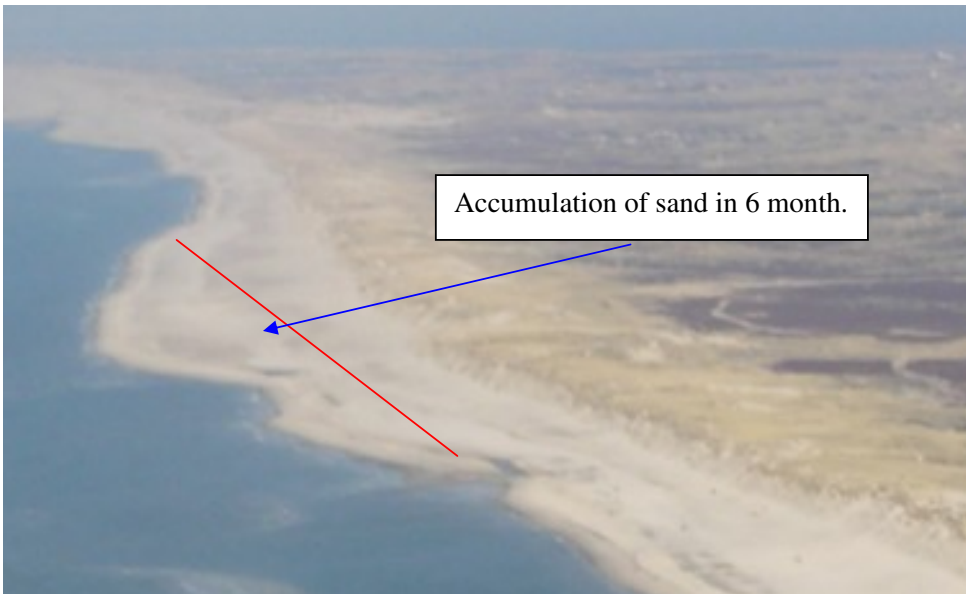
Environmentally Friendly Coastal Protection Pilot Project

Southern Holmsland Barrier on the Danish West Coast



PEM area 2

The **beach width** has increased up to 65 metre, 34 metres average in PEM area 2

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Project area.

The Project is situated between Hvide Sande and Nymindegab on the Holmsland Barrier at the Danish West Coast.

Fig. 1

Reference area 1	st. 9200 – 11000
PEM area 1	st. 4500 – 9200
Reference area 2	st. 2800 – 4400
PEM area 2	st. 1800 – 2700
Reference area 3	st 0 – 1700

Project description.

SIC and The Danish Coastal Authority carried out a field test on the west coast of Jutland in Denmark in January 2005.

The objective of the project is to compare the SIC pressure equalisation system with Beach Nourishment, Groins and Water Breakers.

The survey and data in this project is done by the independent consulting engineering company Carl Bro A/S.

The evaluation in this document is based on average beach level (ABL) from level +4,0 metre in the dune foot and 100 metre seawards.

Average Beach Level

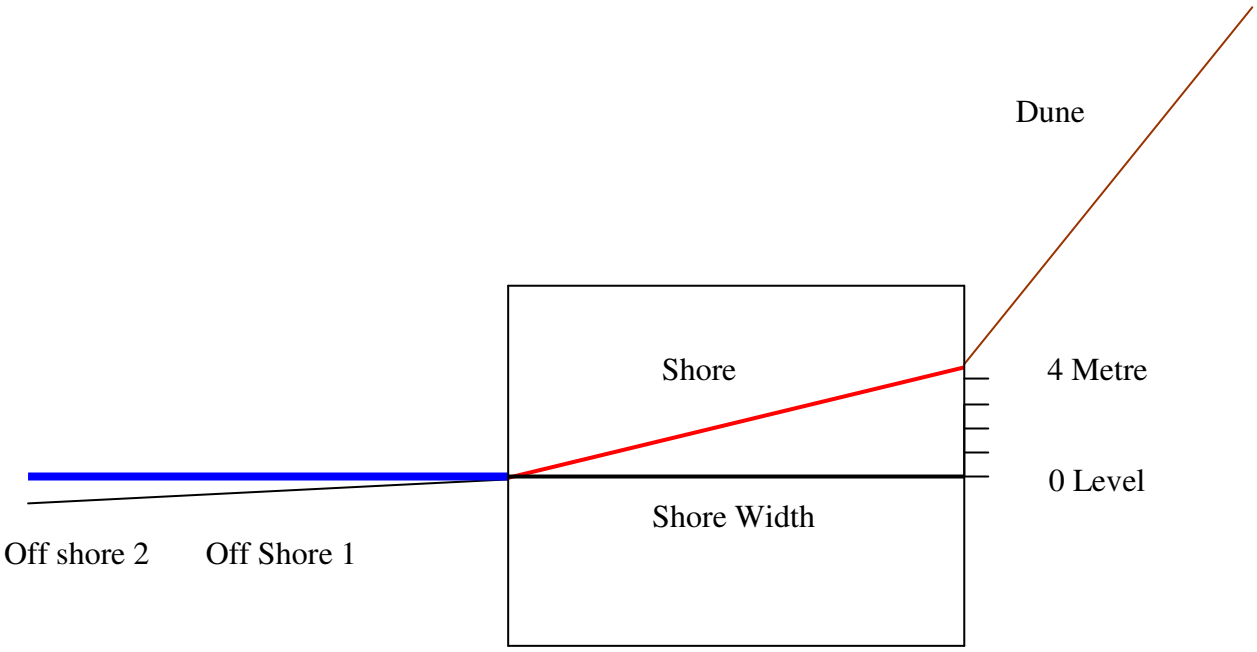
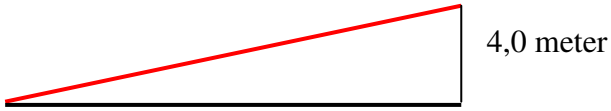


Fig. 27



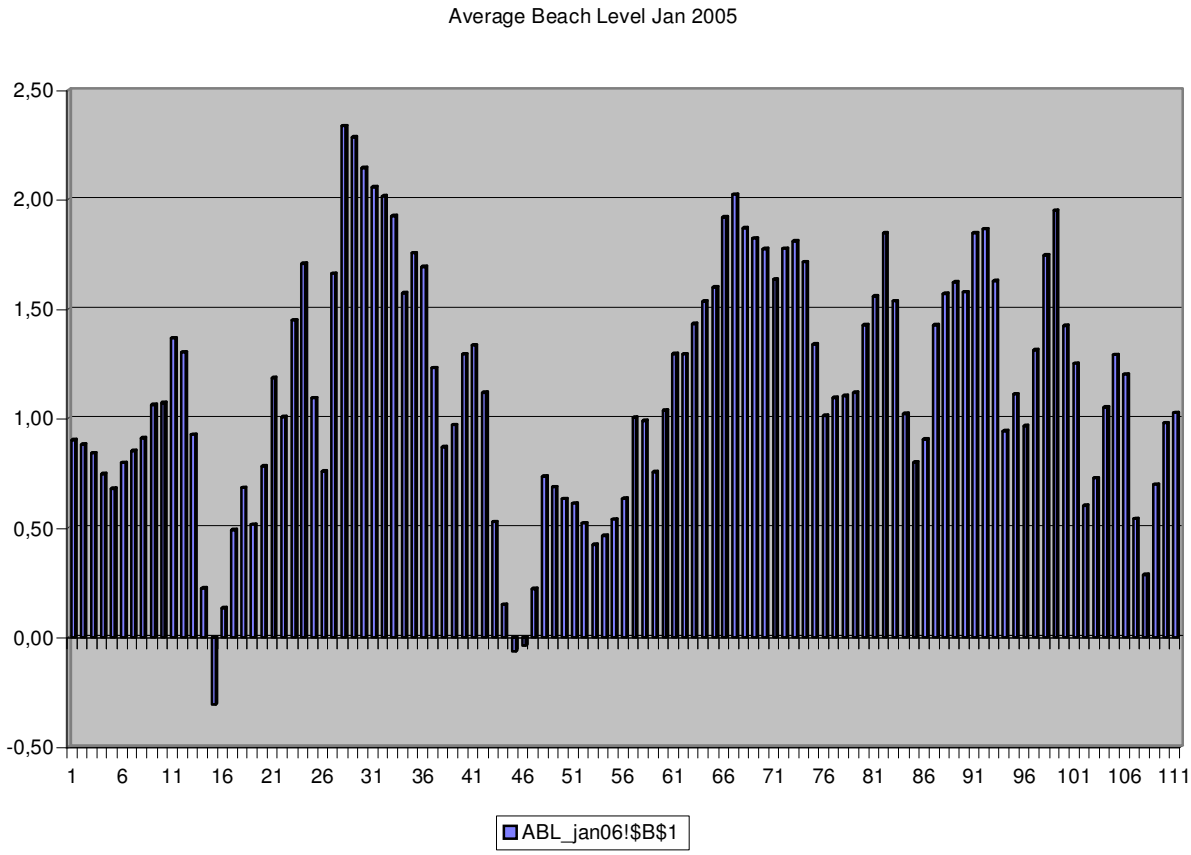
100 meter

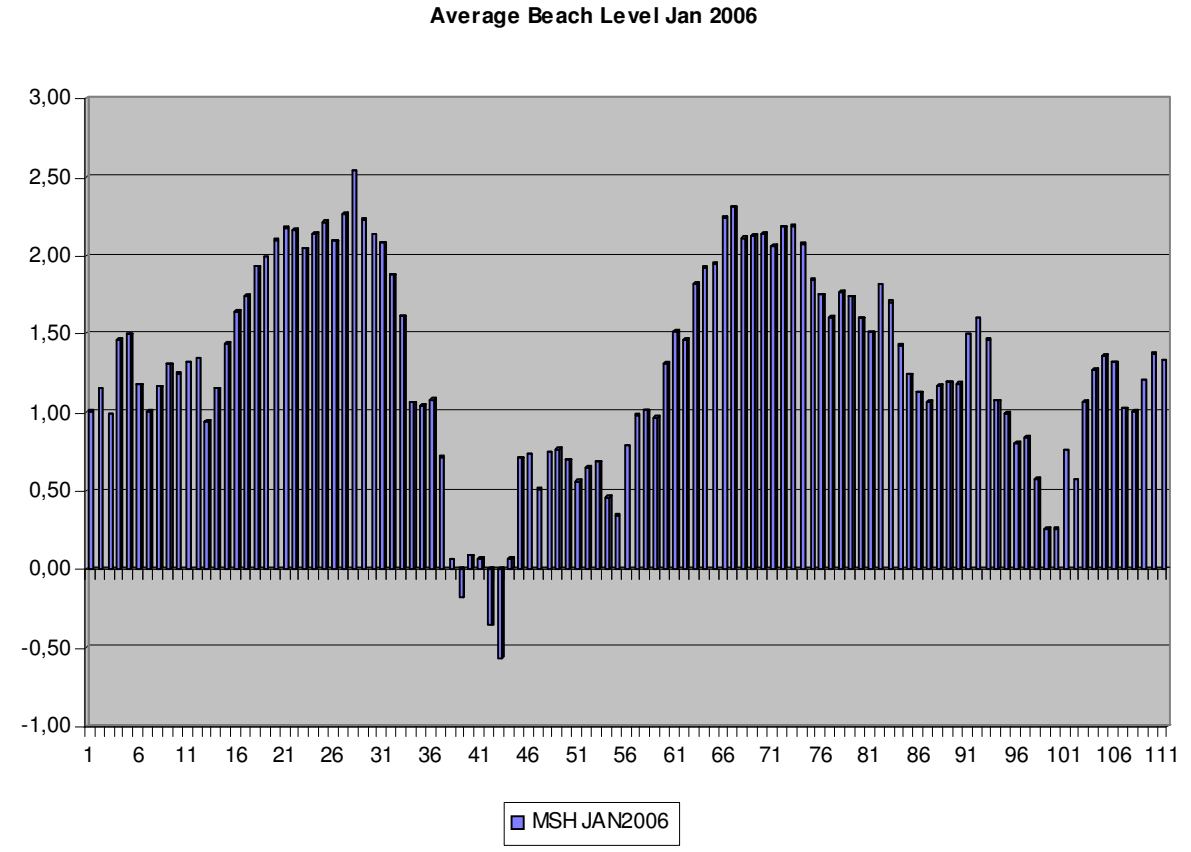
Volume : 4 x 100/2 = 200 m^3

Scientists generally agree that a wide/high beach provides the best protection of the hinterland.

On Holmsland Barrier is the tide aprx. 1 metre and springtide is up to 3,0 metre over MSL.
With background in this data, we have based the protection on a 100 meter width Beach with level 4,0 over MSL in the dune foot.
The reference line in the project is locked to level 4,0 metre over MSL in the dune foot in January 2005, where the project is established.
The success criteria is an average beach level at 1,3 metre equal to 130 cubic metre per metre along the coast line. The Beach nourishment on the west coast of Jutland is designed to 3,5 x 70 metre equal to 122,5 Cubic Metre along the coastline in this area. (Badevej Søndervig)

Interpretation





After 1 year the average beach level is much stronger in the drained areas and very critical in st. 9800 - st. 10.000 in ref. 1 and st. 3700 - st. 4400 in Ref. 2

Operation of the SIC system.

At project start in January 2005. We placed up to 7 pcs. PEM modules in each line along the coastline in the vertical drained areas PEM 1 and PEM 2.

In some lines it was only possible to place 5 – 6 modules in each line because the beach was narrow after the storm situation the 8. January 2005.

The beach was very wide in station 8700 to station 9200 and the idea was to release some sand to the central part of the PEM 1 area.

We have the same situation in line 2600 – 2700 in PEM area 2.

Afterwards the SIC system in PEM area 1 and PEM area 2 is operated in 2 different ways.

PEM Area 1.

In the period from January to April 2005 nothing is done in the PEM 1 area.

Afterwards we have placed max. 11 PEM modules in each row,

Afterwards we only optimize the flank areas in the PEM area 1.

It was possible to place up to 15 PEM modules in the middle of the PEM 1 Area, but we did not do it.

Our target is to make a strait shoreline in the PEM areas.

PEM Area. 2.
We have extended the PEM area 2 so much as possible to get the biggest accumulation in the area.

At any time if it was possible to place more PEM modules in each line, we did it.

In the PEM area 2 our target was to analyse how much sand it was possible to pick up in a Equilibrium profile.

We have now a beach width between 100 and 120 metre in a new equilibrium profile and the average beach level is 2,17 metre equal to 217 cubic meter sand for each meter along the shore line in the PEM area 2.

We are now ready for a heavy storm at springtide, so we can register how much sand the storm waves draw out in off shore 1.

At the same time we will register how fast the sand is back on the beach again.

The numbers of PEM modules in each line is registered on the next page.

