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Deelrapport 2.14 : 13-uursmeting Sediview op 11/03/2008 tijdens springtij - Deurganckdok (transect DGD)

Report 2.14 : Through Tide Measurement Sediview on 11/03/2008 during spring tide - Deurganckdok (transect DGD)

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1. INTRODUCTION

1.1. The assignment

This report is part of the set of reports describing the results of the long-term measurements This report is part of the set of reports describing the results of the long-term measurements conducted in Deurganckdok aiming at the monitoring and analysis of silt accretion. This measurement campaign is an extension of the study "Extension of the study about density currents in the Beneden Zeeschelde" as part of the Long Term Vision for the Scheldt estuary. It is complementary to the study 'Field measurements high-concentration benthic suspensions (HCBS 2)'.

The terms of reference for this study were prepared by the 'Departement Mobiliteit en Openbare Werken van de Vlaamse Overheid, Afdeling Waterbouwkundig Laboratorium' (16EB/05/04). The repetition of this study was awarded to International Marine and Dredging Consultants NV in association with WL|Delft Hydraulics and Gems International on 10/01/2006. The project term was prolonged with an extra year from April 2007 till March 2008.

Waterbouwkundig Laboratorium– Cel Hydrometrie Schelde provided data on discharge, tide, salinity and turbidity along the river Scheldt and provided survey vessels for the long term and through tide measurements. Afdeling Maritieme Toegang provided maintenance dredging data. Agentschap voor Maritieme Dienstverlening en Kust – Afdeling Kust and Port of Antwerp provided depth sounding measurements.

The execution of the study involves a twofold assignment:

- Part 1: Setting up a sediment balance of Deurganckdok covering a period of one year, i.e. 04/2007 – 03/2008
- Part 2: An analysis of the parameters contributing to siltation in Deurganckdok

1.2. Purpose of the study

The Lower Sea Scheldt (Beneden Zeeschelde) is the stretch of the Scheldt estuary between the Belgium-Dutch border and Rupelmonde, where the entrance channels to the Antwerp sea locks are located. The navigation channel has a sandy bed, whereas the shallower areas (intertidal areas, mud flats, salt marshes) consist of sandy clay or even pure mud sometimes. This part of the Scheldt is characterized by large horizontal salinity gradients and the presence of a turbidity maximum with depth-averaged concentrations ranging from 50 to 500 mg/l at grain sizes of 60 - 100 μm. The salinity gradients generate significant density currents between the river and the entrance channels to the locks, causing large siltation rates. It is to be expected that in the near future also the Deurganckdok will suffer from such large siltation rates, which may double the amount of dredging material to be dumped in the Lower Sea Scheldt.

Results from the study may be interpreted by comparison with results from the HCBS and HCBS2 studies covering the whole Lower Sea Scheldt. These studies included through-tide measurement campaigns in the vicinity of Deurganckdok and long term measurements of turbidity and salinity in and near Deurganckdok.

The first part of the study focuses on obtaining a sediment balance of Deurganckdok. Aside from natural sedimentation, the sediment balance is influenced by the maintenance and capital dredging works. This involves sediment influx from capital dredging works in the Deurganckdok, and internal relocation and removal of sediment by maintenance dredging works. To compute a sediment balance an inventory of bathymetric data (depth soundings), density measurements of the

deposited material and detailed information of capital and maintenance dredging works will be made up.

The second part of the study is to gain insight in the mechanisms causing siltation in Deurganckdok, it is important to follow the evolution of the parameters involved, and this on a long and short term basis (long term & through-tide measurements). Previous research has shown the importance of water exchange at the entrance of Deurganckdok is essential for understanding sediment transport between the dock and the river Scheldt.

1.3. Overview of the study

1.3.1. Reports

Reports of the project 'Opvolging aanslibbing Deurganckdok' between April 2007 till March 2008 are summarized in Table 1-1. An overview of the HCBS2 and 'Opvolging aanslibbing Deurganckdok' (between April 2006 till March 2007) reports are given in APPENDIX K.

This report 2.14, is one of a set of reports that gains insight in sediment and water transport between Deurganckdok and the river Scheldt, which belongs to the second part of this project.

Table 1-1: Overview of Deurganckdok Reports

Report	Description
Sediment Balance: Bathymetry surveys, Density measurements, Maintenance and construction dredging activities	
1.10	Sediment Balance: Three monthly report 1/4/2007 - 30/06/2007 (I/RA/11283/07.081/MSA)
1.11	Sediment Balance: Three monthly report 1/7/2007 – 30/09/2007 (I/RA/11283/07.082/MSA)
1.12	Sediment Balance: Three monthly report 1/10/2007 – 31/12/2007 (I/RA/11283/07.083/MSA)
1.13	Sediment Balance: Three monthly report 1/1/2007 – 31/03/2007 (I/RA/11283/07.084/MSA)
1.14	Annual Sediment Balance (I/RA/11283/07.085/MSA)
Factors contributing to salt and sediment distribution in Deurganckdok: Salt-Silt (OBS3A) & Frame measurements, Through tide measurements (SiltProfiling & ADCP) & Calibrations	
2.09	Calibration stationary equipment autumn (I/RA/11283/07.095/MSA)
2.10	Through tide measurement Siltprofiler 23 October 2007 (I/RA/11283/07.086/MSA)
2.11	Through tide measurement Salinity Profiling winter (I/RA/11283/07.087/MSA)
2.12	Through tide measurement Sediview winter 11 March 2008 Transect I (I/RA/11283/07.088/MSA)
2.13	Through tide measurement Sediview winter 11 March 2008 Transect K (I/RA/11283/07.089/MSA)
2.14	Through tide measurement Sediview winter 11 March 2008 Transect DGD (I/RA/11283/07.090/MSA)
2.15	Through tide measurement Siltprofiler 12 March 2008 (I/RA/11283/07.091/MSA)
2.16	Salt-Silt distribution Deurganckdok summer (21/6/2007 – 30/07/2007) (I/RA/11283/07.092/MSA)
2.17	Salt-Silt distribution & Frame Measurements Deurganckdok autumn (17/09/2007 - 10/12/2007) (I/RA/11283/07.093/MSA)

Report	Description
2.18	Salt-Silt distribution & Frame Measurements Deurganckdok winter (18/02/2008 - 31/3/2008) (I/RA/11283/07.094/MSA)
2.19	Calibration stationary & mobile equipment winter (I/RA/11283/07.096/MSA)
Boundary Conditions: Upriver Discharge, Salt concentration Scheldt, Bathymetric evolution in access channels, dredging activities in Lower Sea Scheldt and access channels	
3.10	Boundary conditions: Three monthly report 1/4/2007 – 30/06/2007 (I/RA/11283/07.097/MSA)
3.11	Boundary conditions: Three monthly report 1/7/2007 – 30/09/2007 (I/RA/11283/07.098/MSA)
3.12	Boundary conditions: Three monthly report 1/10/2007 – 31/12/2007 (I/RA/11283/07.099/MSA)
3.13	Boundary conditions: Three monthly report 1/1/2008 – 31/03/2008 (I/RA/11283/07.100/MSA)
3.14	Boundary conditions: Annual report (I/RA/11283/07.101/MSA)
Analysis	
4.10	Analysis of Siltation Processes and Factors (I/RA/11283/07.102/MSA)

1.3.2. Measurement actions

Following measurements have been carried out during the course of this project:

1. Monitoring upstream discharge in the Scheldt river
2. Monitoring Salt and sediment concentration in the Lower Sea Scheldt taken from on permanent data acquisition sites at Lillo, Oosterweel and up- and downstream of the Deurganckdok.
3. Long term measurement of salt distribution in Deurganckdok.
4. Long term measurement of sediment concentration in Deurganckdok
5. Monitoring near-bed processes in the central trench in the dock, near the entrance as well as near the landward end: near-bed turbidity, near-bed current velocity and bed elevation variations are measured from a fixed frame placed on the dock's bed.
6. Measurement of current, salt and sediment transport at the entrance of Deurganckdok for which ADCP backscatter intensity over a full cross section are calibrated with the Sediview procedure and vertical sediment and salt profiles are recorded with the SiltProfiler equipment
7. Through tide measurements of vertical sediment concentration profiles -including near bed highly concentrated suspensions- with the SiltProfiler equipment. Executed over a grid of points near the entrance of Deurganckdok.
8. Monitoring dredging activities at entrance channels towards the Kallo, Zandvliet and Berendrecht locks
9. Monitoring dredging and dumping activities in the Lower Sea Scheldt

In situ calibrations were conducted on several dates to calibrate all turbidity and conductivity sensors, a description can be found in IMDC (2006a; 2007a; 2008f; 2008o).

1.4. Structure of the report

This report is the factual data report of the through tide measurements at the entrance of Deurganckdok on the 11th of March 2008. The first chapter comprises an introduction. The second chapter describes the measurement campaign and the equipment. Chapter 3 describes the course of the actual measurements. The results and processed data are presented in Chapter 4, whereas chapter 5 gives a preliminary analysis of the data.

2. THE MEASUREMENT CAMPAIGN

2.1. Overview of the parameters

The first part of the study aims at determining a sediment balance of Deurganckdok and the net influx of sediment. The sediment balance comprises a number of sediment transport modes: deposition, influx from capital dredging works, internal replacement and removal of sediments due to maintenance dredging (Figure 2-1).

