact with a high pressure over central and eastern Europe producing light to gentle SW – W winds.

6. Planned Activity for the next 24 hours

Continue coring operations at BSB-11.

7. Photo of the day



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