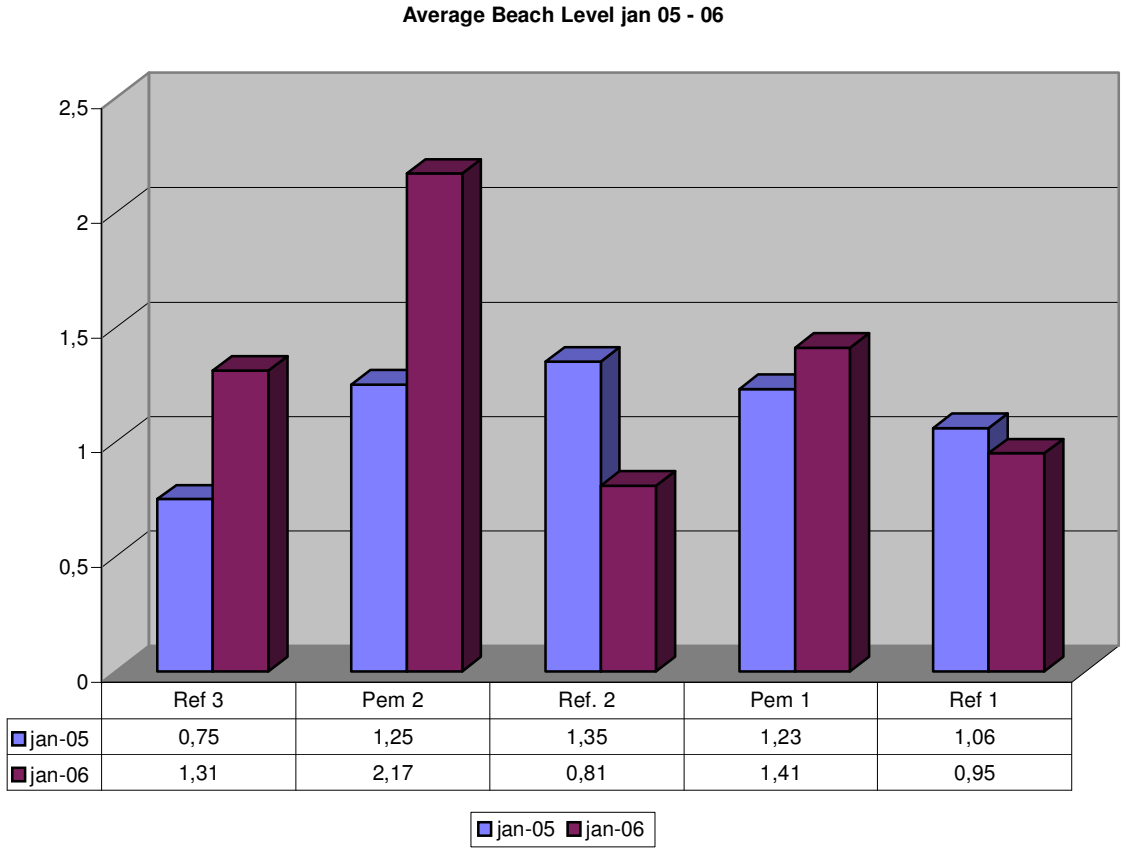
Operation of the SIC System

Stn	No. 1	2	3	4	5	6	7	8	9	10	11	12
4011800	X	X	X	X	X	X	X	X	X	X	X	
4011900	X	X	X	X	X	X	X	X	X	X	X	X
4012000	X	X	X	X	X	X	X	X	X	X	X	X
4012100	X	X	X	X	X	X	X	X	X	X	X	
4012200	X	X	X	X	X	X	X	X	X	X	X	
4012300	X	X	X	X	X	X	X	X	X	X	X	X
4012400	X	X	X	X	X	X	X	X	X	X	X	
4012500	X	X	X	X	X	X	X	X	X	X	X	
4012600	X	X	X	X	X	X	X	X	X	X	X	
4012700	X	X	X	X	X	X	X	X	X	X		
4014500	X	X	X	X	X	X	X	X				
4014600	X	X	X	X	X	X	X					
4014700	X	X	X	X	X	X	X					
4014800	X	X	X	X	X	X	X	X				
4014900	X	X	X	X	X	X	X	X				
4015000	X	X	X	X	X	X	X					
4015100	X	X	X	X	X	X	X	X				
4015300	X	X	X	X	X	X	X					
4015400	X	X	X	X	X	X	X					
4015500	X	X	X	X	X	X	X					
4015600	X	X	X	X	X	X	X	X				
4015700	X	X	X	X	X	X	X	X				
4015800	X	X	X	X	X	X	X	X				
4015900	X	X	X	X	X	X	X	X	X			
4016000	X	X	X	X	X	X	X	X	X			
4016100	X	X	X	X	X	X	X	X	X			
4016200	X	X	X	X	X	X	X	X	X	X	X	
4016300	X	X	X	X	X	X	X	X	X	X	X	
4016400	X	X	X	X	X	X	X	X	X	X	X	
4016500	X	X	X	X	X	X	X	X	X	X	X	
4016600	X	X	X	X	X	X	X	X	X	X	X	
4016700	X	X	X	X	X	X	X	X	X	X	X	
4016800	X	X	X	X	X	X	X	X	X	X	X	
4016900	X	X	X	X	X	X	X	X	X	X	X	
4017000	X	X	X	X	X	X	X	X	X	X	X	
4017100	X	X	X	X	X	X	X	X	X	X	X	
4017200	X	X	X	X	X	X	X	X	X	X	X	
4017300	X	X	X	X	X	X	X	X	X	X	X	
4017400	X	X	X	X	X	X	X	X	X	X	X	
4017500	X	X	X	X	X	X	X	X	X	X	X	
4017600	X	X	X	X	X	X	X	X	X	X	X	
4017700	X	X	X	X	X	X	X	X	X	X	X	
4017800	X	X	X	X	X	X	X	X	X	X	X	
4017900	X	X	X	X	X	X	X	X	X	X	X	
4018000	X	X	X	X	X	X	X	X	X	X	X	
4018100	X	X	X	X	X	X	X	X	X	X	X	
4018200	X	X	X	X	X	X	X	X	X	X		
4018300	X	X	X	X	X	X	X	X	X	X		
4018400	X	X	X	X	X	X	X	X	X	X	X	
4018500	X	X	X	X	X	X	X	X	X	X		
4018600	X	X	X	X	X	X	X	X	X	X		
4018700	X	X	X	X	X	X	X	X	X			
4018800	X	X	X	X	X	X	X	X	X			
4018900	X	X	X	X	X	X	X	X	X			
4019000	X	X	X	X	X	X	X	X	X			
4019100	X	X	X	X	X	X	X	X	X			
4019200	X	X	X	X	X	X	X	X	X			
No.	1	2	3	4	5	6	7	8	9	10	11	12

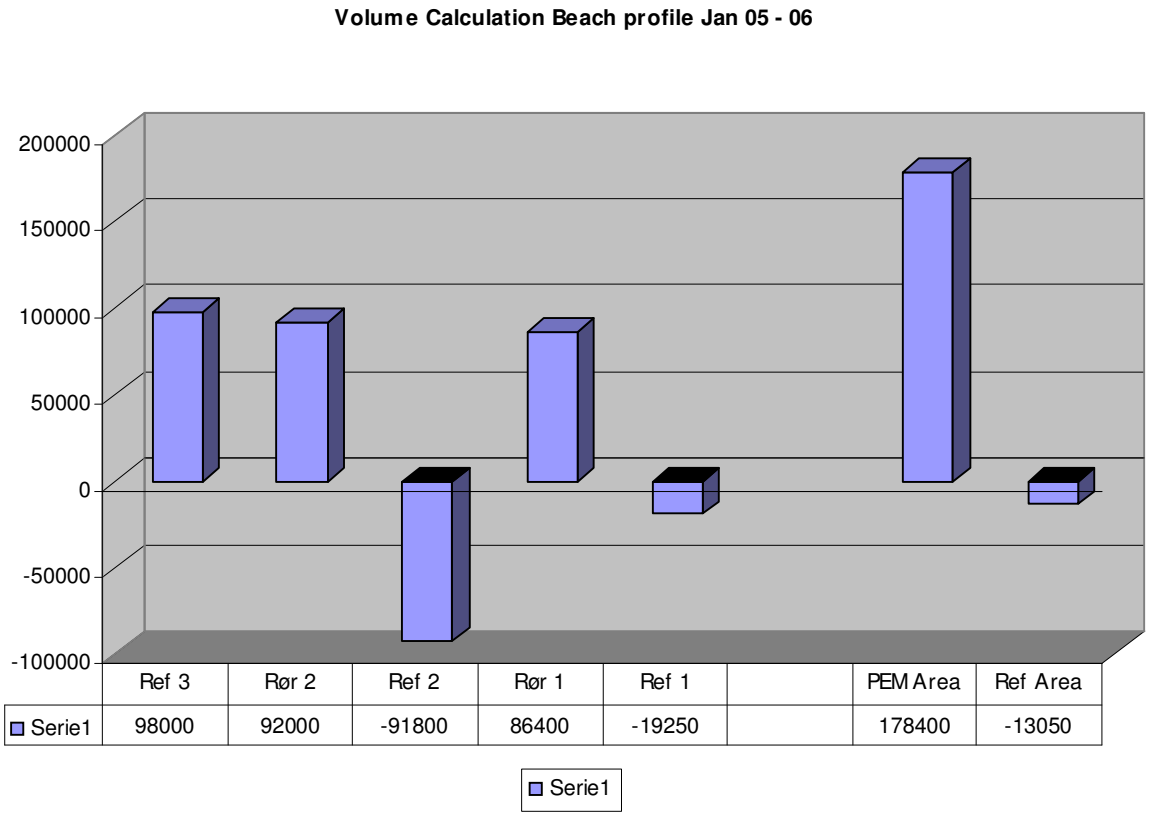
PEM modules Skodbjerge

X PEM modules 28 jan 2005
X ADDITIONAL 28 MAR 2005
X ADDITIONAL 06 MAY 2005
X ADDITIONAL 05 AUG 2005
X ADDITIONAL 20 OCT 2005
X ADDITIONAL 21 FEB 2006

Interpretation

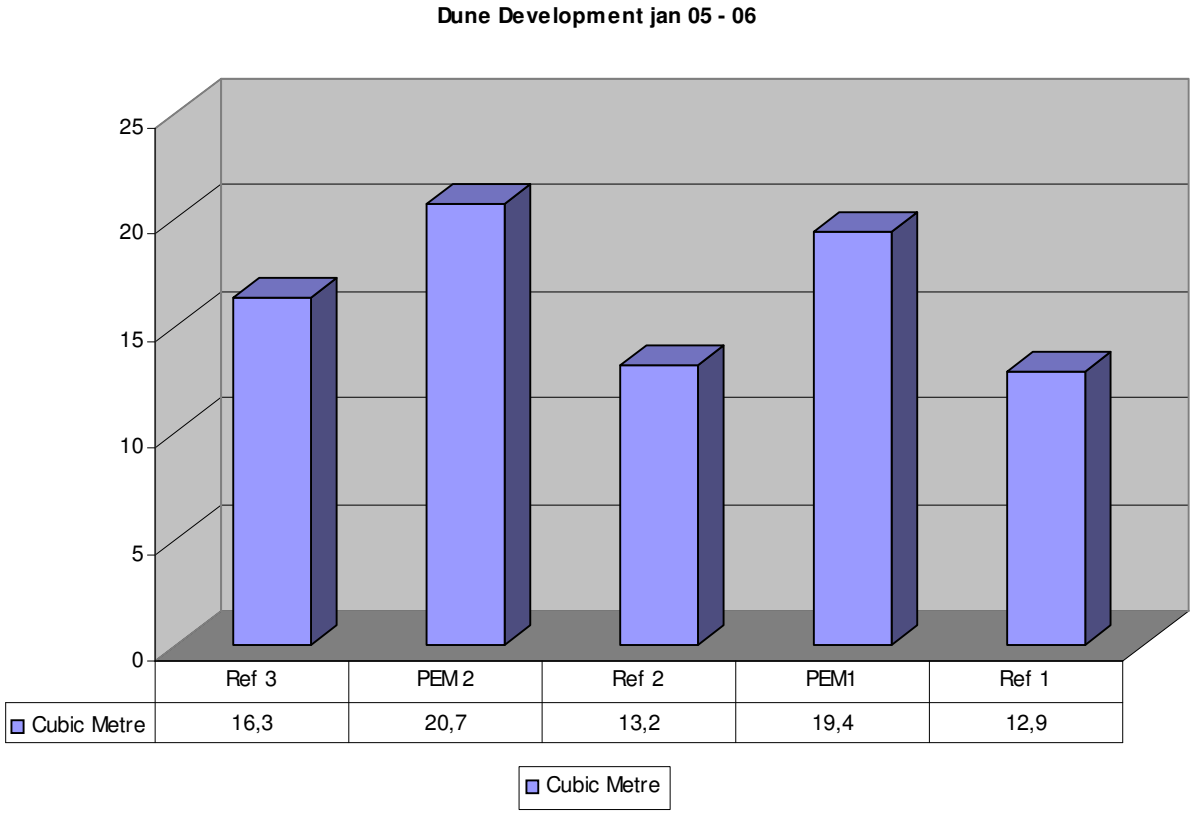


In Jan 2005 Ref. 2 was the strongest profile with an average beach level on 1,35

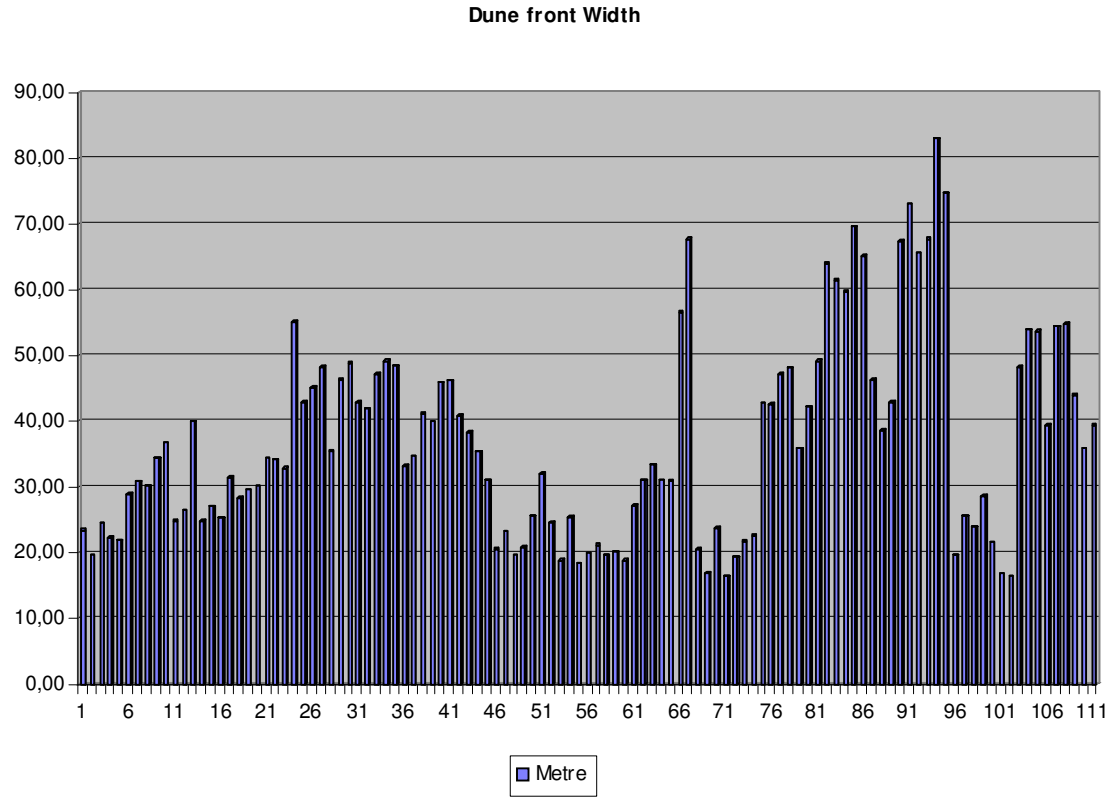


I the period from Jan. 05 to Jan, 06, 178.400 cubic metre are accumulated in the PEM Area 1 and 2. In ref. 1, 2 and 3 we have an average erosion at -13.050 Cubic Metre.

The Dune System.

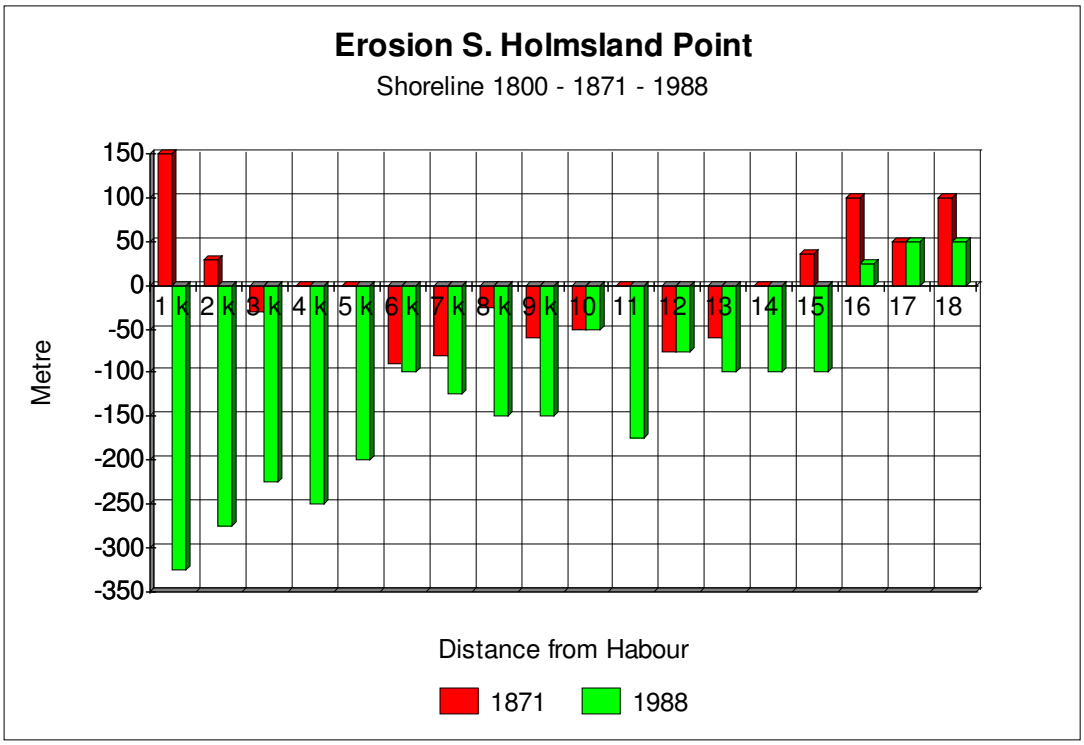


When the beaches are wider and higher and more dry, we increase the sand drift at the beaches so the dunes grove up in the drained area's PEM 1 and 2.



It is not scientific correct to calculate the accumulation in the dunes together with the accumulation in the beach front, as the dune width changes from 20 – 80 meter.

History



The accumulation in Ref. 3 has background in two parameters.