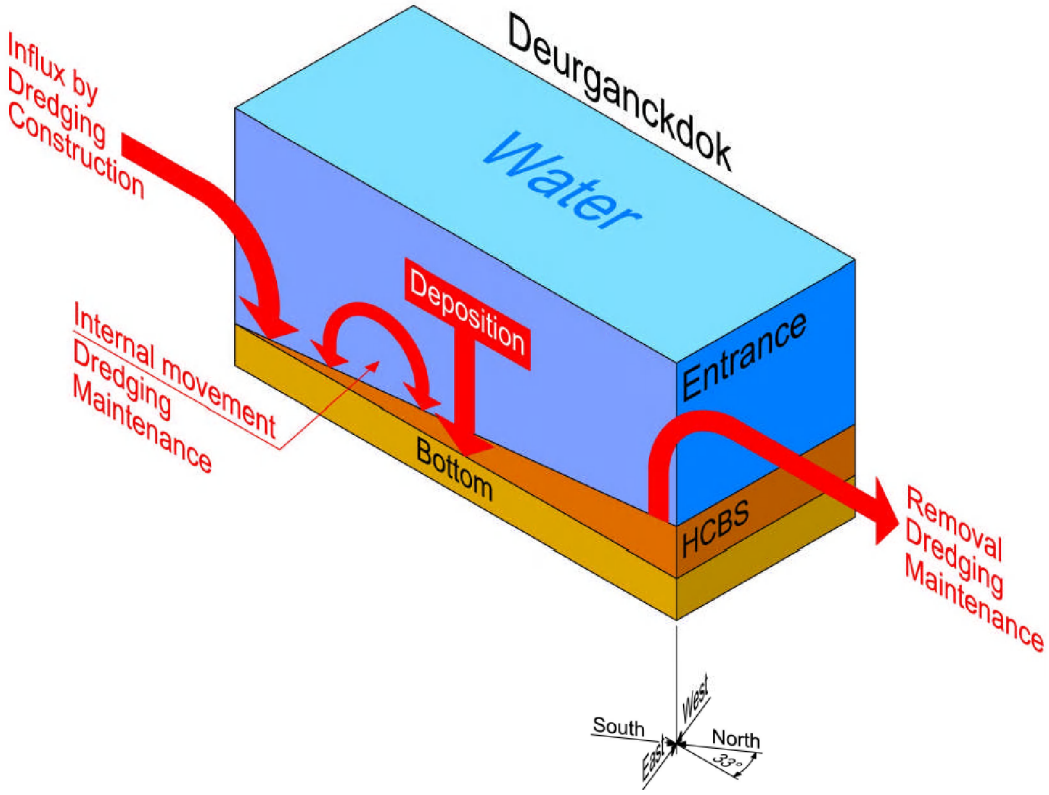


Figure 2-1: Elements of the sediment balance

A net deposition can be calculated from a comparison with a chosen initial condition t_0 (Figure 2-2). The mass of deposited sediment is determined from the integration of bed density profiles recorded at grid points covering the dock. Subtracting bed sediment mass at t_0 leads to the change in mass of sediments present in the dock (mass growth). Adding cumulated dry matter mass of dredged material removed since t_0 and subtracting any sediment influx due to capital dredging works leads to the total cumulated mass entered from the Scheldt river since t_0.

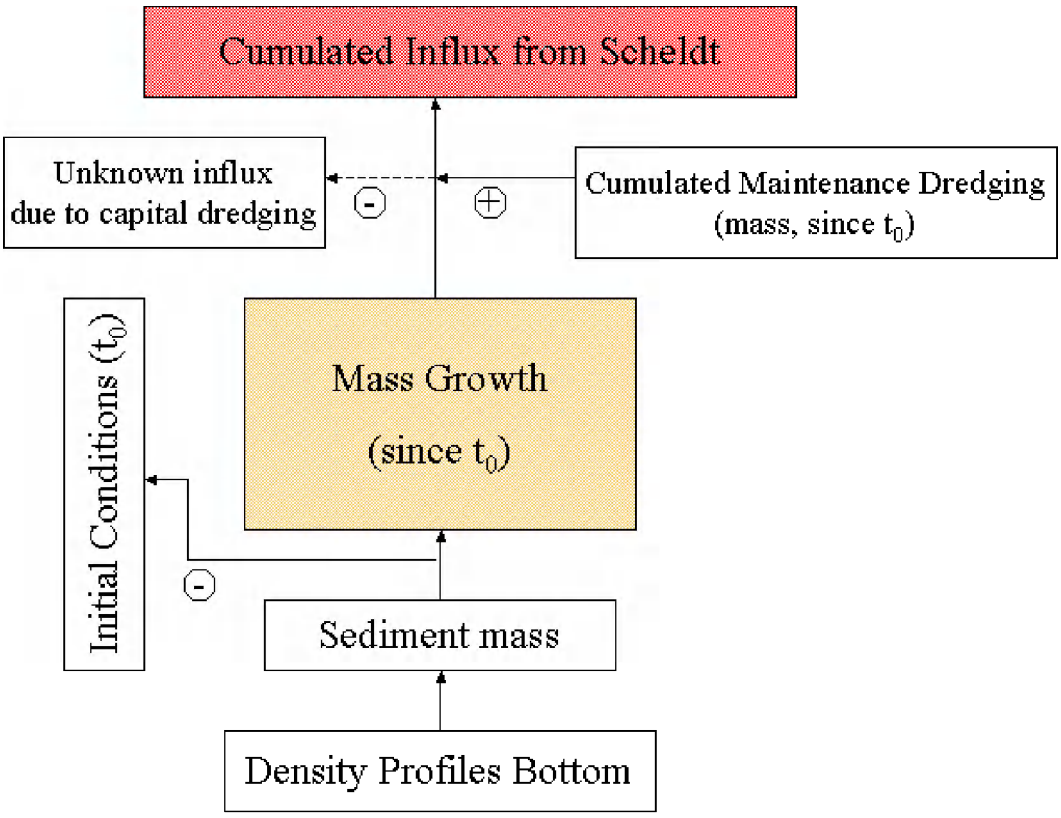


Figure 2-2: Determining a sediment balance

The main purpose of the second part of the study is to gain insight in the mechanisms causing siltation in Deurganckdok. The following mechanisms will be aimed at in this part of the study:

- Tidal prism, i.e. the extra volume in a water body due to high tide
- Vortex patterns due to passing tidal current
- Density currents due to salt gradient between the Scheldt river and the dock
- Density currents due to highly concentrated benthic suspensions

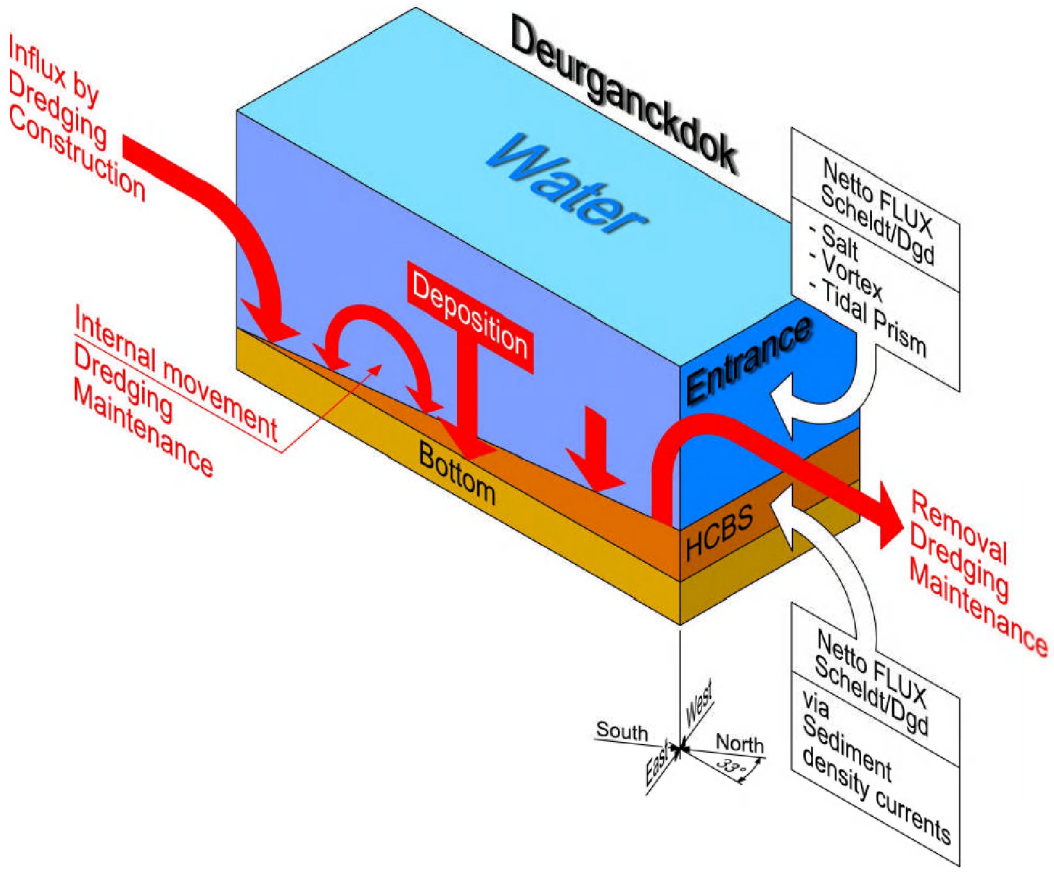


Figure 2-3: Transport mechanisms

These aspects of hydrodynamics and sediment transport have been landmark in determining the parameters to be measured during the project. Measurements will be focussed on three types of timescales: one tidal cycle, one neap-spring cycle and seasonal variation within one year.

Following data are being collected to understand these mechanisms:

- Monitoring the freshwater input (discharge) from the tributaries into the river Scheldt.
- Monitoring salinity and sediment concentration in the Lower Sea Scheldt at permanent measurement locations at Oosterweel, up- and downstream of the Deurganckdok.
- Long term measurement of salinity and suspended sediment distribution in Deurganckdok.
- Monitoring near-bed processes (current velocity, turbidity, and bed elevation variations) in the central trench in the dock, near the entrance as well as near the current deflecting wall location.
- Dynamic measurements of flow pattern, salinity and sediment transport at the entrance of Deurganckdok.
- Through tide measurements of vertical sediment concentration profiles -including near bed high concentrated benthic suspensions.
- Monitoring dredging activities at the entrance channels towards the Kallo, Zandvliet and Berendrecht locks as well as dredging and dumping activities in the Lower Sea Scheldt and Deurganckdok in particular.

In situ calibrations were conducted on several dates to calibrate all turbidity and conductivity sensors.

2.2. Description of the measurement campaign

2.2.1. Purpose of the measurement campaign

The purpose of the measurements was to determine the cross-section distribution of the suspended sediment concentration, sediment flux, flow velocity and water discharge over a sailed transect DGD during a complete tidal cycle. The final purpose is to make a water and a sediment balance from the river Scheldt at Deurganckdok during a tidal cycle by integrating the water discharge and sediment flux.

To get up a water and sediment balance at Deurganckdok, 3 transects were sailed during the same tidal cycle on the 11th of March at the river Scheldt (Figure 2-4): at the entrance of Deurganckdok (transect DGD), upstream of Deurganckdok (transect I) and downstream of Deurganckdok (transect K). This report focuses on the through tide measurements at the entrance of Deurganckdok (transect DGD) and the two others measurement campaigns are described in IMDC reports 2008i and 2008j.

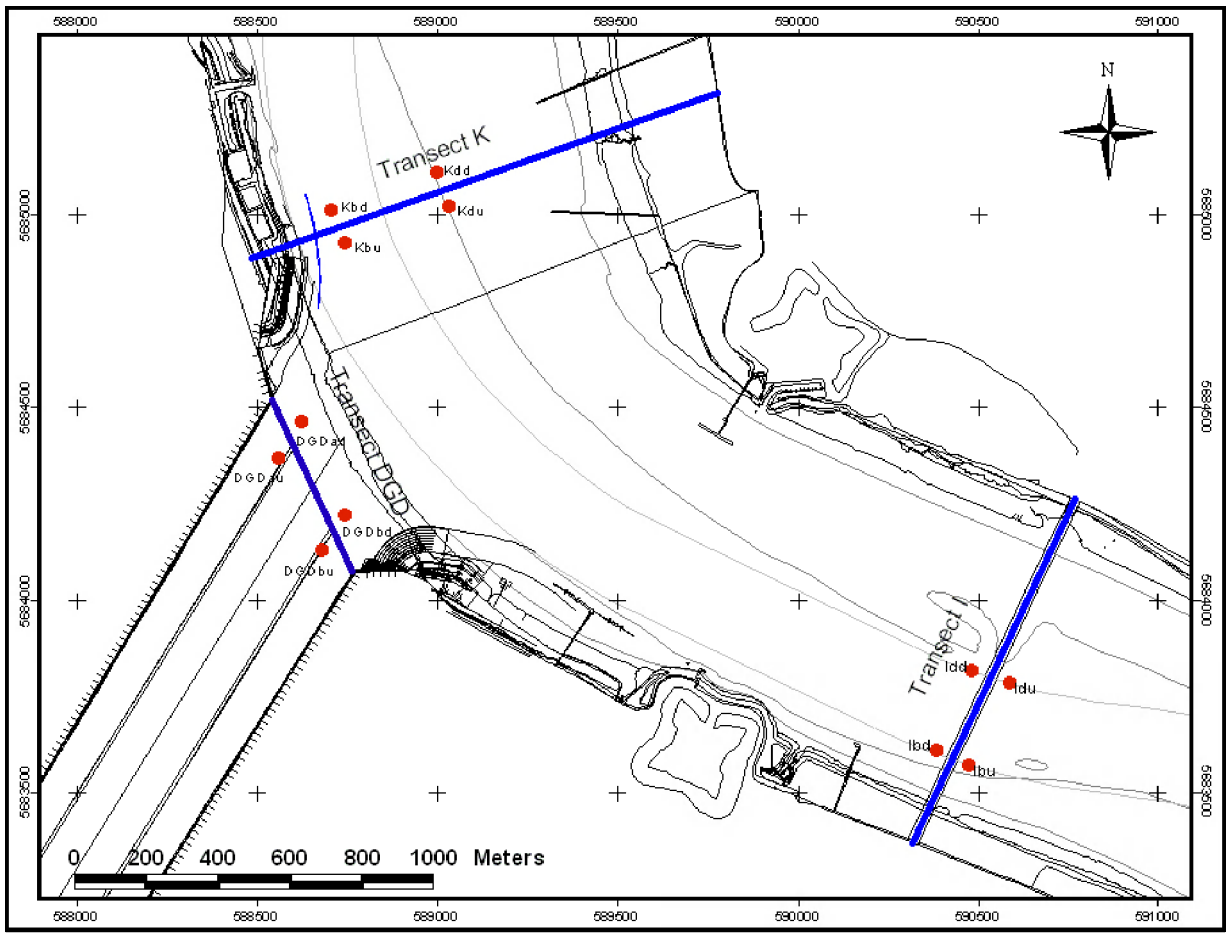


Figure 2-4: Map of sailed transect and calibration points at Deurganckdok on 11th of March 2008

2.2.2. Measurement procedure

Flow velocity, Turbidity, Salinity and Temperature measurements were conducted on the 11th of March from 7h00 MET until 20h00 MET. From the survey vessel Parel II a measurement cycle was completed every 30 minutes. The vessel with a mounted ADCP sailed a fixed transect from the right bank to the left bank and vice versa as a backup transect (Table 2-1). Profiles were gathered to calibrate the ADCP transects for temperature, salinity and suspended sediment concentration to be used in Sediview.

Two calibration profiles were collected for each transect (Table 2-2):

- One before sailing the transect at the bank where the start of the transect was
- One after sailing the transect at the bank where the transect ended

During these calibrations, a fish with a CTD-OBS was lowered to the bottom. The downcast was interrupted at three depths, one in the upper half of the water column (between 4 and 7 m from the water surface), one at 4 meters above the bottom and the last one at the water bottom. At the two first depths samples were taken for calibration, and are used as 'ground truth' for all suspended sediment concentration measurements (OBS and Sediview). The turbidity measurement at the third depth is used to estimate the SS concentration at the bottom (see 4.2.4.1.2). The other instruments logged continuously during the downcast. Conductivity, Temperature and Depth was logged by the CTD-probe, while turbidity was recorded by the OBS.

Table 2-1:Transect of the Flow Measurements on 11th of March 2008 (UTM31 ED50)

Measurement location	Left Bank Easting	Left Bank Northing	Right Bank Easting	Right Bank Northing	Avg Length [m]	Avg Course [degr.]
Transect I	590 318	5 683 302	590 771	5 684 557	1057	25
Transect DGD	588 541	5 684 527	588 765	5 684 056	521	335
Transect K	588 484	5 684 924	589 775	5 685 384	1371	70

Table 2-2: Positions of the calibration points for 11th of March 2008 during flood and ebb.

Measurement point	Bank	Easting (UTM31 ED50)	Northing (UTM31 ED50)
Flood			
Ibu	Left	590476	5683514
Idu	Right	590589	5683744
DGDau	Left	588561	5684369
DGDbu	Right	588682	5684113
Kbu	Left	588746	5684965
Kdu	Right	589033	5685066
Ebb			
Ibd	Left	590384	5683557
Idd	Right	590485	5683778
DGDad	Left	588623	5684470
DGDbd	Right	588745	5684214
Kbd	Left	588706	5685055
Kdd	Right	588999	5685160

2.3. The equipment

2.3.1. ADCP

The current measurements were conducted using an RD Instruments ADCP 600 kHz Workhorse. For positioning the GPS onboard the vessel Scheldewacht II was used. For the measurement of the heading a gyrocompass was installed.

This 600 KHz ADCP system was mounted on a steel pole underneath the central axis of the vessel. The transducer set was looking vertically downwards to the bottom. Transceiver unit and computer system were connected to peripherals such as the differential GPS-receiver, the heave compensator and the gyrocompass.

During the measurements the ADCP constantly measured upstream from the vessel. The acquisition software of Winriver was used. The main settings are given in Table 2-3.

Table 2-3: Main Configuration Settings of ADCP

Main configuration settings of ADCP 600kHz Worhhorse:
Cell depth: 0.5 m
Number of cells: 50
Number of Water pings per ensemble: 2
Number of Bottom Track pings per ensemble: 2
Time between ensembles: 0
Averaging: None
Speed of Sound: Fixed 1500 m/s
Salinity 0 psu
3-beam solution: enabled

2.3.2. OBS - CTD

A D&A type OBS 3A was used to measure depth, conductivity, temperature and turbidity.

Measured parameters by the OBS 3A sensor: temperature (°C), conductivity (µS/cm), absolute pressure (m), turbidity (NTU).

On Parel II, the OBS 3A device was mounted on a tow fish. The resulting record is filled-up with GPS-time, sample number, and planimetric position of the GPS-receiver. Sampling frequency is 1 reading per second.

The technical details on the OBS 3A are given in the winter calibration Report of the HCBS 1 measurement campaign. (IMDC, 2006a)

2.3.3. Pump Sampler

A water sampler was attached nearby the turbidity sensor taking water samples. Samples were collected in 1 litre sampling bottles. The pumping speed of the water sampler was tested at the start of the measurement campaign on board. Dye was used to time the duration between the intake of the dye and exit at the sampling end of the sampler on board. The duration between intake and exit at the end was 30 seconds.

3. COURSE OF THE MEASUREMENTS

3.1. Measurement periods

At Deurganckdok ADCP tracks were sailed about every 15 minutes for 13 hours, in total 51 cross-sections.

Calibration profiles were taken at 2 locations (left bank, right bank). During every cycle, 1 calibration profile was taken serving as the second calibration of the previous transect and as the first calibration point of the current transect, resulting in a total of 52 profiles. APPENDIX A gives the start and end points of the tracks, the sailed length and the course.

3.2. Hydro-meteorological conditions during the measurement campaign

3.2.1. Vertical tide during the measurements

The vertical tide was measured at the Liefkenshoek tidal gauges. Graphs of the tide at Liefkenshoek on the 11th March of 2008 can be found in APPENDIX B. Table 3-1 gives the most important characteristics (high and low tide) of the tide at those gauges on the 11th of March 2008.

Table 3-1: High and low tide at Liefkenshoek on 11/03/2008

Liefkenshoek Tidal Gauge		
11 March 2008		
	Time [MET]	***Water level [m TAW]***
HW (1)	5:00	6.22
LW (2)	12:30	0.08
HW (3)	17:50	5.93

In Table 3-2 the tidal characteristics of the tide on the 11th of March 2008 are compared to the average tide over the decade 1991-2000 (AMT, 2003).

Table 3-2: Comparison of the tidal characteristics of 11/03/2008 with the average tide, the average neap tide and the average spring tide over the decade 1991-2000 for Liefkenshoek.

	Neap tide (1991 - 2000)	***Avg Tide (1991 - 2000)***	***Spring Tide (1991 - 2000)***	***Tide 11/03/2008***
Water level [m TAW]				
HW (1)	4.63	5.19	5.63	6.22
LW (2)	0.39	0.05	-0.18	0.08
HW (3)	-	-	-	5.93
Tidal difference [m]				
Falling (1 to 2)	4.24	5.14	5.81	6.14
Rising (2 to 3)	4.24	5.14	5.81	5.85
Duration [hh:mm]				
Falling (1 to 2)	6:40	6:50	7:02	7:30
Rising (2 to 3)	5:59	5:34	5:16	5:20
Tide (1 to 3)	12:39	12:24	12:18	12:50
Tidal coefficient				
Falling (1 to 2)	0.82	1.00	1.13	1.19
Rising (2 to 3)	0.82	1.00	1.13	1.14

The tidal coefficients from 1.14 up to 1.19 for the measured tide of the 11th of March 2008 indicate that this tide has a larger tidal range than the average tide for the decade of 1991-2000, and can be classified as spring tide.