1.0 The southern part of the beach Ref. 3 has increased over the last 200 years.

2.0 Washed sand is moving from PEM area 2 to Ref. 3 and we don't see lee side erosion in the area.

Conclusion.

The beach in Ref. 2 was the strongest area in January 2005 with an average beach level on 1,35 metre in January 2005, equal to 135 cubic meter per meter.

In January 2006, the average beach level in Ref. 2 is reduced to 0,81 metre equal to 81 cubic metre per Metre.

The average beach level in the 11,0 km test area was 1,14 metre in January 2005.

The average beach level is raised to 1,7 metre in PEM area 1 and 2 in January 2006.

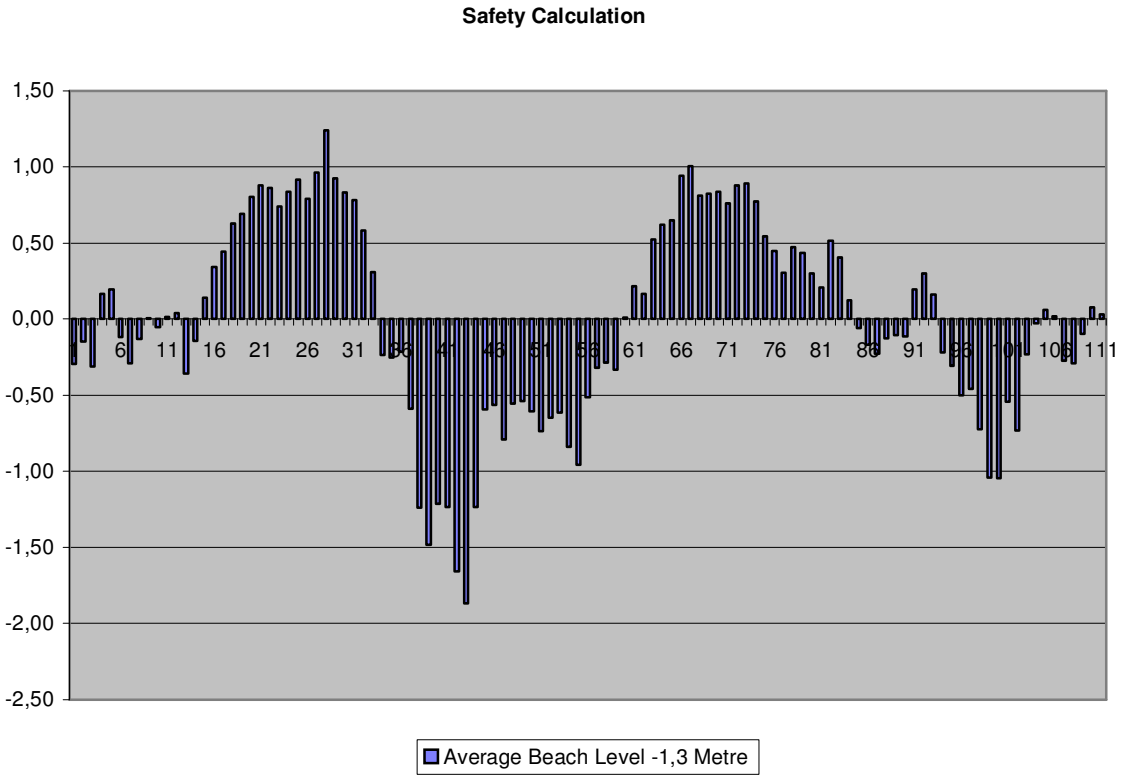
The average beach level in Ref 1, 2 and 3 are reduced to 1,02 metre in January 2006.

With an accumulation of 178.400 cubic metre sand in PEM 1 and 2 and an erosion at -13.050 Cubic meter in Ref 1, 2 and 3, the effect of the PEM system is very significant.

It will be possible to protect and reduce the beach nourishment at the west coast Jutland with the SIC system in combination with the by passing systems at Hvide Sande and Thorsminde.

The Function of The SIC system is described in the following pages in details

Safety



The safety calculation is based on an average beach level at 1,3 metre equal to130 cubic metre per metre along the coastline.

We have already given a warning to KDI and the Ministry of Transport and Energy in October month 2005, instructing them to place PEM modules in ref. 2, so we don't damage the dune system in ref 2 in the first storm situation.

The situation in Ref 2 and Ref 1 is extremely critical, and we will give a new warning to the Ministry of Transport and Energy together with this report.

Evaluation of the function of the PEM system

By Eng. Poul Jakobsen og Eng. Claus Brøgger, SIC

Abstract

The PEM system is used for beach erosion control and involves the well known principle of vertical draining.

Scientists generally agree that a well drained beach is robust and often accrete whereas beaches with a high water pressure will erode (Li and Berry).

The theory is confirmed by a number of tests with the PEM system around the world. In Denmark tests at on the West Coast in Old Skagen, Lønstrup and Holmsland Klit near Skodbjerge show that the PEM system is capable of reducing erosion and building a beach.

Scientists generally agree that a wide/high beach provides the best protection of the hinterland and of special focus in the Skodbjerge test is the mean height of the beach, measured from the foot of the dune and 100 m seawards.

The mean height of the beach prior to the test was 1,14. After 12 months the mean height of the PEM test areas were1.46 m and 2.17 m while the controls had been reduced to 0,95 m and 0.81m.

At the test at Old Skagen the mean height of the beach with PEM installed was 0.63 m and 0.47 m higher than the two controls after 5 years.

We believe the results demonstrate a significant effect of the PEM system.

The PEM modules create a groin that catches long shore sand transport.

The effect of the PEM system is documented in several parts of the world under different weather and wave conditions.

Water pressure in the beach.

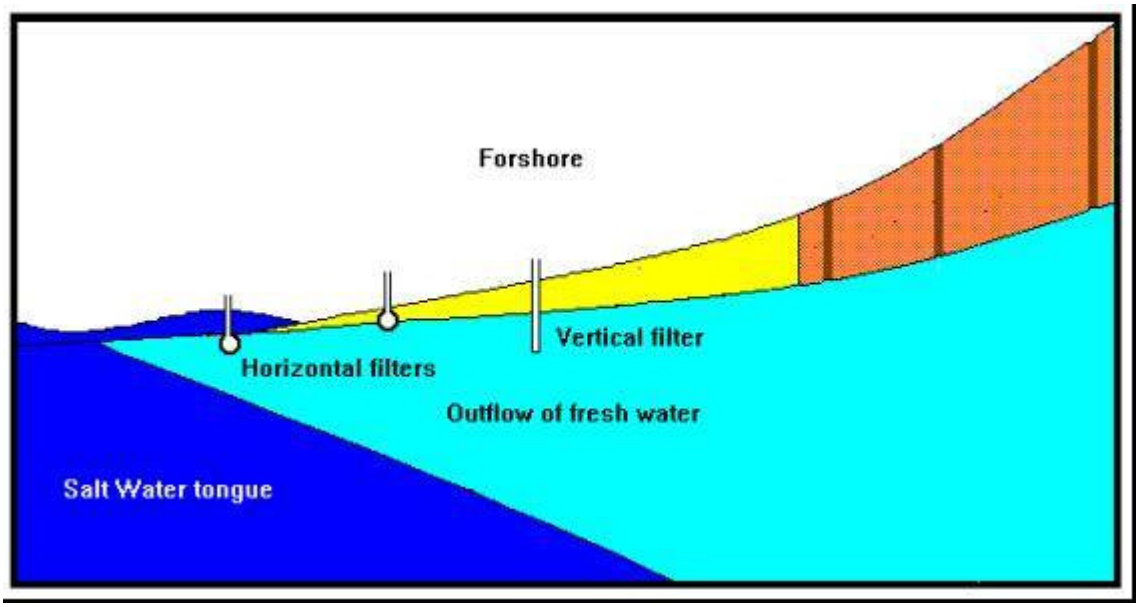


Fig. 2

Fig. 2 illustrates the water pressure at beach face and the seepage area for the fresh water outside the swash zone, which varies depending on the tides. The tides at Hvide Sande near Skodbjerge is 0.75m and highest tide is 3.0 over DVR 90 (normal level).

Vertical drains

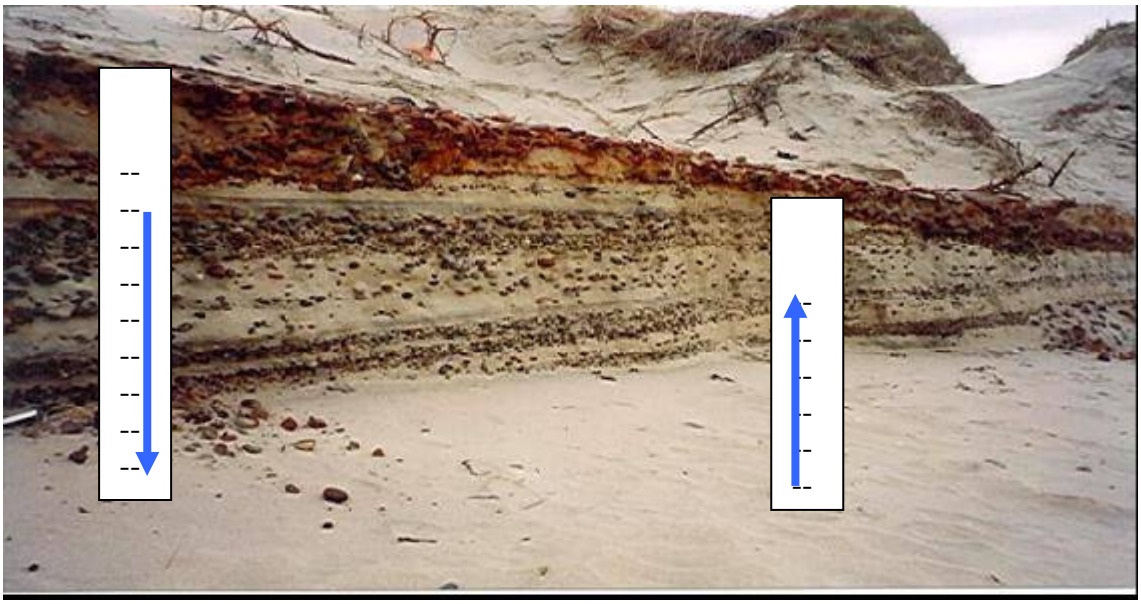


Fig. 3

The vertical drains connect the different layers in the beach and drain the beach. The water may move up or down inside the tubes depending on the water pressure in the beach and the swash zone.

Test Area 2 Skodbjerge.

fig. 4

During the first 12 months of the test period test area 2 added up to 65 m in width and in average 34 m. Mean height of the beach recorded over 1000 m has been raised from 1.25 m to 2.17 m. The volumetric change is plus 92 cubic m per m beach.

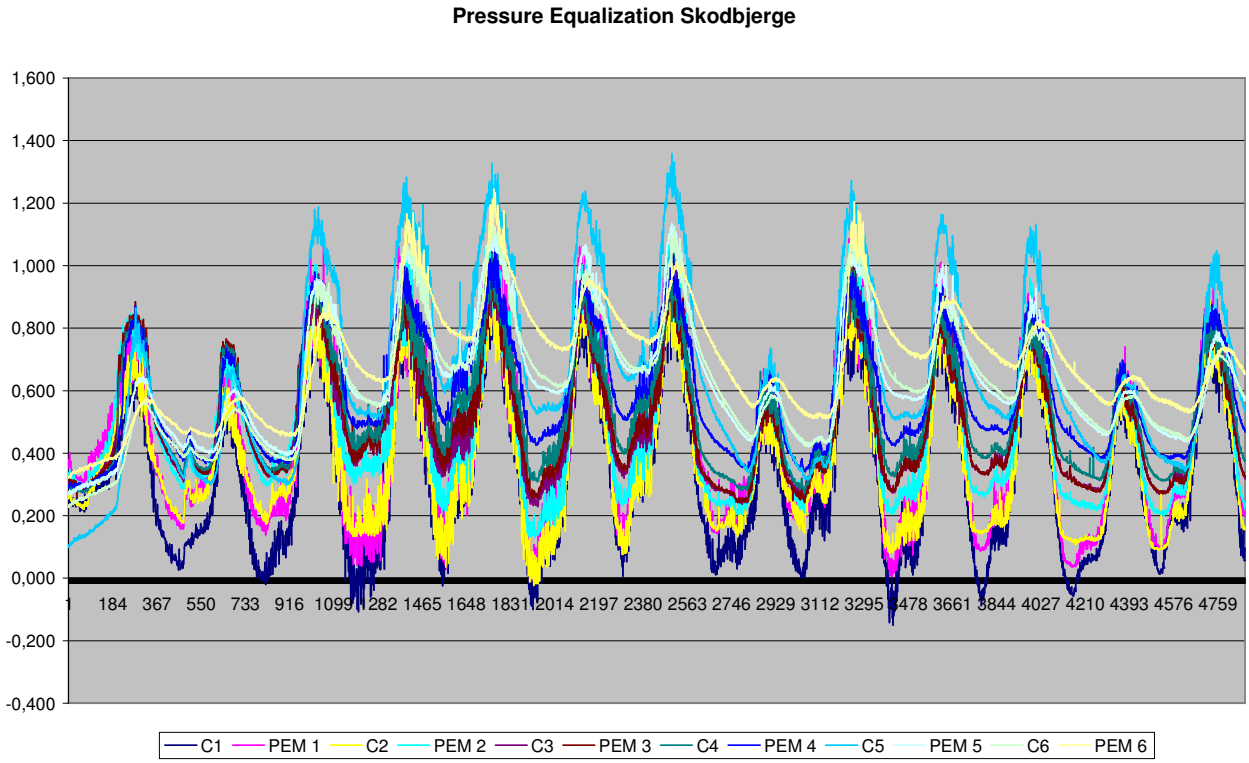


fig. 5

Based on the physical effects of the PEM tubes on the beach described above a separate test was made with water level sensors (Diver), to determine the effect of PEM on the water table in the beach. The test was carried out in the northern part of the Skodbjerge test area in control area 1.

Project description.

The test was initiated on March 20, 2006; a description of the test plan can be seen on page 5.

17 water level sensors (Diver) were placed in 3 rows 50 m apart starting from level 0 and every 10 m towards the dunes to record the pressure-gradient (water level) in the beach.

The sensors were installed in a plastic tube, 1,75 m long and a diameter of 60 mm with a screen 10 cm above the bottom to ensure free hydraulic flow. The tubes were installed in the beach and closed at the top.

The sensors inside plastic tubes are marked with a red dot

Measurements were taken every 2 minutes.

On March 26, 2006 the beach was drained with 6 PEM modules placed in the centre row (C) and 5 PEM modules placed in the southern row (S). The distance to the neighboring sensor tubes was 5 m.

PEM modules is vertical drain tubes as allow water to drain in the beach.

In each PEM module a water level sensor was placed. The sensors were preinstalled in the PEM module which allowed recording to take place from the start of the installation the 26 March. .

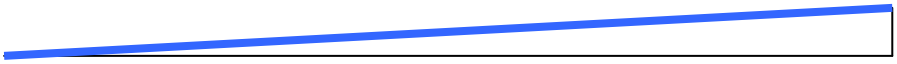
The sensors are illustrated in Appendix 2.

The water level during the test period is illustrated in Fig. 7.

Beach profile.

Station	C1	C2	C3	C4	C5	C6
Ground level	3 cm	35 cm	59 cm	63 cm	92 cm	121 cm.

Dynamic area



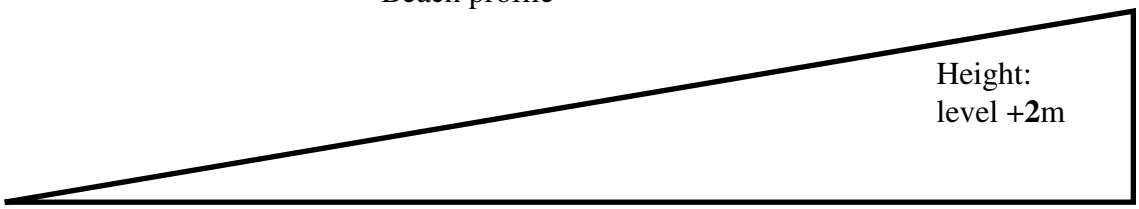
Weather conditions
The weather shifted during the test period with high tide up to 1.0 m during week 2 and wind speeds up to 14 m/sec. The beach was over-washed up to 40 m into the beach for several days.

Because of the high tide, it was possible to measure the out flow of fresh water from the hinterland to the submerged PEM tubes closest to the sea.