3.2.2. Meteorological data

Meteorological data at Deurne was obtained from the Weather Underground website (Wunderground, 2008).

The weather on the 11th of March 2008 was stormy and the wind blew from the west at an average velocity of 22 km/h with maximal gust velocity of 67 km/h. The air temperature varied between 5 and 12°C. The sky was cloudy with precipitation.

3.3. Navigation information

An overview of the navigation at the measurement location is given in APPENDIX C.

3.4. Remarks on data

Shipwakes were removed from the data where possible. Transect 3095 was excluded for processing because too many boats interfered.

4. PROCESSING OF DATASETS

4.1. Calibration of the OBS turbidity sensor

A crucial aspect of the accuracy and reliability of the data concerns the calibration of the OBS turbidity sensor. The calibration of the OBS sensor is necessary to convert turbidity into Suspended Sediment Concentration (SSC). We use here an in situ calibration, which is more representative of the actual measurement conditions at that moment. At some depths water samples were taken by the pump sampler and were analysed by a laboratory for SSC. These SSC were used as 'ground truth' to calibrate the OBS turbidity sensor. The calibration curve can be found in APPENDIX D.

4.2. Methodology of processing of the ADCP data with Sediview

DRL Software's Sediview was used to process the ADCP data. Sediview is designed to derive estimates of suspended sediment concentration throughout the water column using acoustic backscatter data obtained by ADCPs manufactured by RD Instruments of San Diego, California.

4.2.1. Acoustic backscatter theory

The acoustic theory governing backscatter from particles suspended in the water column is complex, but the following simplified formula serves to introduce the main factors that are relevant:

$$E = SL + SV + Constant - 20\log(R) - 2\alpha_w R$$

Where:

- E = echo intensity,
- SL = transmitted power,
- SV = backscatter intensity due to the particles suspended in the water column,
- α_w = a coefficient describing the absorption of energy by the water,
- R = the distance from the transducer to the measurement bin.

The term 20log(R) is a simple geometric function which accounts for the spherical spreading of the beam. The constant is required because each ADCP has specific performance characteristics.

In order to measure the suspended sediment concentration in the water column it is necessary to relate the backscattered sound intensity to the mass concentration in the water. For the purposes of measuring solids concentration on site, it can be shown that the relationship is as follows (derived from Thorne and Campbell, 1992 and Hay, 1991 in DRL (2003)):

$$Log_{10}M_r = \{dB + 2r(\alpha_w + \alpha_s) - K_s\}S^{-1}$$

Where:

- $M(r)$ = mass concentration per unit volume at range, r
- S = relative backscatter coefficient
- K_s = site and instrument constant
- dB = the measured relative backscatter intensity (corrected for beam spreading)
- α_w = water attenuation coefficient
- α_s = sediment attenuation coefficient, which is a function of the effective particle size

In this expression there are four unknowns: *S*, *Ks*, α_w and α_s. These parameters are to be determined within Sediview (APPENDIX F).

4.2.2. Water sampling and transect sailing

To calibrate Sediview for suspended sediment concentration, two water samples are taken at the beginning and at the end of each transect (see 3.1). Both samples are taken within the range of reliable data of the ADCP. For the near-surface sample this means in bin 3 or 4, for the near-bed sample this means at about one or two meter above the sidelobe.

Water sampling is done together with CTD-OBS measurement in order to have two independent suspended sediment concentration measurements for each sample. OBS measurements were compared to the water samples and recalibrated as mentioned in § 4.1. The water samples were used for Sediview calibration, while cross-calibrated OBS measurements were used as a back up check. The salinity and temperature was used to compute the acoustic water absorption (water attenuation coefficient). All water samples were analysed as is described in 4.2.3.1.

4.2.3. Calibration for suspended sediment concentration within Sediview

4.2.3.1. Calibration workset

The calibration workset consists of ADCP-files, sampling times, sampling depths, SSC obtained from water samples and SSC, temperature and salinity obtained from CTD-OBS readings.

The suspended sediment concentration of the water samples was determined. One-litre samples were filtered over a preweighed desiccated 0.45 micron filter, after which the filter is dried in an oven at 105°C, cooled and weighted (NEN 6484).

4.2.3.2. SSC calibration per ensemble pair

In the Sediview calibration process the following parameters must be defined: the site and instrument constant (Ks), the relative backscatter coefficient (S) and the effective particle size per ensemble-pair (near-surface sample and near-bed sample) in order to fit the Sediview-estimate with the suspended sediment concentration of the water samples. These parameter sets may not differ too much from the previous parameter sets, as the environmental conditions will not change that much over a small time interval. To obtain a smooth progress in time of Ks, S and effective particle size an iterative approach is used.

4.2.4. Sediview configuration

4.2.4.1. Discharge and suspended sediment concentration estimates

The ADCP measures most of the water column from just in front of the ADCP to 6% above the bottom. The shallow layer of water near the bottom is not used to compute discharge and suspended sediment concentration due to side-lobe interference. When the ADCP sends out an acoustic pulse, a small amount of energy is transmitted in side lobes rather than in the direction of the ADCP beam. Side lobe reflection from the bottom can interfere with the water echoes and can give erroneous data. The thickness of the side lobe layer is 6% of the distance from the transducers to the bottom.

Near the banks the water depth is too shallow for the ADCP to profile.

For each of those unmeasured regions, Sediview will make an estimate of the discharges and suspended sediment concentration. The measured and unmeasured regions in the cross section are shown in Figure 4-1 and Figure 4-2.

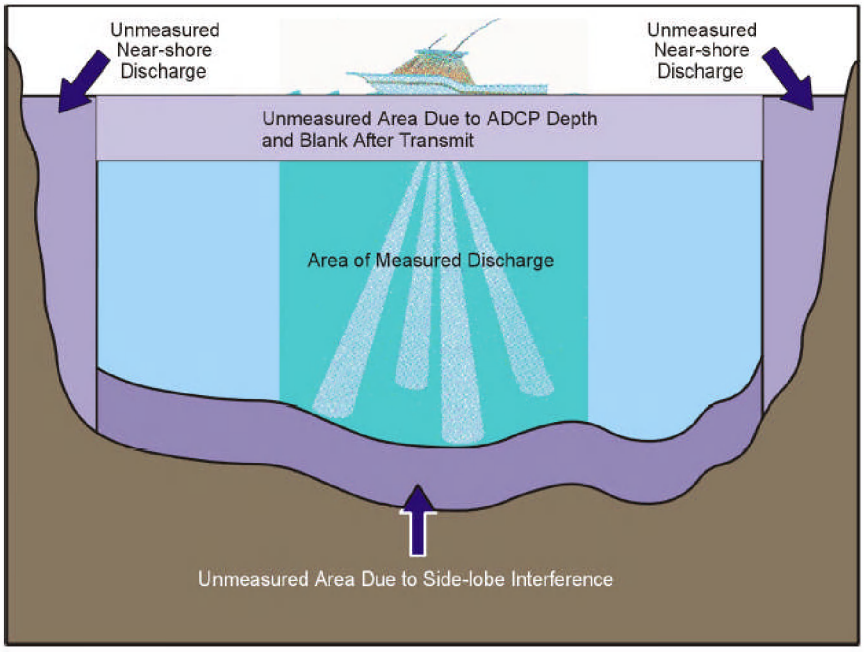


Figure 4-1: Unmeasured regions in the cross section (from RD Instruments, 2003)

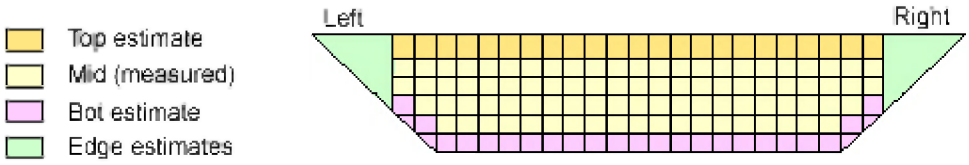


Figure 4-2: Measured and estimated discharges and sediment fluxes within Sediview (DRL, 2005)

4.2.4.1.1 Top/bottom estimates

The sediment concentration and discharge at the top of the water column is assumed to be the same as the concentration and discharge in the first measured bin.

The sediment concentration between the bottom and the lowest valid bin is assumed to be an increase of the lowest valid bin. The SSC increase between the lowest valid bin (position of the sidelobe) and the bottom is calculated from the CTD-OBS profile, which was lowered in the unmeasured sidelobe layer. The CTD-OBS profiles show that the bottom value of the SSC at the calibration points transect I vary during a tidal cycle between approximately 99 and 194% of the SSC-value at the position of the sidelobe. As the concentration grows approximately linear from the lowest valid bin to the bottom, and as Sediview uses a constant concentration factor for these deepest bins, we use a concentration factor that varies between 100 and 147% (Figure 4-3). An overview of the used power concentration factor is given in APPENDIX F.

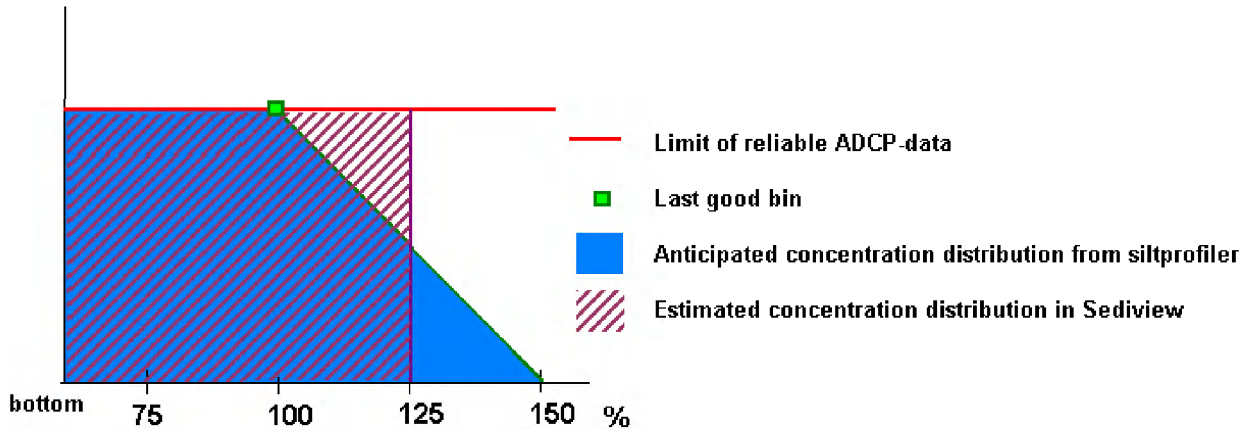


Figure 4-3: Principal of bottom estimate of the sediment concentration in Sediview

Table 4-1: Extrapolation methods for top and bottom variables

Variable	***Top***	***Bottom***
Discharge Method	Constant	Power
Concentration factor	100%	100-147%

The discharge for the bottom water layer is estimated by using the power method. Chen (1991) discusses the theory of power laws for flow resistance. Simpson and Oltmann (1990) discuss Chen's power law equivalent of Manning's formula for open channels (with b=1/6) (RD Instruments, 2003).

$$u / u^* = 9.5(z / z_0)^b$$

Where:

- z = Distance to the channel bed [m]
- u = Velocity at distance z from bed [m/s]
- u* = Shear velocity [m/s]
- z_0 = Bottom roughness height [m]
- b = Exponent (1/6)

4.2.4.1.2 Edge estimates

The shape of the edges of the cross section is assumed to be near triangular due to the banks of the river Scheldt. Five data ensembles are to be averaged to determine the left and right bank mean velocities used for calculation of edge estimates.

The distance from start- and endpoint to the bank is calculated from the theoretical start- and endpoint at the bank to the effective start- and endpoint. The theoretical points are taken at the banks.

Table 4-2: Reference points at the end of the mud flats on left and right bank

Coordinates (UTM31 ED50)	***Easting Left bank***	***Northing Left bank***	***Easting Right bank***	***Northing Right bank***
Transect DGD	588 541	5 684 527	588 765	5 684 056

The formula for determining the near shore discharge is:

$$Q_{shore} = CV_m Ld_m \text{ [m}^3\text{/s]}$$

Where:

C = Coefficient (0.35 for triangular, 0.91 for rectangular shape)

V_m = Mean water velocity in the first or the last segment [m/s]

L = Distance from the shore to the first or the last segment specified by the user [m]

d_m = Depth of the first or the last segment [m]

The coefficient (C) has been set to 0.91 (triangular shape of the banks).

4.2.4.2. Contour plots of the transects

All contour plots show perpendicular and parallel projected values on the straightened sailed transects. The heading of the straightened sailed transect is defined by picking 2 points in the straight part of the line after having corrected the heading of the ADCP compass. The compass offset is derived from a comparison of the ADCPs bottom track with the external GPS data.

4.2.5. Output

General transect information containing start-stop coordinates of each sailed transects with stop time, track length and heading is given in APPENDIX A.

In APPENDIX G, four contourplots were generated for each transect showing the distribution of suspended sediment concentration & sediment flux as well as the flow velocity perpendicular and parallel to the transect. The following conventions were used:

- Distances on the X-axis were referenced to the starting point of the transect, the start of the sailed transect is always at distance equal to zero.
- Left bank is always shown left, right bank on the right side. For transect DGD, left bank was taken to be the western quay wall and the right bank to be the eastern quay wall considering the dock as being a tributuary to the Scheldt river.
- Perpendicular flow velocities and fluxes are positive for downstream flow (ebb, out of Deurganckdok), negative for upstream flow (flood, inbound).
- Parallel flow velocities are positive for flow going from the left bank to the right bank, and negative for flow going from the right bank to the left bank.
- Absolute Depth is given in meters above TAW.

Also a depth-averaged velocity plot was generated for the flow velocity perpendicular to the transect. (see APPENDIX G).

Tables in APPENDIX H give the values for discharges and sediment fluxes for the total cross-section and the average measured SSC is shown in APPENDIX I.

- Mid = measured part of the cross-section

- Top = top part of the cross-section
- Bottom = bottom part underneath the sidelobe
- Edge (left, right) = edge estimates to left & right bank
- Total = Mid+Top+Bottom+ Edge values

The graph in APPENDIX J gives the temporal variation of the total flux, total discharge and total measured SSC for the whole through tide measurement at Deurganckdok.

5. PRELIMINARY ANALYSIS OF THE DATA

5.1. March 11th 2008 survey

As Deurganckdok is situated along the part of the Scheldt river under tidal influence, it is subject to complex current fields near its entrance. The measured current field shows a vortex pattern depending on the tidal phase. During ebbing tide the vortex at the entrance of the dock is a counter-clockwise one and during rising tide it is a clockwise one. This is shown in the contour plots by inflow (negative) on the western side (left) and outflow on the eastern side of the entrance during ebbing tide and vice versa for flooding tide. (APPENDIX G).

During slack water we see a current field with opposing current directions in the upper part of the water column compared to the lower part of the water column. For high water we see inflow (negative) near the bottom and outflow (positive) near the surface. This particular pattern is probably an example of the expected salt density currents occurring near the entrance of Deurganckdok. The same event is seen at low water when the dock contains waters of higher salinity than the river; here we see an outflow near the bottom and inflow near the surface.

From the backscatter interpretation into suspended sediment concentration we see in general a higher concentration during slack water and during rising tide compared to during ebb tide.

Considering the sediment fluxes APPENDIX J shows that incoming transport is dominating during flood while a residual outgoing sediment transport can be observed from HW until the end of the measurement.

It appears from the recorded data that the highest water velocities occur near the navigation channel at about 1 hour before HW in which velocities exceed 1 m/s. The total calculated discharge ranges between 19 and 931 m³/s.

The depth-averaged suspended sediment concentrations range from 41 mg/l up to 166 mg/l. The highest SS concentrations occur about 1h00 after HW.

The maximum calculated flux during ebb occurs 1h10 after HW and is about 107 kg/s. During flood, the highest flux is about -110 kg/s, 4h40 before HW.

5.2. Intercomparison with earlier surveys on November 17th 2005, March 22nd 2006, September 27th 2006 and October 24th 2007

On November 17th 2005 (HCBS1), March 22nd 2006 (HCBS2 winter), September 27th 2006 (HCBS2 summer) and October 24th 2007 (DGD1) the same transect has been sailed during through tide measurements, a description is given by IMDC (2005), IMDC (2006c), IMDC (2006d) and (2008a). Conditions near the entrance of Deurganckdok have been simulated in Delft3D and processed by IMDC (2006g) in order to compare simulation with observed data.

In order to make a comparison possible all results were referred to HW. The previous HCBS-campaigns (HCBS1 & HCBS2-winter) show a comparable tidal amplitude (tidal coefficients about 0.75) corresponding to neap tide. The HCBS2-summer campaign (27/09/2006) and DGD1 campaign (24/10/2007) on the other hand, have a comparable tidal coefficient of about 1.02 and is more corresponding to an average tide. The current campaign has a tidal coefficient of 1.14-1.19, which is higher than the average spring tide (Table 3-2).

It is important to underline that lower fresh water discharges from the tributaries were recorded during the measurement campaigns (Figure 5-1, Figure 5-2, Figure 5-3 and Figure 5-4): on 17/11/2005 and 22/03/2006 the discharges prior to the measurements were about 90 m³/s; on 27/09/2006 about 30 m³/s, on 24/10/2007 about 45 m³/s and on 11/03/2008 about 285 m³/s.

The results presented in Figure 5-6 are based on a long-term simulation over a period of 30 year (1971-2000) with the SIGMA-model for MKBA (IMDC, 2006g). The mean discharge is the annual average ten days' discharge, calculated with simulated long-term measurements. The high and low discharges are also annual ten days' discharges, and are calculated as mean discharge +2σ and mean discharge -2σ.

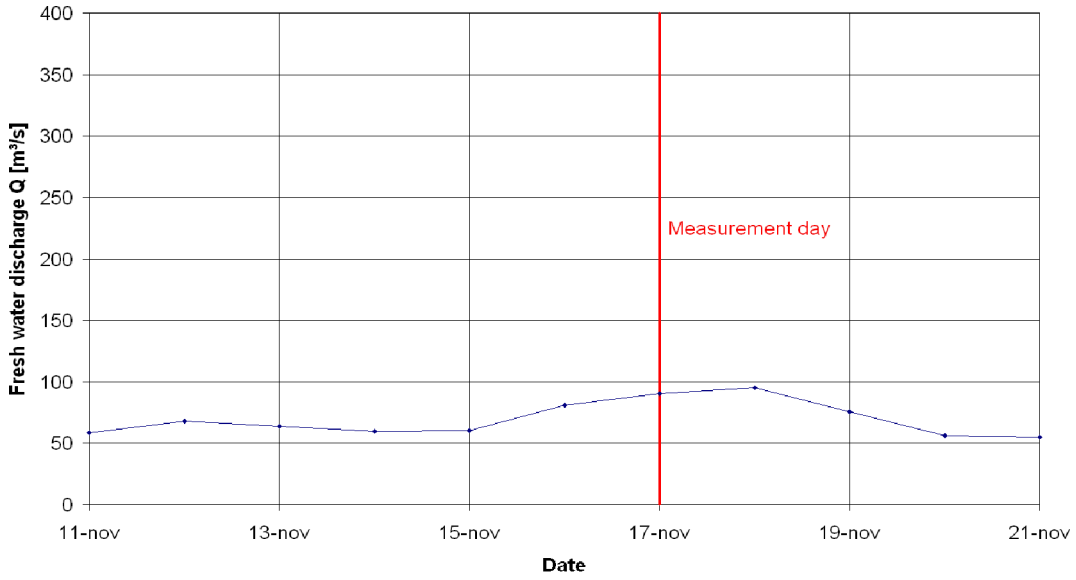


Figure 5-1: Fresh water discharge 11 – 21 November of 2005.