Method
The draining effect is illustrated by comparing the water level inside the PEM modules with the water level in the beach as recorded of the sensors inside plastic pipes. (C1+C2)/2, (C2+C3)/2, (C3+C4)/2, (C4+C5)/2, (C5+C6)/2

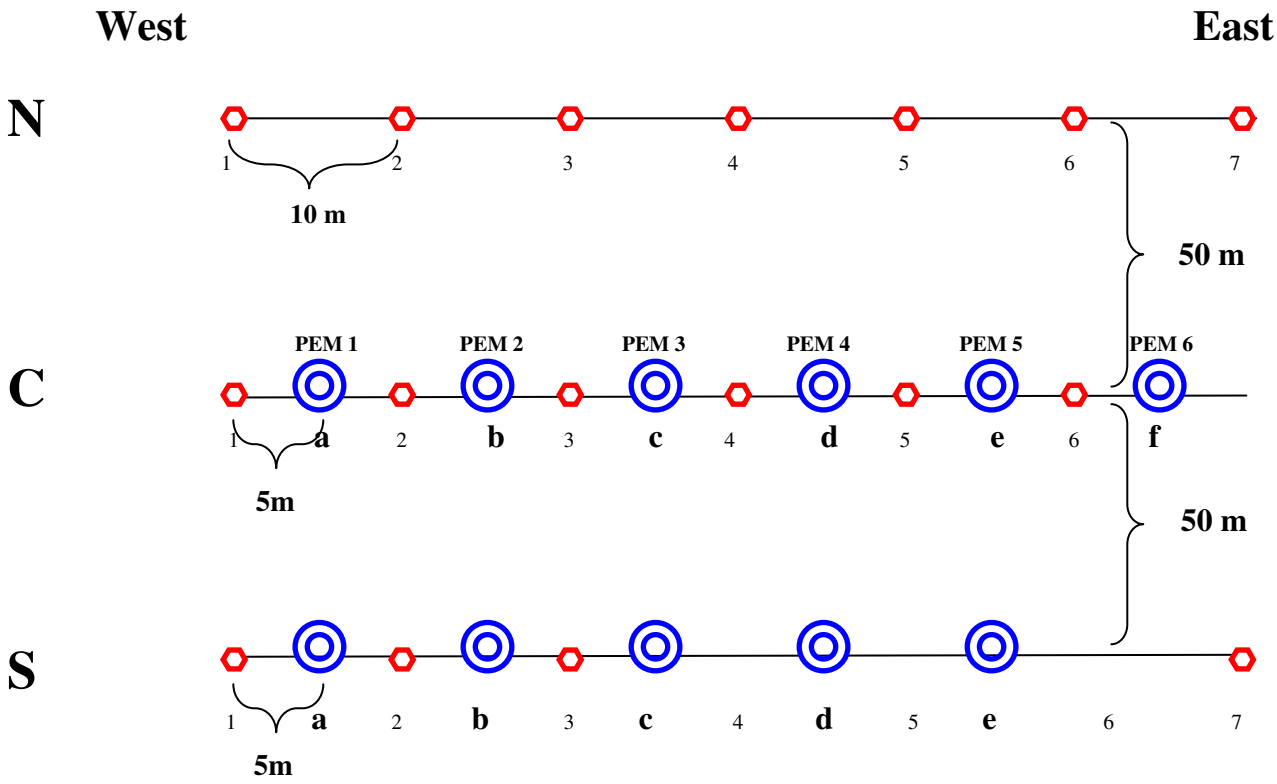
Holmsland Klit – water level in beach measured with DIVER

Beach profile



Measured distance 60 m

Installation in the beach



Well with a plastic tube with sensor (Diver) to record water level in the beach

PEM module with sensor (Diver)

N Station 11000 (ch 402100)

Fig. 6

Water level C1

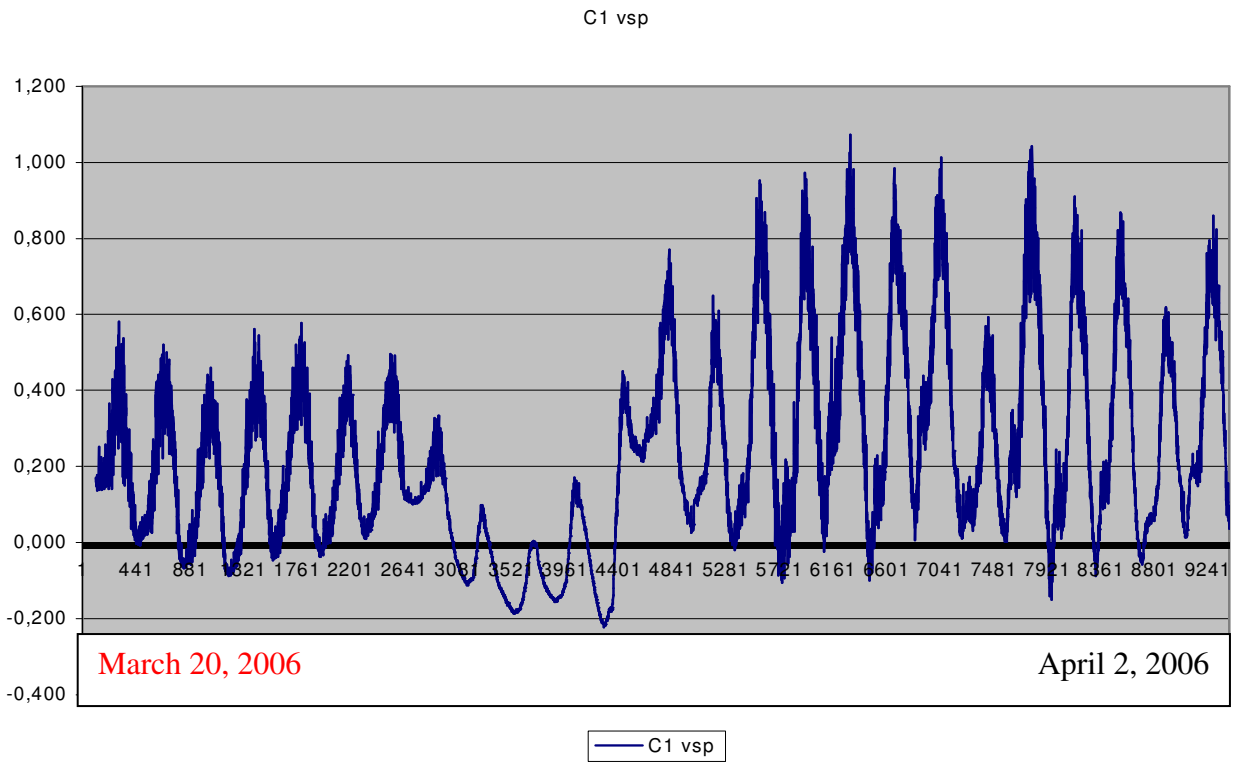


fig. 7

A comparison of the water level C1 with the sea level at the near by Hvide Sande Habor has shown good correlation and C1 is considered the sea level.

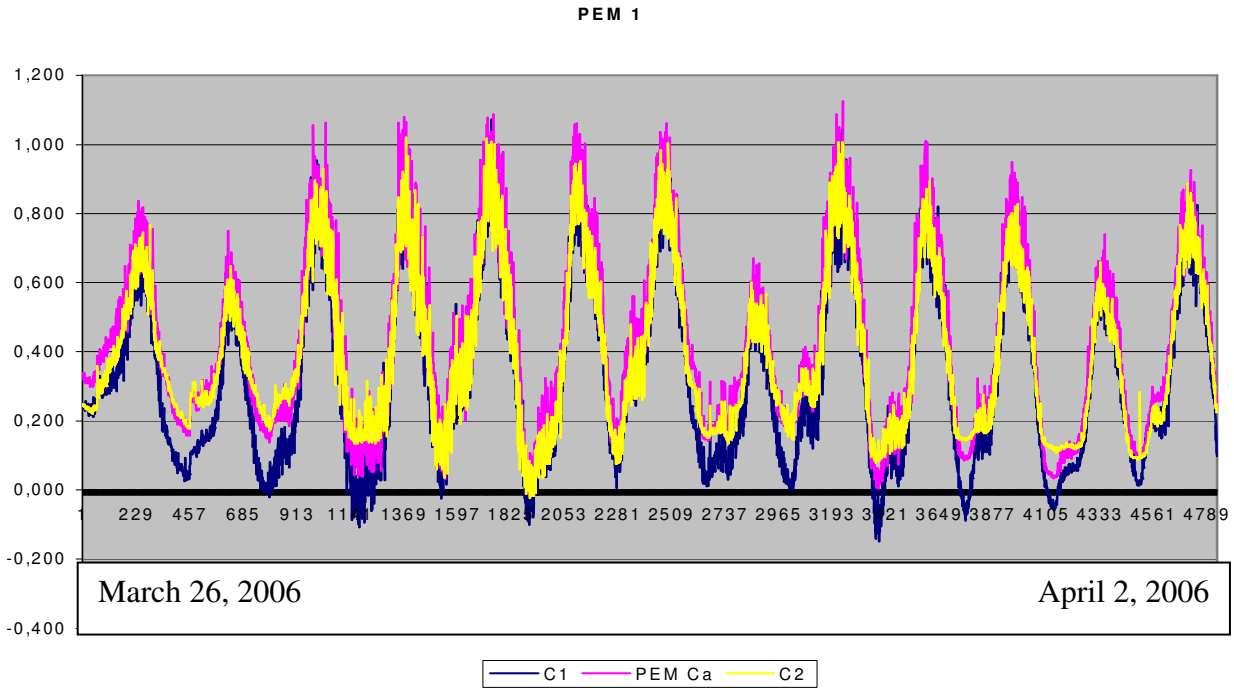
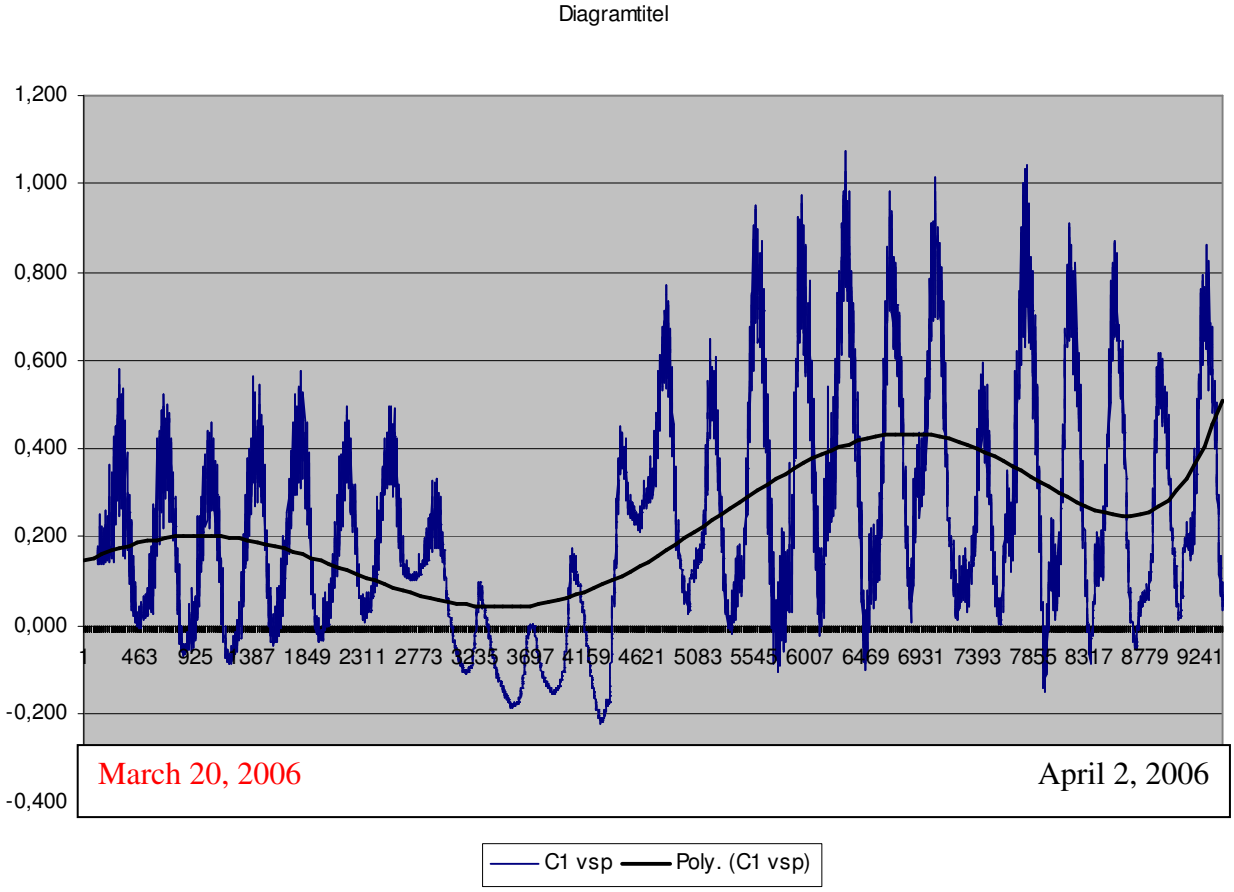
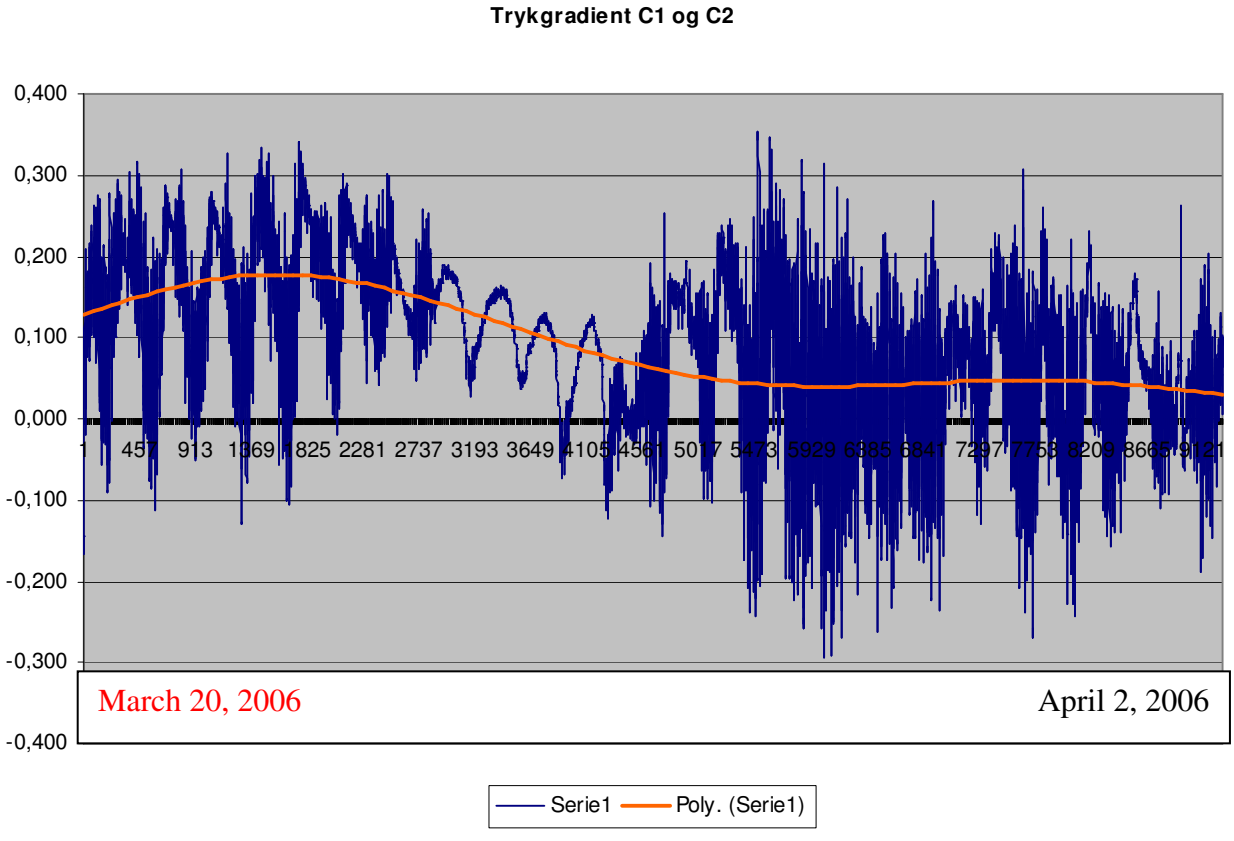


fig. 8

The above graph illustrates that the water level inside the PEM tubes is often higher than the neighboring C1 and C2 sensor tubes while the area is under water in the swash zone.

Water level in the beach.





The difference in water level in C1 and C2 is reduced to 5 – 6 cm after the draining with PEM has started (after measurement 4541). Without draining the level difference is 14 – 19 cm.