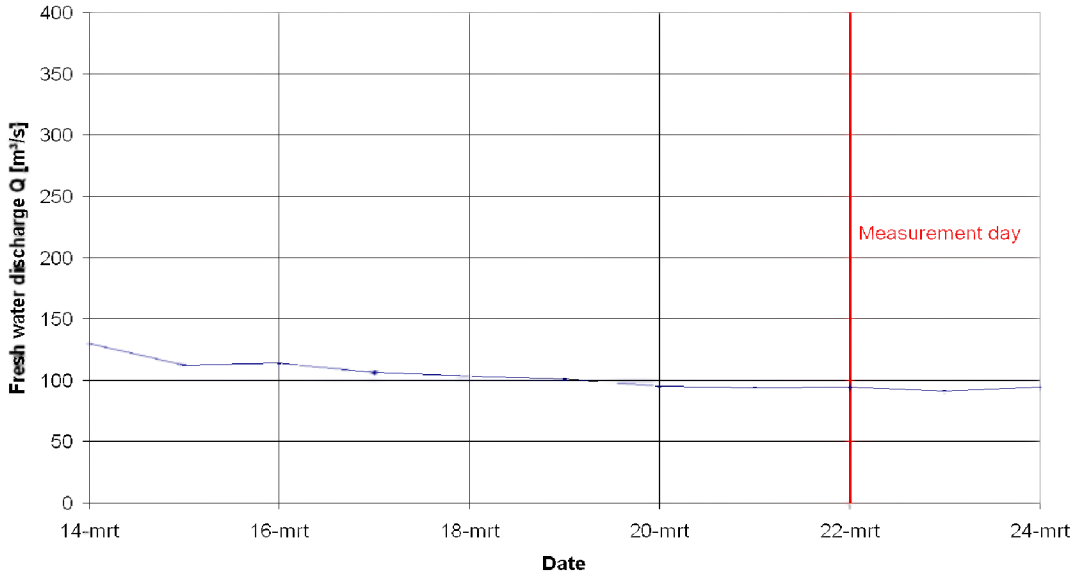


Figure 5-2: Fresh water discharge 14 – 24 March of 2006

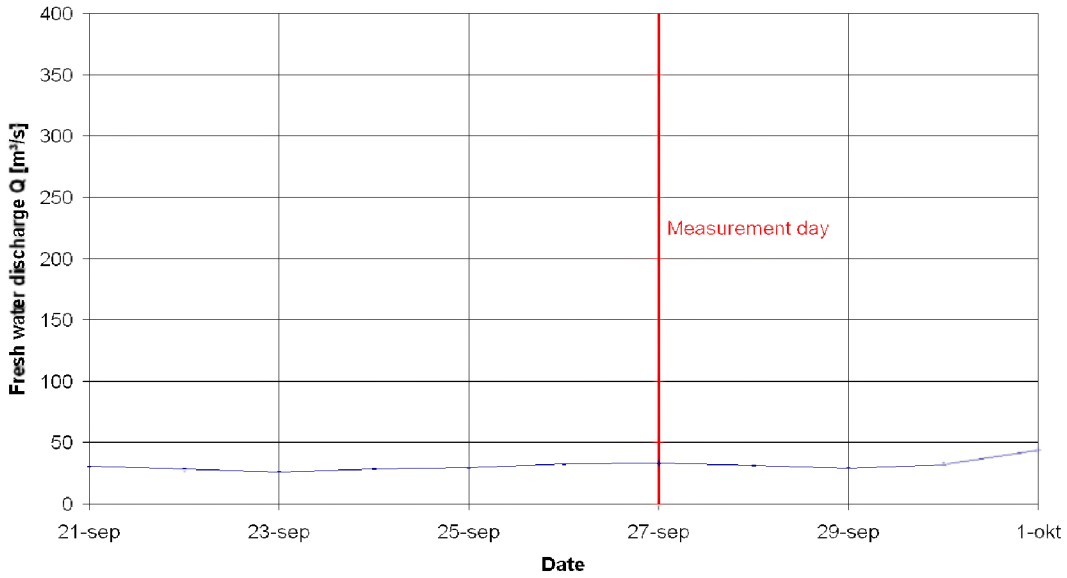


Figure 5-3: Fresh water discharge 21 September – 1 October of 2006

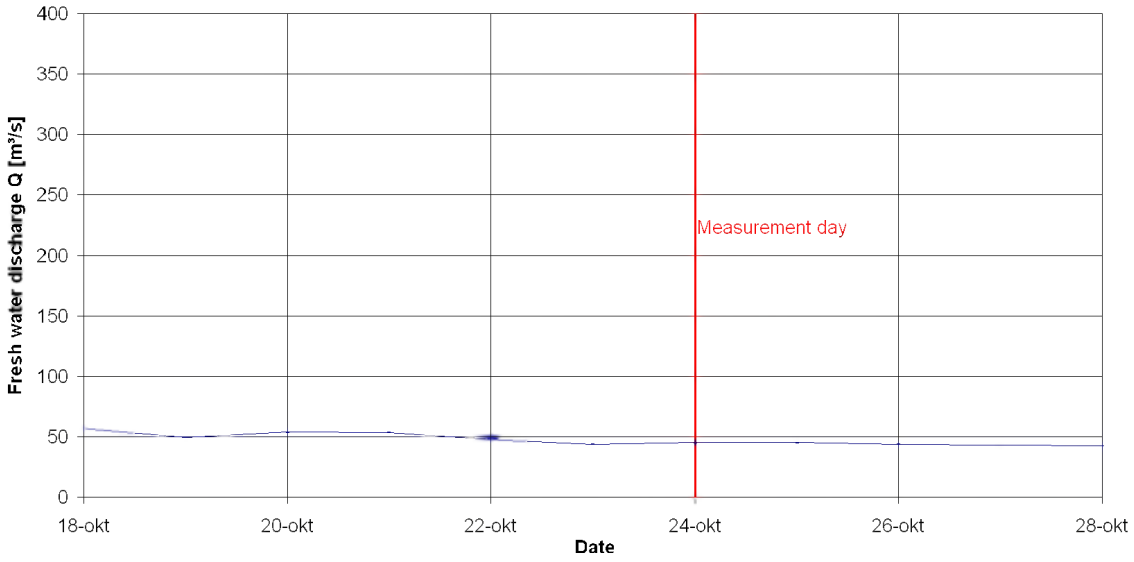


Figure 5-4: Fresh water discharge 18 October – 28 October of 2007

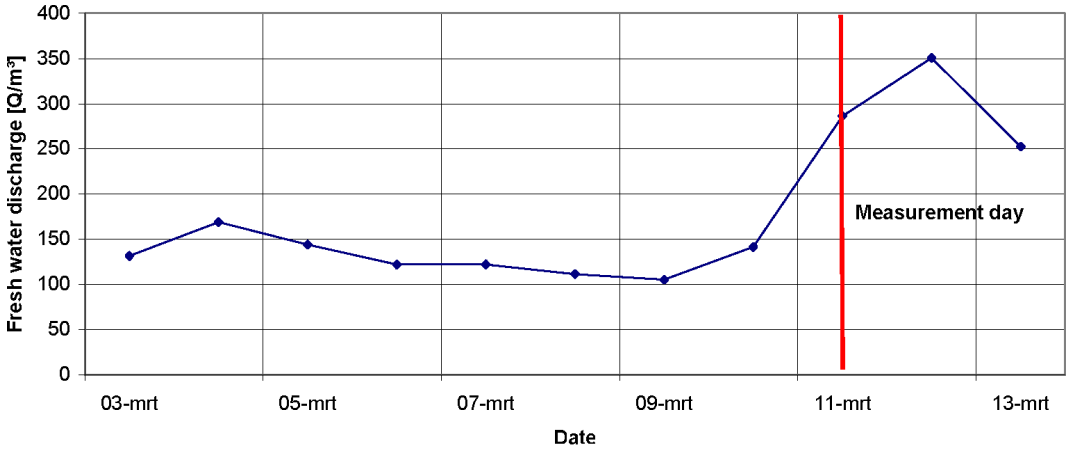


Figure 5-5: Fresh water discharge 3 March - 13 March of 2008

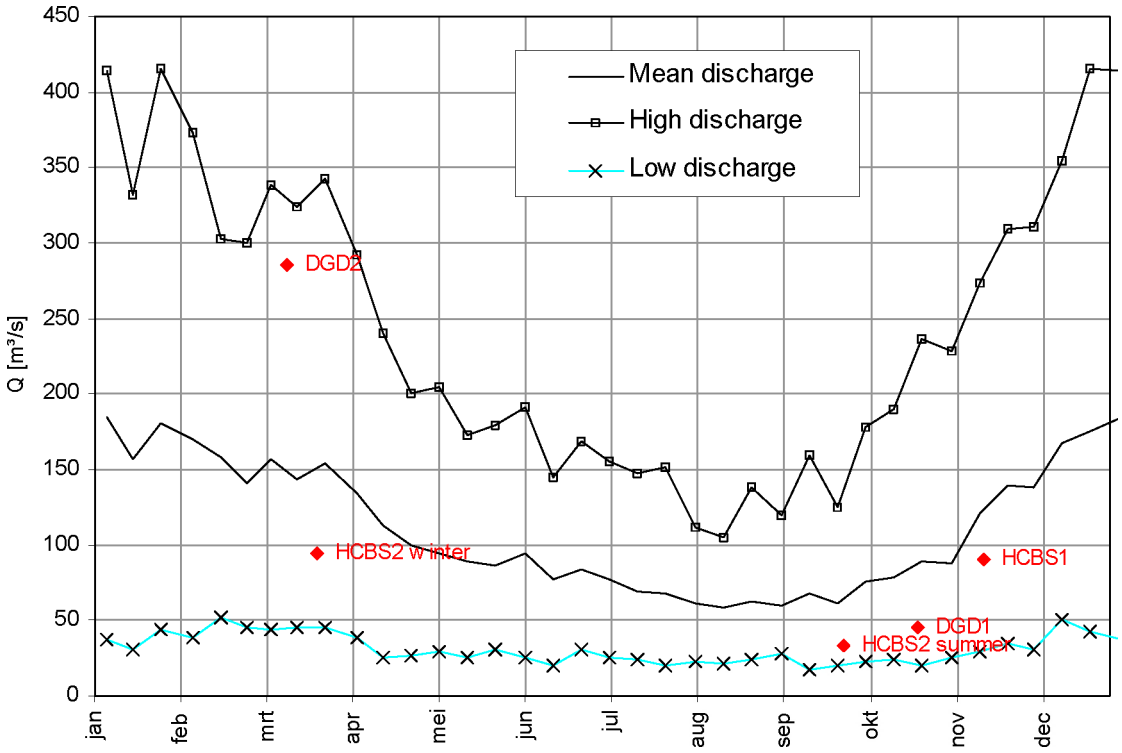
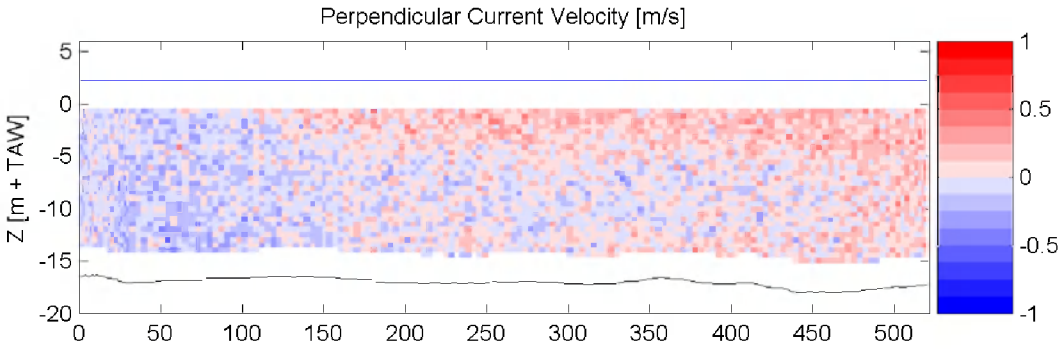


Figure 5-6: Mean fresh water discharge

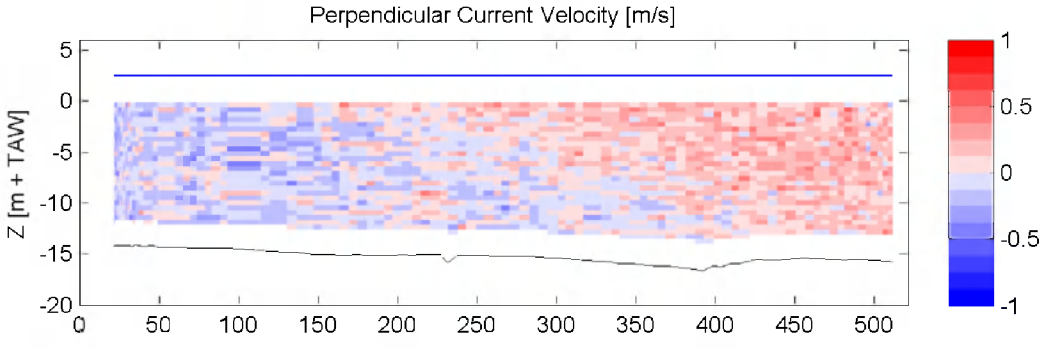
The same circulation pattern as described above is found to have occurred at those days. In Figure 5-7 and Figure 5-8 the five measurements have been compared for about 3h after high water. Sediment distribution as well as current pattern in the cross section are almost identical for the former campaigns whereas the current flow shows higher sediment distribution The western side of the dock is situated at the left of these figures, the eastern side at the right.

In Figure 5-9 and Figure 5-10 the circulation pattern and sediment concentration have been compared for the same days but at about 1h after high water. Again the current pattern is almost identical on both days with a salt wedge intruding near the bottom of the dock and compensatory outflow of fresher water near the surface.

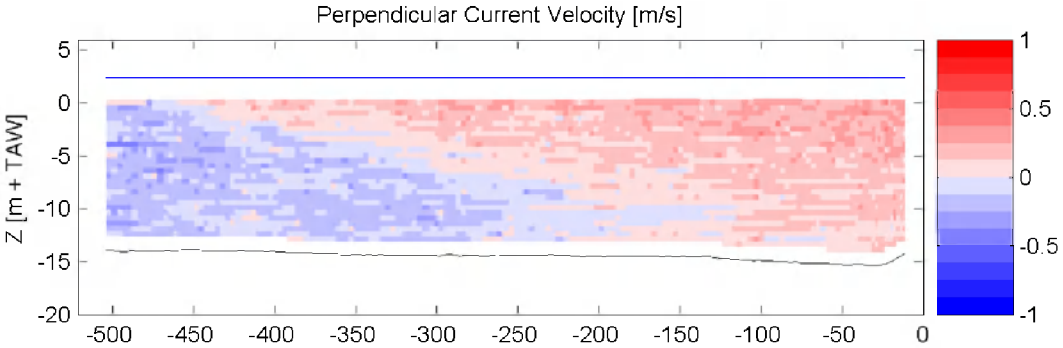
a)


Perpendicular Current Velocity [m/s]
Z [m + TAW]
5
0
-5
-10
-15
-20
0
50
100
150
200
250
300
350
400
450
500
1
0.5
0
-0.5
-1

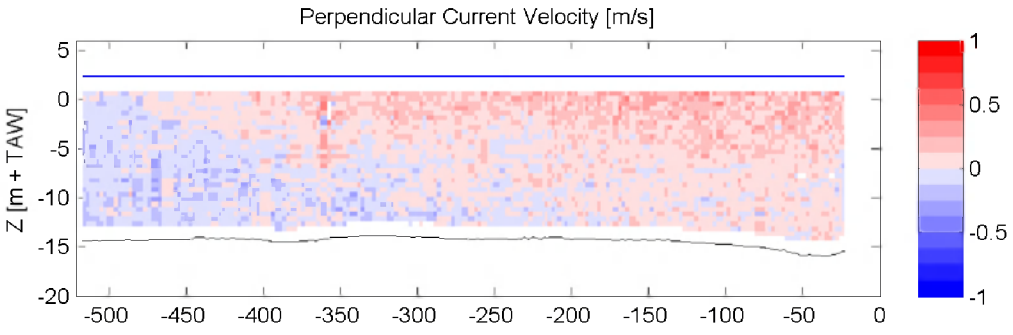
b)

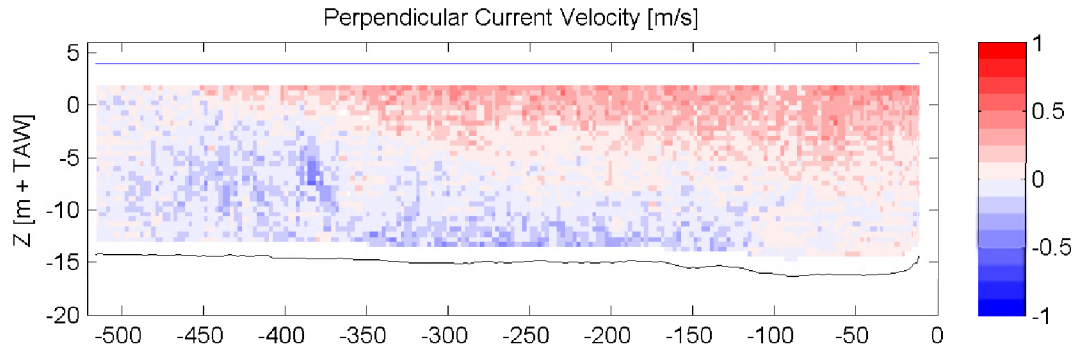

Perpendicular Current Velocity [m/s]
Z [m + TAW]
5
0
-5
-10
-15
-20
0
50
100
150
200
250
300
350
400
450
500
1
0.5
0
-0.5
-1

c)


Perpendicular Current Velocity [m/s]
Z [m + TAW]
5
0
-5
-10
-15
-20
-500
-450
-400
-350
-300
-250
-200
-150
-100
-50
0
1
0.5
0
-0.5
-1

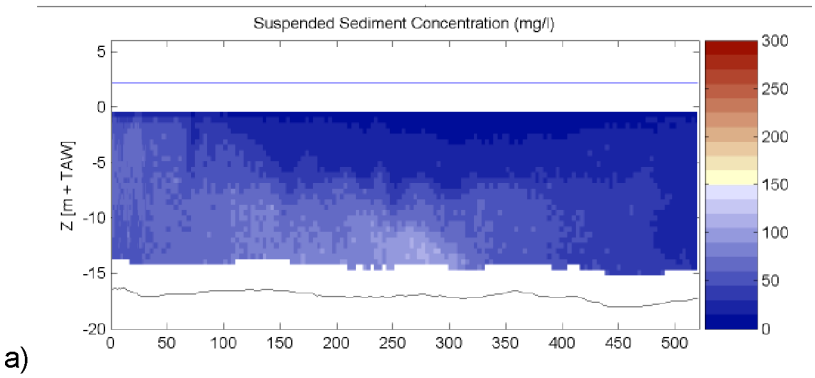
d)


Perpendicular Current Velocity [m/s]
Z [m + TAW]
5
0
-5
-10
-15
-20
-500
-450
-400
-350
-300
-250
-200
-150
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0
-0.5
-1

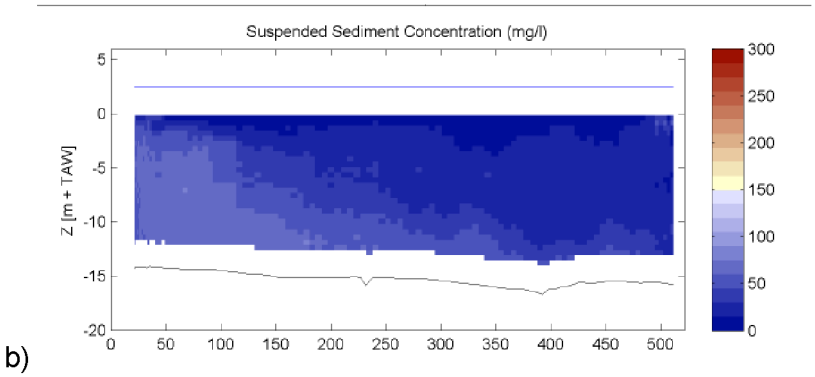


e)

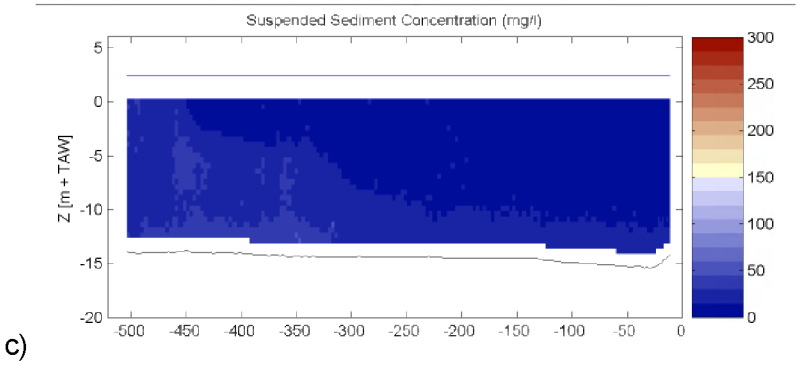
Figure 5-7: a) Perpendicular current velocity on 17/11/2005, b) on 22/03/2006, c) on 27/09/2006, d) on 24/10/2007 and e) on 11/03/2008 at 3h after high water