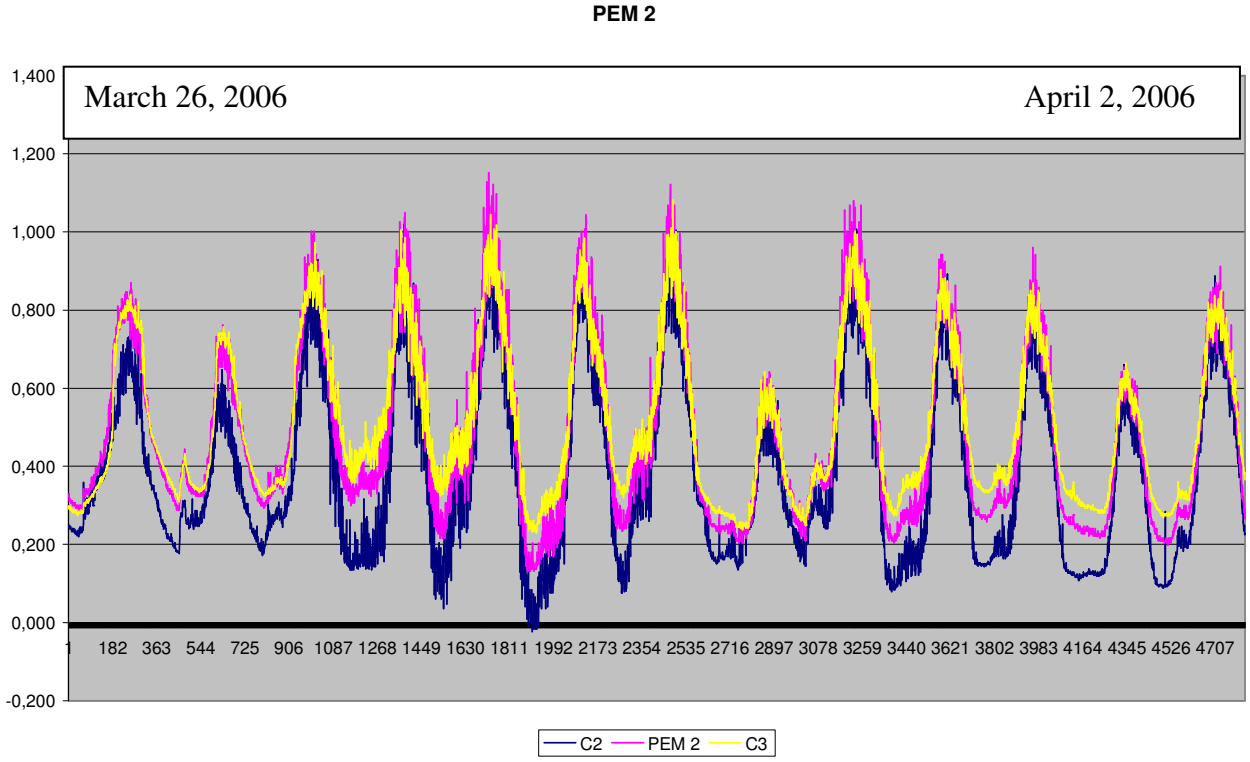

PEM 2
March 26, 2006
April 2, 2006
1,400
1,200
1,000
0,800
0,600
0,400
0,200
0,000
-0,200
1 182 363 544 725 906 1087 1268 1449 1630 1811 1992 2173 2354 2535 2716 2897 3078 3259 3440 3621 3802 3983 4164 4345 4526 4707
C2
PEM 2
C3

fig. 11

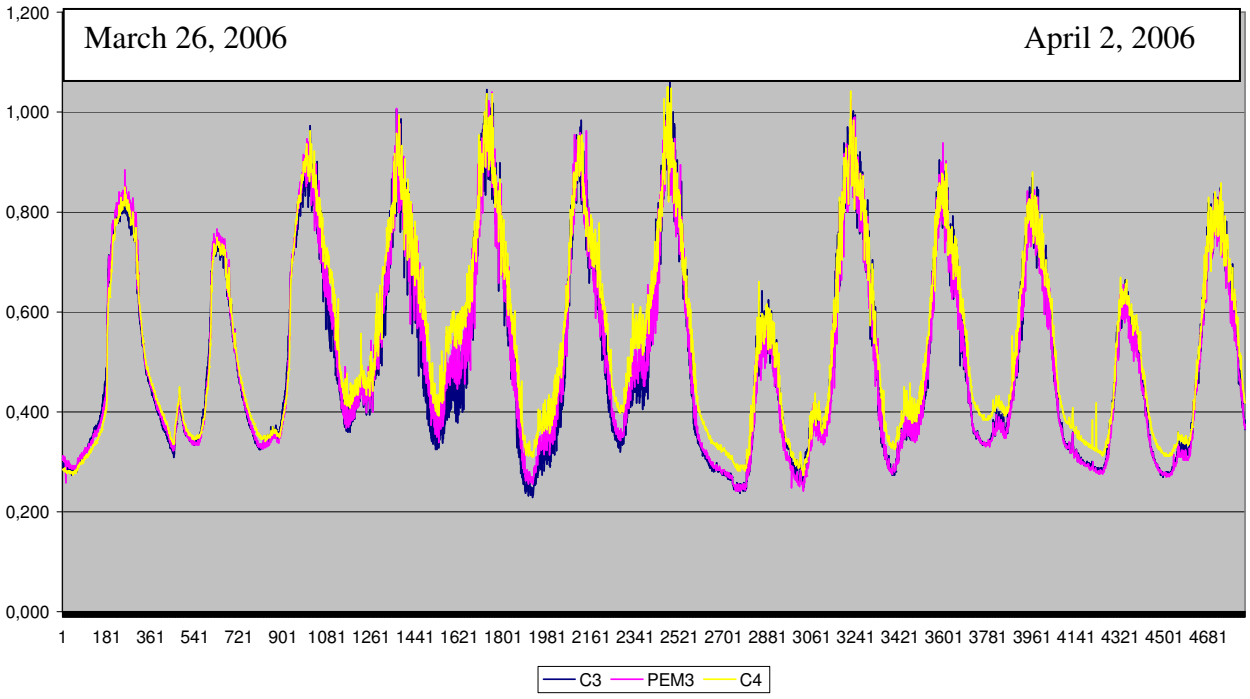

PEM 3
March 26, 2006
April 2, 2006
1,200
1,000
0,800
0,600
0,400
0,200
0,000
1 181 361 541 721 901 1081 1261 1441 1621 1801 1981 2161 2341 2521 2701 2881 3061 3241 3421 3601 3781 3961 4141 4321 4501 4681
C3
PEM3
C4

fig. 12

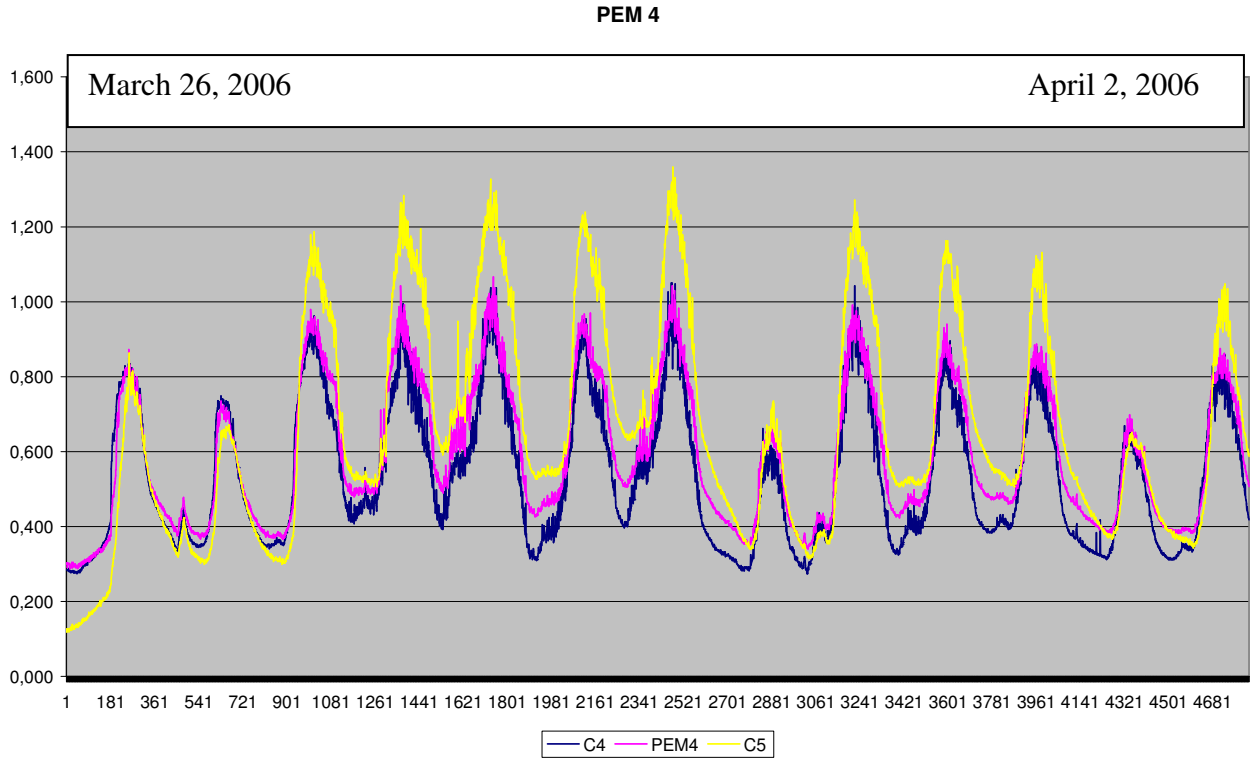


fig. 13

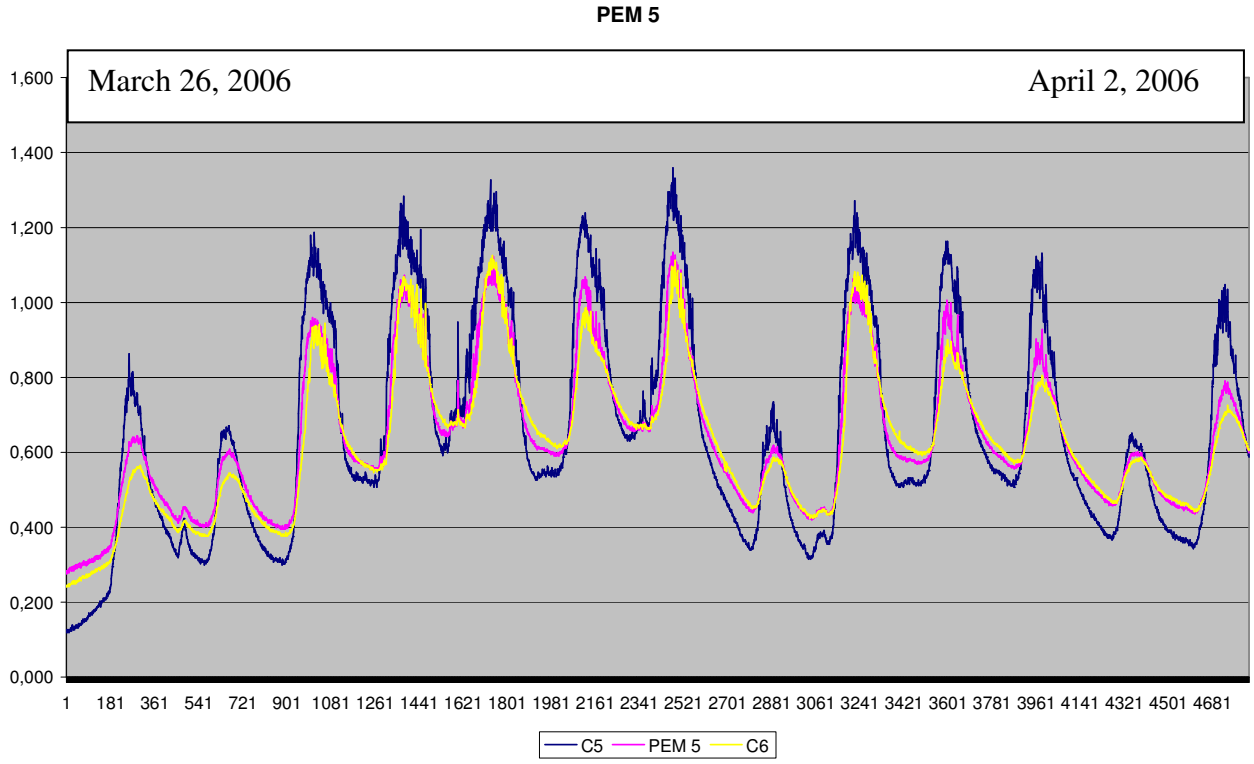


fig. 14

The effect of PEM draining modules can be seen in the graphs below where the water level in a PEM module is compared to the average water level in the neighboring sensor tubes.

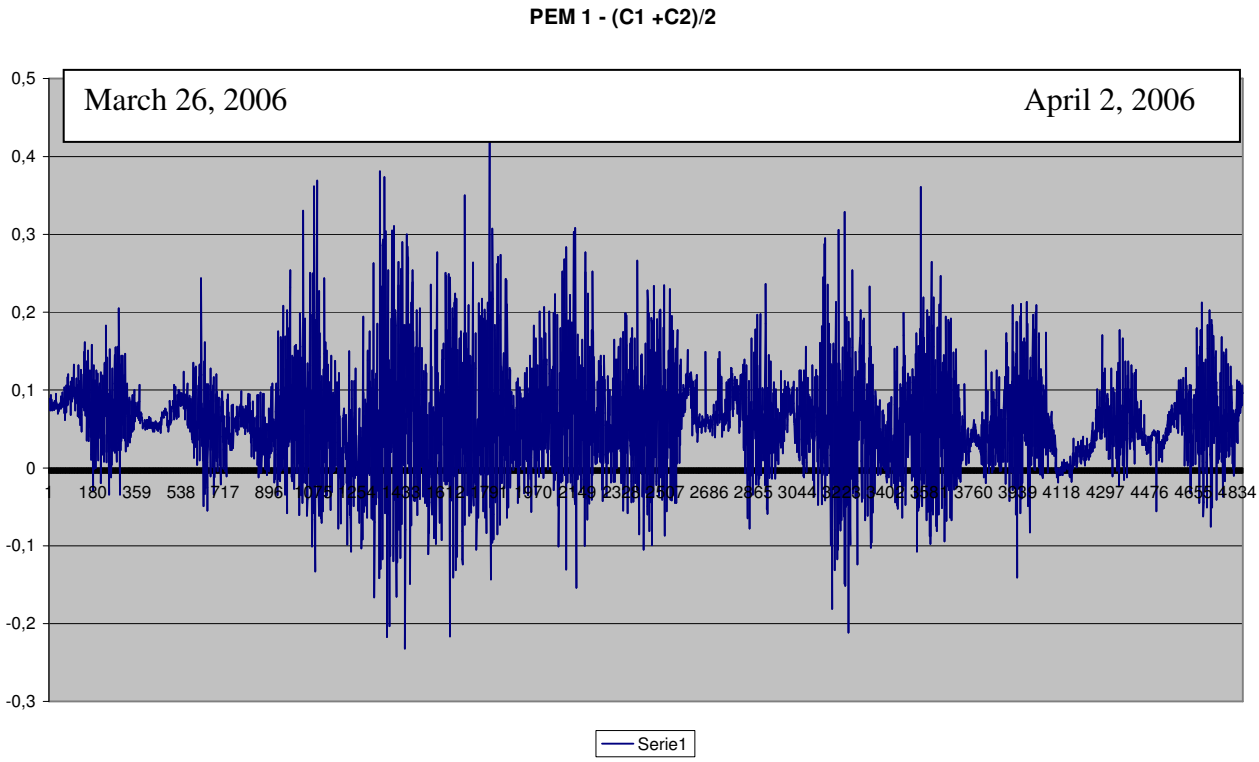


fig. 15

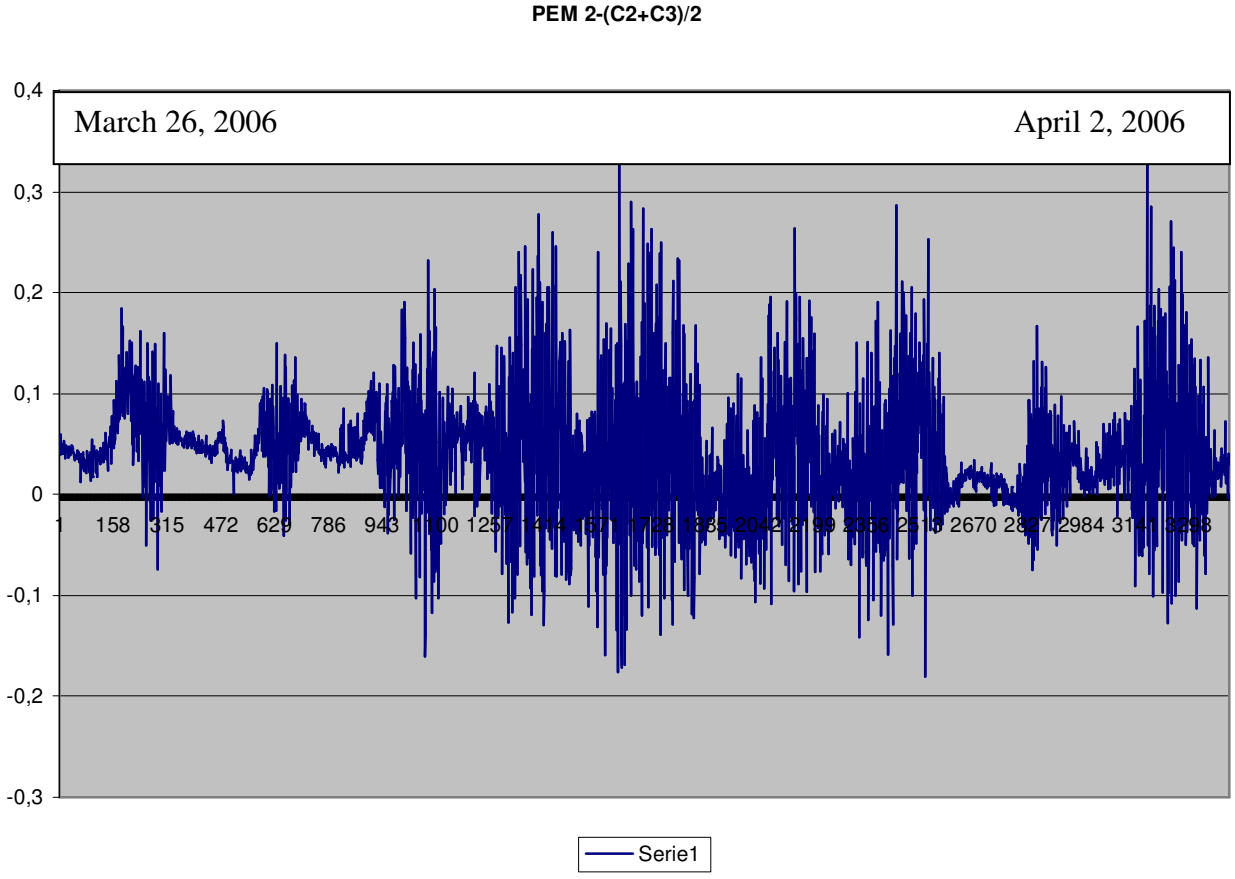


fig. 16

In fig 15 and 16 the PEM modules are under water due to high tide. The water level is higher in the PEM modules than the neighboring sensor tubes indicating that the pressure in the outflow zone is released via the PEM modules.

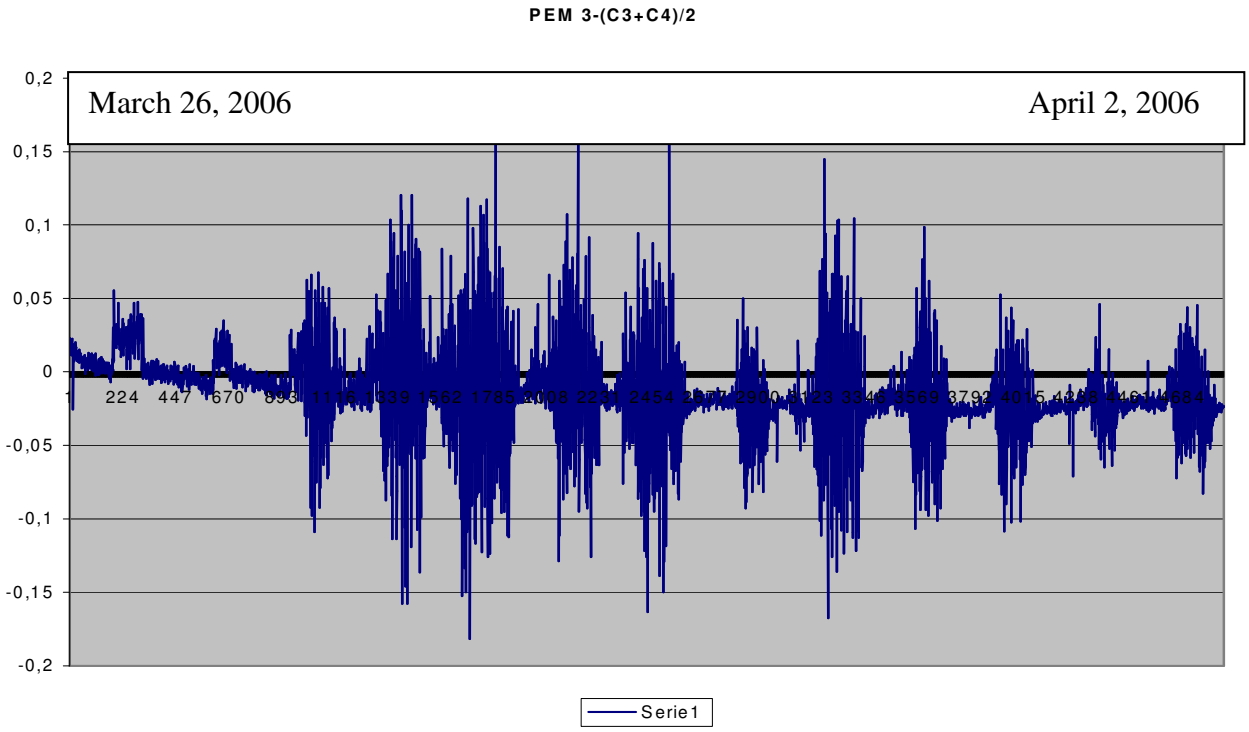


Fig 17

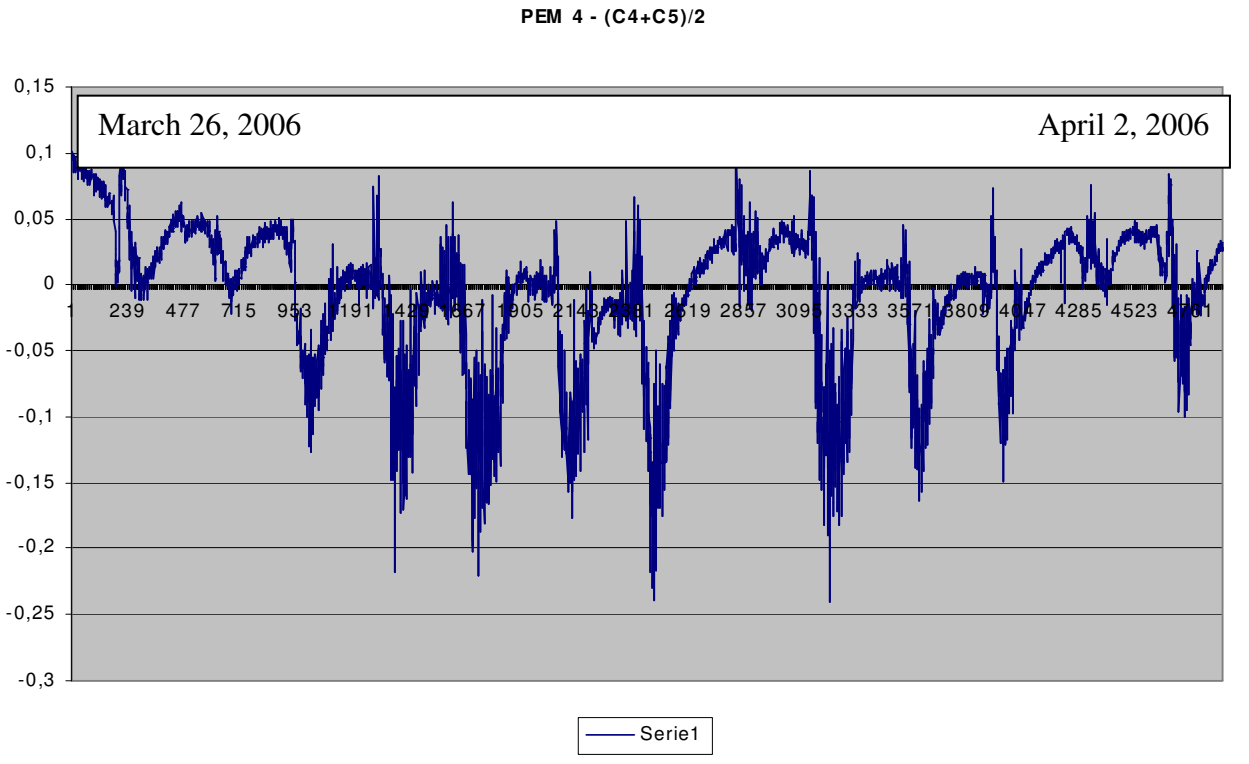


Fig 18

In fig 17, 18, and 19 the PEM modules were on the dry beach. The water level is significantly lower in the PEM tubes than the neighboring sensor tubes indicating downward draining of the beach.

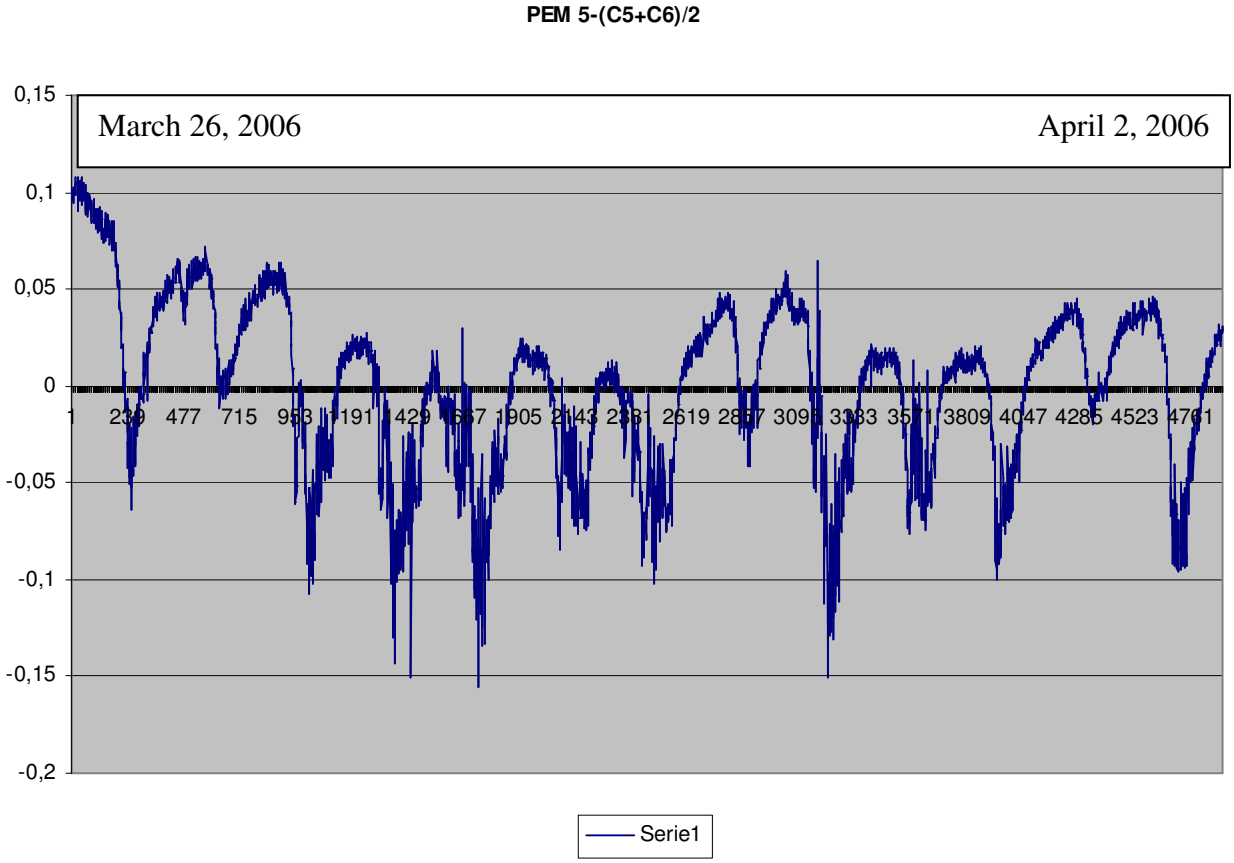


Fig 19

Conclusion

The hydraulic effect of installing pressure equalizing modules (PEM) in a beach was investigated. The test showed that on a dry beach the water level inside the PEM modules was up to 15 cm lower than in the neighboring wells, indicating effective downward draining of the beach. PEM modules in the swash zones that were submerged due to high tide, showed a higher water level than the neighboring wells. This indicates that the outflow of water is increased by PEM.

Effective draining of a beach will increase the beach's capacity to absorb the incoming waves and the sediment they contain will be deposited on the shore. Gradually a sand groin will develop that pick up the long shore sediment and thus builds a beach.

Skagen April 15, 2006.

Poul Jakobsen/Claus Brøgger.

GROUNDWATER EFFECTS ON SEDIMENT TRANSPORT: A MODELLING STUDY OF THE MECHANISMS UNDERLYING BEACH DEWATERING FOR EROSION CONTROL

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of Edinburgh, Edinburgh, EH9 3JN, U.K.

Abstract: ***Field and laboratory observations have shown that a relatively low beach groundwater table enhances beach accretion while a high water table promotes beach erosion. These observations have led to the beach dewatering technique (artificially lowering the beach water table) for combating beach erosion***.

References

Bagnold, R. A. 1966. An approach to the sediment transport problem from general physics, Technical Report Prof. Pap. 422-I, U.S. Geol. Survey.

Duncan, J. R. 1964. The effects of water table and tidal cycle on swash-backwash sediment distribution and beach profile development, Mar. Geol., 2, 186-197.

Flick, R. E., Guza, R. T., and Inman, D. L., 1981. Elevation and velocity measurements of laboratory shoaling waves, J. Geophy. Res., 86, 4149-4160.

Grant, U. S. 1984. Influence of the water table on beach aggradation and degradation, J. Mar. Res., 7, 655-660.

Guza, R. T., and Thornton, E. B. 1982. Swash oscillations on a natural beach, J. Geophys. Res., 87, 483-491.

Hardisty, J., Collier, J., and Hamilton, D. 1984. A calibration of Bagnold beach equation, Mar. Geol., 61, 95-101.

Hibberd, S., and Peregrine, D. H. 1979. Surf and run-up on a beach: A uniform bore, J. Fluid Mech., 95, 323-345.

Horn, D. P., and Mason, T. 1994. Swash zone sediment transport modes, Mar. Geol., 120, 309-325.

Hughes, M.G., Masselink, G., and Brander, R.W., 1997. Flow velocity and sediment transport in the swash zone of a steep beach. Marine Geology 138, 91-103.

Kobayashi, N., Otta, A. K., and Roy, I. 1987. Wave reflection and run-up on rough slopes, J. Water, Port, Coastal, Ocean Eng., 113, 282-298.

Larsen, M. 1988. Quantification of beach profile change, Report 1008, Lund University, Lund.

Lax, P., and Wendroff, B. 1960. Systems of conservation laws, Comm. Pure Appl. Maths., 13, 217-237.

Li, L., Barry, D. A., Parlange, J.-Y., and Pattiaratchi, C. B. 1997. Beach water table fluctuations due to wave run-up: Capillarity effects, Water Resour. Res., 33, 935-945.

Li, L., and Barry, D. A. 2000. Wave-induced beach groundwater flow, Adv. Water Resour., 23, 325-337.

Li, L., D. A., Barry, Pattiaratchi, C. B., and Masselink, G. 2000. Sediment transport and beach profile changes in the swash zone: Model simulations of groundwater effects, Submitted to J. Water, Port, Coastal, Ocean Eng.

Liska, R., and Wendroff, B., 1996. Composite schemes for conservation laws, Tech. Rep. LA-UR96-3596, Los Alamos.

Masselink, G., and Hughes, M. G. 1999. Field investigation of sediment transport in the swash zone, Continental Shelf Res., In press.

Mizumura, K., Nishimoto, T., and Tsutsui, H., 1992. Numerical simulation of coastal chnages, in Brebbia, C. A. (edi) Computational modelling of free and moving boundary problems, Southampton, Computational Mechanics Publ.

Nielsen, P. 1992. Coastal Bottom Boundary Layers and Sediment Transport, World Scientific, Singapore.

Packwood, A. R. 1983. The influence of beach porosity on wave uprush and backwash, Coastal Eng., 7, 29-40.

Peregrine, D. H. 1972. Equations for waves and the approximations behind them, In Waves on Beaches and Resulting Sediment Transport (ed. R. E. Meyer), Academic, New York.

Richtmyer, R. D., and Morton, K. W. 1967. Difference Methods for Initial-Value Problems, Interscience Publishers, Inc., New York.

Titov, V., and Synolakis, C. M., 1995. Modelling of breaking and nonbreaking log-wave evolution and run-up using VTCS-2, J. Water, Port, Coastal, Ocean Eng., 121, 308-316.

Turner, I. L. 1995. Simulating the influence of groundwater seepage on sediment transport by the sweep of the swash zone across macro-tidal beaches, Mar. Geol., 125, 153-174.

Turner, I. L., and Leatherman, S. P., 1997. Beach dewatering as a “soft” engineering solution to coastal erosion – a history and critical review, J. Coastal Res., 13, 1050-1063.

Turner, I. L., and Masselink, G. 1998. Swash infiltration-exfiltration and sediment transport, J. Geophy. Res., 103, 30813-30825

Bilag 1

The Skodbjerge test area is marked with a blue line. The pressure transducers were placed in the northern end, in a control area.

The total sediment transport in test area is 2.3 million cubic m per year.

Appendix 2

WATER LEVEL MEASUREMENTS

P2.20
Parts List
Pg 373

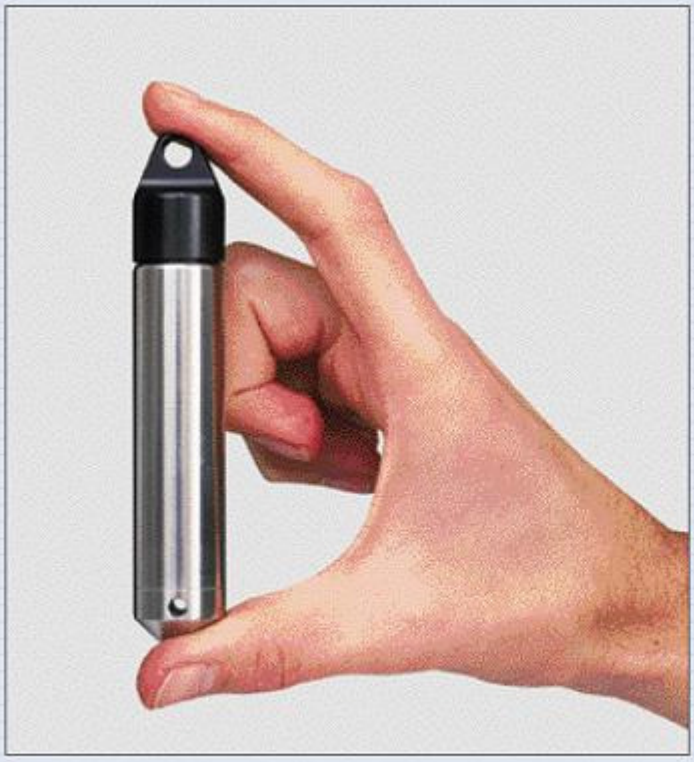
11.11 Diver

The **Diver** is the smallest instrument in the world for automatic measurement and registration of groundwater levels and temperatures. The instrument fits in the palm of your hand and is remarkably light. With its length of only 125 mm and a diameter of 22 mm the Diver can be used in virtually any monitoring well.

The pressure sensor, temperature sensor, as well as the datalogger and battery are contained within a hermetically sealed stainless steel housing. This ensures that the Diver is less sensitive to moisture or external electrical influences (Faraday cage). The Diver can be installed in the monitoring well simply suspended from a steel wire. Once installed, no part of the monitoring system is left protruding above ground level, greatly reducing the risk of vandalism. The Diver can now automatically measure the groundwater level and temperature and register these data in the internal memory (capacity 2 x 24.000 measurements). This means that you can execute and store a measurement every ten minutes over a six-month period before the memory is full. The built-in battery has a life of approximately 10 years.

Do you wish to measure several times per hour, once a day, or use the special pump test options? Anything is possible. Program the Diver in accordance with your wishes and you will receive the information exactly as you wish it. Programming and reading the data is a simple matter with the use of a read-out unit and a PC (laptop or field computer).

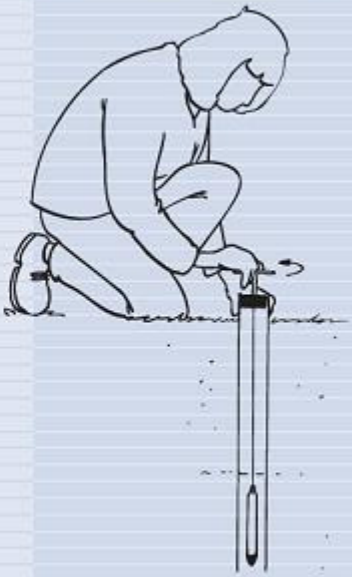
The Diver measures the groundwater level with an accurate pressure sensor. The weight of the water column above the instrument is a determining factor. However, the variations in atmospheric pressure also influence the measurements. To chart these atmospheric pressure variations for each measuring area the **Baro-Diver** is used. Compensation for these atmospheric pressure variations is carried out simply and easily with the use of the EnviroMon software.



Diver

Before installation all Divers for a project are programmed at the office with a PC.

After installing the Diver the monitoring well is closed completely (no equipment outside the well).



Eijkelkamp
Agrisearch Equipment
www.eijkelkamp.com

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Appendix 3

Installation of sensors and PEM modules

We thank the following persons for an inspiring dialog.

Prof. Dr. Tech, Jørgen Fredsøe DTU
Prof. Dr. Tech Hans Falk Burcharth AAU
Associate. Prof. Peter Engesgaard Geologisk Institut KU.
Geolog Jesper Gregersen Jysk Geoteknik
Geoteknikker ing. Niels Christensen Jysk Geoteknik

Data

The data sample below illustrates how the water level inside the PEM modules is higher than the neighboring wells while the area is under water.

26-03-2006 15:16:00	C1	PEM 1	C2	PEM 2	C3
26-03-2006 15:18:00	0,260	0,375	0,265	0,336	0,306
26-03-2006 15:20:00	0,277	0,379	0,255	0,330	0,298
26-03-2006 15:22:00	0,244	0,353	0,263	0,336	0,306
26-03-2006 15:24:00	0,272	0,361	0,265	0,330	0,301
26-03-2006 15:26:00	0,245	0,350	0,276	0,336	0,304
26-03-2006 15:28:00	0,269	0,401	0,271	0,348	0,304
26-03-2006 15:30:00	0,260	0,347	0,271	0,330	0,306
26-03-2006 15:32:00	0,262	0,371	0,303	0,336	0,304
26-03-2006 15:34:00	0,242	0,346	0,260	0,330	0,304
26-03-2006 15:36:00	0,249	0,374	0,271	0,336	0,301
26-03-2006 15:38:00	0,253	0,334	0,252	0,330	0,304
26-03-2006 15:40:00	0,240	0,321	0,247	0,324	0,304
26-03-2006 15:42:00	0,241	0,337	0,257	0,330	0,298
26-03-2006 15:44:00	0,252	0,347	0,247	0,318	0,298
26-03-2006 15:46:00	0,233	0,314	0,244	0,318	0,296
26-03-2006 15:48:00	0,244	0,311	0,236	0,324	0,293
26-03-2006 15:50:00	0,244	0,333	0,241	0,330	0,296
26-03-2006 15:52:00	0,236	0,318	0,241	0,312	0,296
26-03-2006 15:54:00	0,230	0,321	0,239	0,324	0,298
26-03-2006 15:56:00	0,230	0,321	0,241	0,318	0,296
26-03-2006 15:58:00	0,256	0,342	0,236	0,318	0,296
26-03-2006 16:00:00	0,241	0,333	0,255	0,318	0,298
26-03-2006 16:02:00	0,250	0,335	0,244	0,324	0,293
26-03-2006 16:04:00	0,244	0,333	0,247	0,324	0,298
26-03-2006 16:06:00	0,250	0,338	0,249	0,330	0,293
26-03-2006 16:08:00	0,238	0,327	0,247	0,312	0,298
26-03-2006 16:10:00	0,236	0,327	0,247	0,312	0,290
26-03-2006 16:12:00	0,245	0,317	0,241	0,312	0,293
26-03-2006 16:14:00	0,245	0,338	0,244	0,318	0,293
26-03-2006 16:16:00	0,246	0,319	0,241	0,312	0,293
26-03-2006 16:18:00	0,237	0,318	0,247	0,312	0,296
26-03-2006 16:20:00	0,229	0,309	0,239	0,306	0,293
26-03-2006 16:22:00	0,238	0,327	0,241	0,312	0,290
26-03-2006 16:24:00	0,234	0,318	0,241	0,312	0,288
26-03-2006 16:26:00	0,233	0,318	0,239	0,306	0,293
26-03-2006 16:28:00	0,257	0,319	0,233	0,312	0,285
26-03-2006 16:30:00	0,241	0,315	0,233	0,306	0,288
26-03-2006 16:32:00	0,237	0,315	0,236	0,306	0,288
26-03-2006 16:34:00	0,233	0,315	0,236	0,306	0,285
26-03-2006 16:36:00	0,236	0,322	0,241	0,300	0,288
26-03-2006 16:38:00	0,237	0,311	0,233	0,306	0,282
26-03-2006 16:40:00	0,248	0,315	0,233	0,300	0,285
26-03-2006 16:42:00	0,244	0,322	0,241	0,306	0,288
26-03-2006 16:44:00	0,233	0,309	0,236	0,306	0,285
26-03-2006 16:46:00	0,234	0,321	0,236	0,306	0,285
26-03-2006 16:48:00	0,250	0,317	0,233	0,306	0,285
26-03-2006 16:50:00	0,224	0,310	0,233	0,300	0,282
26-03-2006 16:52:00	0,236	0,315	0,231	0,300	0,285

26-03-2006 16:54:00	0,214	0,309	0,239	0,300	0,288
26-03-2006 16:56:00	0,245	0,323	0,228	0,300	0,285
26-03-2006 16:58:00	0,226	0,326	0,236	0,306	0,282
26-03-2006 17:00:00	0,225	0,315	0,233	0,300	0,285
26-03-2006 17:02:00	0,225	0,309	0,228	0,294	0,282
26-03-2006 17:04:00	0,218	0,299	0,228	0,300	0,282
26-03-2006 17:06:00	0,222	0,302	0,228	0,294	0,282
26-03-2006 17:08:00	0,242	0,319	0,233	0,300	0,285
26-03-2006 17:10:00	0,224	0,303	0,228	0,300	0,280
26-03-2006 17:12:00	0,226	0,305	0,225	0,294	0,280
26-03-2006 17:14:00	0,249	0,306	0,223	0,300	0,280
26-03-2006 17:16:00	0,245	0,315	0,231	0,300	0,274
26-03-2006 17:18:00	0,244	0,315	0,228	0,300	0,280
26-03-2006 17:20:00	0,249	0,315	0,236	0,300	0,280
26-03-2006 17:22:00	0,216	0,303	0,228	0,294	0,277
26-03-2006 17:24:00	0,232	0,305	0,225	0,294	0,282
26-03-2006 17:26:00	0,229	0,299	0,220	0,288	0,280
26-03-2006 17:28:00	0,228	0,311	0,228	0,294	0,285
26-03-2006 17:30:00	0,212	0,302	0,228	0,288	0,280
26-03-2006 17:32:00	0,268	0,331	0,241	0,300	0,282
26-03-2006 17:34:00	0,249	0,323	0,241	0,300	0,282
26-03-2006 17:36:00	0,256	0,327	0,244	0,300	0,282
26-03-2006 17:38:00	0,254	0,341	0,244	0,300	0,285
26-03-2006 17:40:00	0,254	0,325	0,244	0,300	0,282
26-03-2006 17:42:00	0,252	0,323	0,233	0,294	0,285
26-03-2006 17:44:00	0,221	0,314	0,231	0,294	0,282
26-03-2006 17:46:00	0,234	0,314	0,231	0,300	0,282
26-03-2006 17:48:00	0,254	0,321	0,231	0,294	0,282
26-03-2006 17:50:00	0,248	0,319	0,233	0,300	0,282
26-03-2006 17:52:00	0,264	0,345	0,233	0,300	0,285
26-03-2006 17:54:00	0,256	0,334	0,244	0,300	0,282
26-03-2006 17:56:00	0,253	0,325	0,239	0,294	0,285
26-03-2006 17:58:00	0,257	0,331	0,241	0,300	0,280
26-03-2006 18:00:00	0,241	0,318	0,236	0,300	0,285
26-03-2006 18:02:00	0,264	0,337	0,244	0,300	0,282
26-03-2006 18:04:00	0,284	0,359	0,255	0,312	0,290
26-03-2006 18:06:00	0,278	0,389	0,359	0,342	0,301
26-03-2006 18:08:00	0,272	0,381	0,284	0,330	0,301
26-03-2006 18:10:00	0,284	0,382	0,292	0,324	0,304
26-03-2006 18:12:00	0,288	0,343	0,276	0,324	0,306
26-03-2006 18:14:00	0,265	0,361	0,276	0,330	0,304
26-03-2006 18:16:00	0,269	0,355	0,271	0,324	0,301
26-03-2006 18:18:00	0,276	0,347	0,265	0,324	0,301
26-03-2006 18:20:00	0,292	0,387	0,271	0,324	0,298
26-03-2006 18:22:00	0,278	0,363	0,305	0,330	0,306
26-03-2006 18:24:00	0,298	0,385	0,297	0,336	0,304
26-03-2006 18:26:00	0,292	0,395	0,316	0,342	0,309
26-03-2006 18:28:00	0,329	0,406	0,305	0,330	0,309
26-03-2006 18:30:00	0,277	0,390	0,319	0,342	0,314
26-03-2006 18:32:00	0,276	0,403	0,297	0,336	0,312
26-03-2006 18:34:00	0,273	0,363	0,292	0,330	0,312
26-03-2006 18:36:00	0,276	0,398	0,279	0,330	0,314
26-03-2006 18:38:00	0,294	0,387	0,316	0,336	0,314

26-03-2006 18:40:00	0,273	0,389	0,295	0,336	0,312
26-03-2006 18:42:00	0,285	0,387	0,281	0,336	0,306
26-03-2006 18:44:00	0,276	0,374	0,279	0,330	0,306
26-03-2006 18:46:00	0,266	0,375	0,284	0,330	0,312
26-03-2006 18:48:00	0,284	0,383	0,287	0,336	0,309
26-03-2006 18:50:00	0,284	0,383	0,281	0,330	0,312
26-03-2006 18:52:00	0,285	0,382	0,303	0,342	0,317
26-03-2006 18:54:00	0,270	0,377	0,297	0,336	0,312
26-03-2006 18:56:00	0,282	0,399	0,327	0,342	0,314
26-03-2006 18:58:00	0,310	0,371	0,297	0,336	0,317
26-03-2006 19:00:00	0,297	0,413	0,308	0,354	0,317
26-03-2006 19:02:00	0,292	0,410	0,321	0,342	0,320
26-03-2006 19:04:00	0,285	0,406	0,335	0,342	0,322
26-03-2006 19:06:00	0,300	0,401	0,332	0,354	0,322
26-03-2006 19:08:00	0,292	0,394	0,316	0,348	0,322
26-03-2006 19:10:00	0,296	0,419	0,311	0,372	0,325
26-03-2006 19:12:00	0,297	0,411	0,327	0,366	0,322
26-03-2006 19:14:00	0,278	0,394	0,327	0,342	0,322
26-03-2006 19:16:00	0,296	0,414	0,345	0,354	0,328
26-03-2006 19:18:00	0,277	0,399	0,332	0,372	0,328
26-03-2006 19:20:00	0,277	0,395	0,329	0,366	0,328
26-03-2006 19:22:00	0,297	0,442	0,321	0,372	0,328
26-03-2006 19:24:00	0,282	0,387	0,300	0,354	0,325
26-03-2006 19:26:00	0,276	0,389	0,300	0,348	0,322
26-03-2006 19:28:00	0,337	0,407	0,300	0,354	0,325
26-03-2006 19:30:00	0,286	0,406	0,319	0,366	0,330
26-03-2006 19:32:00	0,322	0,427	0,327	0,354	0,333
26-03-2006 19:34:00	0,297	0,411	0,377	0,378	0,336
26-03-2006 19:36:00	0,280	0,398	0,313	0,366	0,333
26-03-2006 19:38:00	0,285	0,415	0,340	0,372	0,336
26-03-2006 19:40:00	0,294	0,409	0,359	0,366	0,338
26-03-2006 19:42:00	0,286	0,437	0,359	0,378	0,338
26-03-2006 19:44:00	0,332	0,430	0,345	0,378	0,341
26-03-2006 19:46:00	0,297	0,422	0,367	0,396	0,341
26-03-2006 19:48:00	0,305	0,419	0,351	0,384	0,346
26-03-2006 19:50:00	0,292	0,423	0,340	0,378	0,341
26-03-2006 19:52:00	0,280	0,415	0,356	0,384	0,344
26-03-2006 19:54:00	0,346	0,425	0,340	0,378	0,344
26-03-2006 19:56:00	0,353	0,414	0,343	0,378	0,346
26-03-2006 19:58:00	0,290	0,423	0,383	0,396	0,349
26-03-2006 20:00:00	0,289	0,419	0,351	0,396	0,349
26-03-2006 20:02:00	0,308	0,466	0,361	0,396	0,349
26-03-2006 20:04:00	0,337	0,413	0,359	0,384	0,346
26-03-2006 20:06:00	0,286	0,435	0,361	0,390	0,352
26-03-2006 20:08:00	0,318	0,433	0,359	0,396	0,354
26-03-2006 20:10:00	0,322	0,414	0,356	0,396	0,354
26-03-2006 20:12:00	0,297	0,419	0,375	0,402	0,357
26-03-2006 20:14:00	0,365	0,421	0,367	0,408	0,357
26-03-2006 20:16:00	0,380	0,443	0,369	0,408	0,360
26-03-2006 20:18:00	0,302	0,450	0,364	0,414	0,362
26-03-2006 20:20:00	0,310	0,474	0,396	0,414	0,368
26-03-2006 20:22:00	0,316	0,469	0,369	0,414	0,360
26-03-2006 20:24:00	0,341	0,421	0,407	0,426	0,368

26-03-2006 20:26:00	0,309	0,431	0,417	0,438	0,370
26-03-2006 20:28:00	0,316	0,450	0,412	0,426	0,370
26-03-2006 20:30:00	0,325	0,451	0,377	0,432	0,365
26-03-2006 20:32:00	0,296	0,419	0,369	0,408	0,365
26-03-2006 20:34:00	0,302	0,427	0,396	0,426	0,373
26-03-2006 20:36:00	0,321	0,422	0,364	0,402	0,365
26-03-2006 20:38:00	0,305	0,426	0,361	0,402	0,360
26-03-2006 20:40:00	0,313	0,475	0,396	0,414	0,365
26-03-2006 20:42:00	0,298	0,415	0,364	0,402	0,365
26-03-2006 20:44:00	0,296	0,421	0,399	0,408	0,370
26-03-2006 20:46:00	0,324	0,505	0,388	0,426	0,370
26-03-2006 20:48:00	0,321	0,434	0,372	0,420	0,368
26-03-2006 20:50:00	0,353	0,525	0,375	0,432	0,376
26-03-2006 20:52:00	0,285	0,441	0,385	0,426	0,373
26-03-2006 20:54:00	0,317	0,449	0,369	0,420	0,373
26-03-2006 20:56:00	0,346	0,462	0,444	0,468	0,381
26-03-2006 20:58:00	0,382	0,467	0,375	0,444	0,378
26-03-2006 21:00:00	0,337	0,486	0,383	0,432	0,381
26-03-2006 21:02:00	0,426	0,479	0,396	0,456	0,381
26-03-2006 21:04:00	0,324	0,450	0,407	0,426	0,384
26-03-2006 21:06:00	0,441	0,550	0,385	0,462	0,384
26-03-2006 21:08:00	0,373	0,438	0,433	0,468	0,392
26-03-2006 21:10:00	0,360	0,494	0,417	0,474	0,392
26-03-2006 21:12:00	0,337	0,450	0,420	0,456	0,392
26-03-2006 21:14:00	0,368	0,473	0,409	0,480	0,394
26-03-2006 21:16:00	0,334	0,486	0,420	0,456	0,400
26-03-2006 21:18:00	0,405	0,559	0,412	0,498	0,397
26-03-2006 21:20:00	0,361	0,462	0,428	0,486	0,402
26-03-2006 21:22:00	0,389	0,447	0,436	0,468	0,400
26-03-2006 21:24:00	0,380	0,473	0,433	0,474	0,405
26-03-2006 21:26:00	0,397	0,518	0,420	0,498	0,413
26-03-2006 21:28:00	0,410	0,521	0,455	0,498	0,416
26-03-2006 21:30:00	0,376	0,453	0,425	0,492	0,418
26-03-2006 21:32:00	0,341	0,526	0,460	0,534	0,421
26-03-2006 21:34:00	0,457	0,554	0,457	0,558	0,434
26-03-2006 21:36:00	0,340	0,463	0,455	0,522	0,429
26-03-2006 21:38:00	0,433	0,485	0,436	0,516	0,424
26-03-2006 21:40:00	0,404	0,471	0,457	0,504	0,429
26-03-2006 21:42:00	0,417	0,554	0,524	0,570	0,437
26-03-2006 21:44:00	0,437	0,453	0,447	0,516	0,440
26-03-2006 21:46:00	0,420	0,469	0,484	0,564	0,456
26-03-2006 21:48:00	0,406	0,582	0,441	0,582	0,448
26-03-2006 21:50:00	0,401	0,535	0,492	0,588	0,461
26-03-2006 21:52:00	0,316	0,474	0,508	0,558	0,458
26-03-2006 21:54:00	0,404	0,515	0,460	0,546	0,448
26-03-2006 21:56:00	0,476	0,538	0,473	0,582	0,472
26-03-2006 21:58:00	0,482	0,479	0,535	0,588	0,474
26-03-2006 22:00:00	0,442	0,574	0,479	0,594	0,488
26-03-2006 22:02:00	0,410	0,461	0,468	0,552	0,472
26-03-2006 22:04:00	0,565	0,647	0,465	0,666	0,498
26-03-2006 22:06:00	0,421	0,546	0,511	0,618	0,544
26-03-2006 22:08:00	0,577	0,599	0,468	0,696	0,592
26-03-2006 22:10:00	0,398	0,523	0,532	0,648	0,608

26-03-2006 22:12:00	0,413	0,494	0,577	0,696	0,621
26-03-2006 22:14:00	0,482	0,599	0,492	0,714	0,685
26-03-2006 22:16:00	0,390	0,545	0,511	0,702	0,690
26-03-2006 22:18:00	0,450	0,570	0,553	0,708	0,704
26-03-2006 22:20:00	0,438	0,535	0,521	0,726	0,714
26-03-2006 22:22:00	0,377	0,459	0,540	0,696	0,701
26-03-2006 22:24:00	0,438	0,535	0,532	0,708	0,688
26-03-2006 22:26:00	0,446	0,533	0,516	0,690	0,658
26-03-2006 22:28:00	0,481	0,613	0,495	0,714	0,682
26-03-2006 22:30:00	0,465	0,582	0,505	0,714	0,688
26-03-2006 22:32:00	0,554	0,601	0,532	0,756	0,698
26-03-2006 22:34:00	0,530	0,654	0,535	0,732	0,712
26-03-2006 22:36:00	0,482	0,569	0,551	0,726	0,709
26-03-2006 22:38:00	0,442	0,554	0,556	0,714	0,712
26-03-2006 22:40:00	0,470	0,521	0,553	0,732	0,733
26-03-2006 22:42:00	0,501	0,626	0,545	0,762	0,728
26-03-2006 22:44:00	0,545	0,587	0,521	0,750	0,736
26-03-2006 22:46:00	0,477	0,615	0,553	0,756	0,738
26-03-2006 22:48:00	0,600	0,710	0,623	0,810	0,746
26-03-2006 22:50:00	0,612	0,670	0,511	0,780	0,744
26-03-2006 22:52:00	0,586	0,655	0,585	0,798	0,760
26-03-2006 22:54:00	0,560	0,645	0,591	0,774	0,754
26-03-2006 22:56:00	0,536	0,574	0,535	0,768	0,768
26-03-2006 22:58:00	0,521	0,631	0,601	0,756	0,765
26-03-2006 23:00:00	0,497	0,653	0,636	0,792	0,770
26-03-2006 23:02:00	0,597	0,686	0,529	0,792	0,754
26-03-2006 23:04:00	0,522	0,558	0,633	0,750	0,768
26-03-2006 23:06:00	0,620	0,689	0,583	0,780	0,760
26-03-2006 23:08:00	0,630	0,707	0,588	0,774	0,768
26-03-2006 23:10:00	0,576	0,642	0,673	0,762	0,792
26-03-2006 23:12:00	0,541	0,647	0,692	0,786	0,792
26-03-2006 23:14:00	0,533	0,666	0,628	0,804	0,776
26-03-2006 23:16:00	0,548	0,686	0,601	0,804	0,778
26-03-2006 23:18:00	0,653	0,749	0,607	0,810	0,781
26-03-2006 23:20:00	0,626	0,711	0,631	0,828	0,786
26-03-2006 23:22:00	0,609	0,706	0,585	0,792	0,781
26-03-2006 23:24:00	0,636	0,717	0,615	0,828	0,786
26-03-2006 23:26:00	0,570	0,713	0,628	0,798	0,786
26-03-2006 23:28:00	0,549	0,603	0,641	0,768	0,781
26-03-2006 23:30:00	0,574	0,735	0,681	0,810	0,792
26-03-2006 23:32:00	0,588	0,785	0,711	0,798	0,800
26-03-2006 23:34:00	0,634	0,741	0,583	0,768	0,781
26-03-2006 23:36:00	0,677	0,741	0,601	0,816	0,778
26-03-2006 23:38:00	0,572	0,675	0,641	0,792	0,794
26-03-2006 23:40:00	0,585	0,694	0,641	0,822	0,794
26-03-2006 23:42:00	0,686	0,746	0,673	0,768	0,797
26-03-2006 23:44:00	0,552	0,803	0,689	0,810	0,810
26-03-2006 23:46:00	0,617	0,654	0,676	0,840	0,805
26-03-2006 23:48:00	0,549	0,631	0,628	0,810	0,797
26-03-2006 23:50:00	0,573	0,629	0,644	0,786	0,805
26-03-2006 23:52:00	0,622	0,682	0,588	0,846	0,781
26-03-2006 23:54:00	0,690	0,837	0,700	0,810	0,800
26-03-2006 23:56:00	0,557	0,665	0,689	0,816	0,810

26-03-2006 23:58:00	0,592	0,674	0,631	0,792	0,805
27-03-2006 00:00:00	0,642	0,722	0,636	0,810	0,810
27-03-2006 00:02:00	0,660	0,759	0,668	0,846	0,797
27-03-2006 00:04:00	0,601	0,694	0,721	0,828	0,826
27-03-2006 00:06:00	0,656	0,723	0,700	0,804	0,816
27-03-2006 00:08:00	0,589	0,625	0,729	0,774	0,826
27-03-2006 00:10:00	0,713	0,790	0,700	0,828	0,821
27-03-2006 00:12:00	0,669	0,754	0,668	0,780	0,797
27-03-2006 00:14:00	0,660	0,806	0,647	0,822	0,805
27-03-2006 00:16:00	0,686	0,742	0,708	0,822	0,802
27-03-2006 00:18:00	0,590	0,703	0,633	0,828	0,800
27-03-2006 00:20:00	0,534	0,687	0,644	0,774	0,805
27-03-2006 00:22:00	0,622	0,703	0,732	0,780	0,813
27-03-2006 00:24:00	0,638	0,723	0,660	0,822	0,802
27-03-2006 00:26:00	0,686	0,683	0,705	0,846	0,818
27-03-2006 00:28:00	0,574	0,685	0,719	0,726	0,834
27-03-2006 00:30:00	0,746	0,818	0,705	0,834	0,818
27-03-2006 00:32:00	0,770	0,762	0,745	0,852	0,840
27-03-2006 00:34:00	0,708	0,817	0,671	0,780	0,821
27-03-2006 00:36:00	0,632	0,671	0,644	0,870	0,797
27-03-2006 00:38:00	0,718	0,729	0,641	0,804	0,805
27-03-2006 00:40:00	0,680	0,733	0,687	0,852	0,810
27-03-2006 00:42:00	0,646	0,659	0,628	0,816	0,802
27-03-2006 00:44:00	0,609	0,710	0,636	0,834	0,800
27-03-2006 00:46:00	0,652	0,729	0,692	0,792	0,805
27-03-2006 00:48:00	0,574	0,665	0,663	0,726	0,802
27-03-2006 00:50:00	0,726	0,721	0,617	0,816	0,792
27-03-2006 00:52:00	0,604	0,722	0,623	0,798	0,794
27-03-2006 00:54:00	0,637	0,791	0,655	0,702	0,800
27-03-2006 00:56:00	0,733	0,695	0,617	0,774	0,784
27-03-2006 00:58:00	0,670	0,711	0,631	0,708	0,794
27-03-2006 01:00:00	0,685	0,742	0,583	0,708	0,781
27-03-2006 01:02:00	0,622	0,781	0,631	0,756	0,784
27-03-2006 01:04:00	0,585	0,707	0,636	0,786	0,800
27-03-2006 01:06:00	0,562	0,699	0,569	0,810	0,768
27-03-2006 01:08:00	0,560	0,651	0,660	0,768	0,794
27-03-2006 01:10:00	0,590	0,655	0,703	0,732	0,810
27-03-2006 01:12:00	0,640	0,742	0,607	0,750	0,789
27-03-2006 01:14:00	0,612	0,771	0,660	0,828	0,794
27-03-2006 01:16:00	0,518	0,695	0,561	0,744	0,773
27-03-2006 01:18:00	0,624	0,677	0,591	0,690	0,765
27-03-2006 01:20:00	0,616	0,666	0,652	0,786	0,770
27-03-2006 01:22:00	0,653	0,603	0,508	0,780	0,754
27-03-2006 01:24:00	0,564	0,641	0,639	0,732	0,768
27-03-2006 01:26:00	0,673	0,687	0,543	0,708	0,757
27-03-2006 01:28:00	0,518	0,731	0,535	0,726	0,760
27-03-2006 01:30:00	0,569	0,658	0,535	0,732	0,757
27-03-2006 01:32:00	0,600	0,750	0,631	0,732	0,765
27-03-2006 01:34:00	0,569	0,682	0,668	0,810	0,781
27-03-2006 01:36:00	0,514	0,606	0,767	0,720	0,821
27-03-2006 01:38:00	0,565	0,649	0,580	0,792	0,784
27-03-2006 01:40:00	0,524	0,603	0,596	0,774	0,765
27-03-2006 01:42:00	0,538	0,601	0,601	0,690	0,762

27-03-2006 01:44:00	0,501	0,559	0,572	0,696	0,754
27-03-2006 01:46:00	0,541	0,671	0,537	0,684	0,749
27-03-2006 01:48:00	0,425	0,509	0,524	0,678	0,744
27-03-2006 01:50:00	0,538	0,683	0,540	0,714	0,746
27-03-2006 01:52:00	0,490	0,607	0,543	0,684	0,741
27-03-2006 01:54:00	0,534	0,641	0,564	0,756	0,749
27-03-2006 01:56:00	0,484	0,615	0,545	0,654	0,752
27-03-2006 01:58:00	0,461	0,571	0,569	0,648	0,760
27-03-2006 02:00:00	0,586	0,755	0,636	0,702	0,773
27-03-2006 02:02:00	0,581	0,619	0,489	0,690	0,752
27-03-2006 02:04:00	0,534	0,578	0,545	0,672	0,752
27-03-2006 02:06:00	0,421	0,575	0,508	0,684	0,728
27-03-2006 02:08:00	0,445	0,554	0,516	0,654	0,677
27-03-2006 02:10:00	0,440	0,513	0,460	0,642	0,704
27-03-2006 02:12:00	0,502	0,587	0,433	0,696	0,640
27-03-2006 02:14:00	0,426	0,509	0,457	0,594	0,637
27-03-2006 02:16:00	0,390	0,483	0,455	0,624	0,714
27-03-2006 02:18:00	0,380	0,470	0,487	0,588	0,642
27-03-2006 02:20:00	0,465	0,498	0,460	0,606	0,637
27-03-2006 02:22:00	0,481	0,591	0,407	0,666	0,677
27-03-2006 02:24:00	0,453	0,466	0,436	0,612	0,621
27-03-2006 02:26:00	0,384	0,483	0,449	0,582	0,610
27-03-2006 02:28:00	0,409	0,526	0,447	0,588	0,594
27-03-2006 02:30:00	0,373	0,465	0,417	0,600	0,589
27-03-2006 02:32:00	0,381	0,487	0,396	0,558	0,581
27-03-2006 02:34:00	0,345	0,457	0,423	0,582	0,578
27-03-2006 02:36:00	0,341	0,485	0,412	0,570	0,576
27-03-2006 02:38:00	0,336	0,417	0,401	0,570	0,576
27-03-2006 02:40:00	0,340	0,391	0,383	0,552	0,576
27-03-2006 02:42:00	0,401	0,430	0,404	0,582	0,565
27-03-2006 02:44:00	0,392	0,467	0,396	0,546	0,568
27-03-2006 02:46:00	0,288	0,390	0,423	0,540	0,557
27-03-2006 02:48:00	0,297	0,393	0,377	0,540	0,552
27-03-2006 02:50:00	0,342	0,458	0,404	0,564	0,552
27-03-2006 02:52:00	0,341	0,427	0,375	0,576	0,541
27-03-2006 02:54:00	0,258	0,405	0,377	0,540	0,533
27-03-2006 02:56:00	0,318	0,391	0,385	0,528	0,536
27-03-2006 02:58:00	0,273	0,419	0,385	0,534	0,536
27-03-2006 03:00:00	0,262	0,379	0,431	0,534	0,536
27-03-2006 03:02:00	0,213	0,355	0,383	0,528	0,530
27-03-2006 03:04:00	0,361	0,410	0,375	0,534	0,528
27-03-2006 03:06:00	0,230	0,378	0,393	0,516	0,520
27-03-2006 03:08:00	0,236	0,349	0,383	0,510	0,514
27-03-2006 03:10:00	0,232	0,354	0,367	0,504	0,509
27-03-2006 03:12:00	0,230	0,381	0,361	0,498	0,501
27-03-2006 03:14:00	0,249	0,371	0,356	0,480	0,498
27-03-2006 03:16:00	0,233	0,363	0,388	0,504	0,498
27-03-2006 03:18:00	0,252	0,373	0,364	0,486	0,496
27-03-2006 03:20:00	0,248	0,394	0,353	0,480	0,488