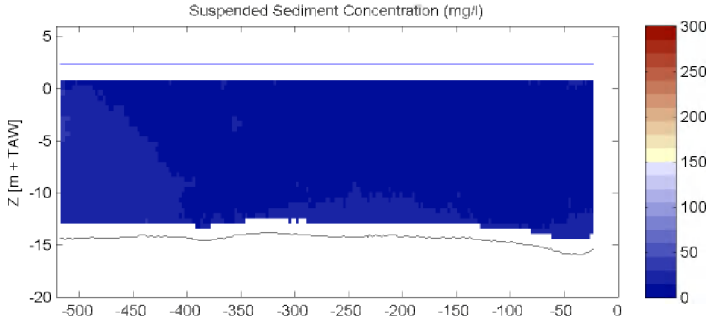
a)



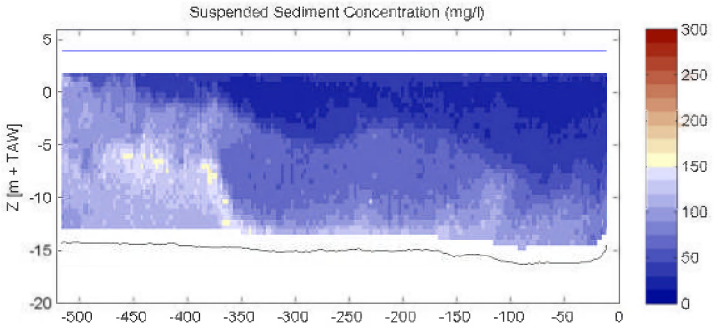
b)



c)

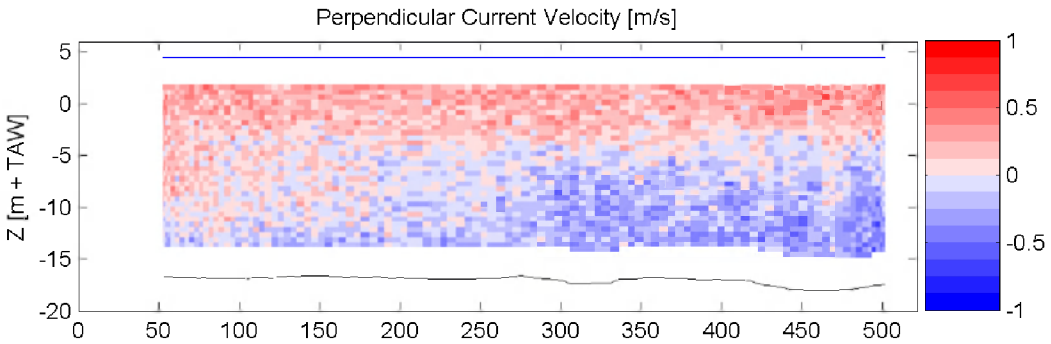


d)



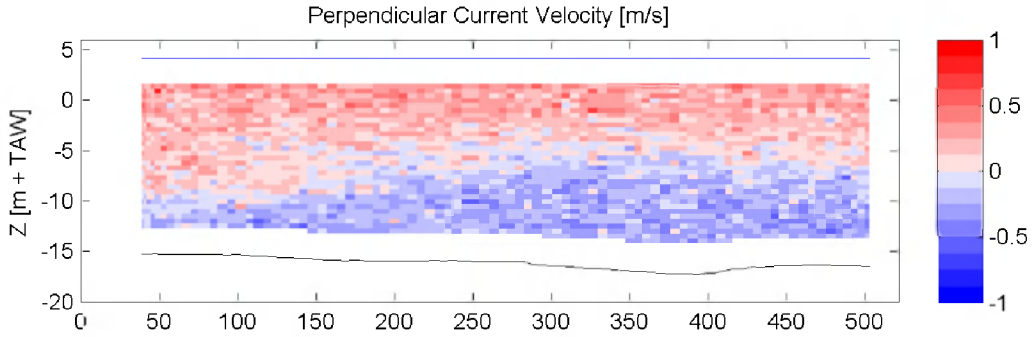
e)

Figure 5-8: a) Suspended sediment concentration on 17/11/2005, b) on 22/03/2006, c) on 27/09/2006, d) on 24/10/2007 and e) on 11/03/2008 at 3h after high water

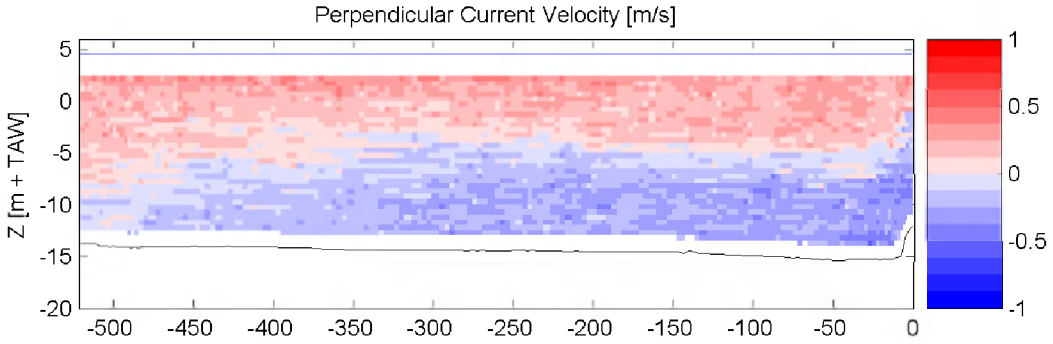


a)

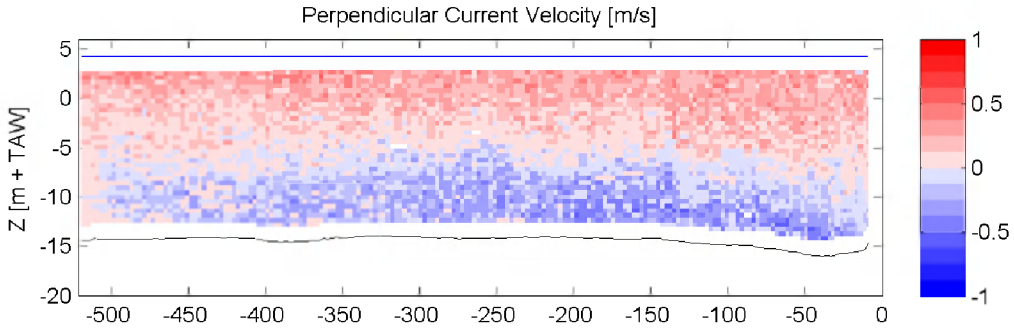
b)

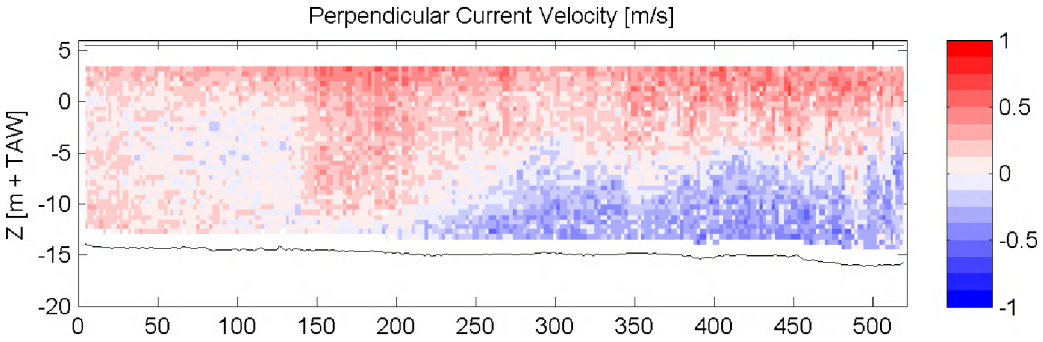

Perpendicular Current Velocity [m/s]
Z [m + TAW]
5
0
-5
-10
-15
-20
0
50
100
150
200
250
300
350
400
450
500
1
0.5
0
-0.5
-1

c)


Perpendicular Current Velocity [m/s]
Z [m + TAW]
5
0
-5
-10
-15
-20
-500
-450
-400
-350
-300
-250
-200
-150
-100
-50
0
1
0.5
0
-0.5
-1

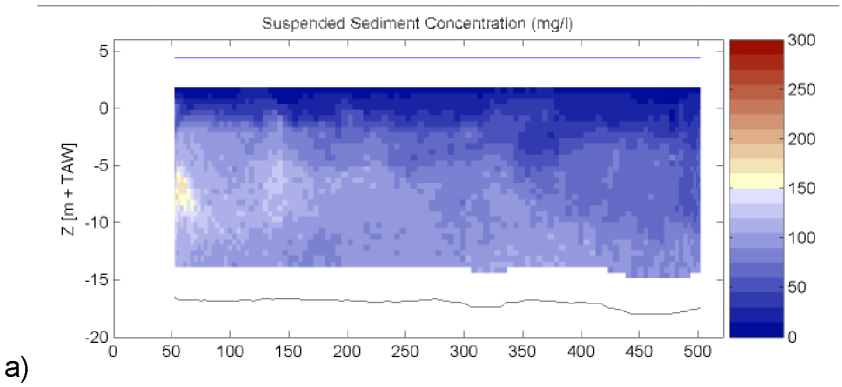
d)


Perpendicular Current Velocity [m/s]
Z [m + TAW]
5
0
-5
-10
-15
-20
-500
-450
-400
-350
-300
-250
-200
-150
-100
-50
0
1
0.5
0
-0.5
-1

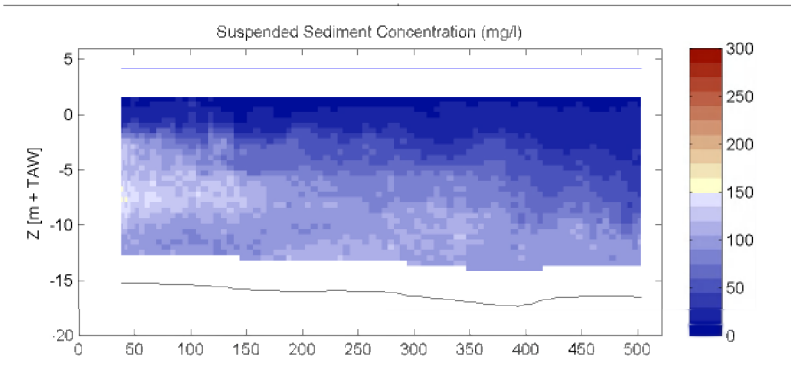


e)

Figure 5-9: a) Perpendicular current velocity on 17/11/2005, b) on 22/03/2006 , c) on 27/09/2006, d) on 24/10/2007 and e) on 11/03/2008 at 1h after high water



a)



b)

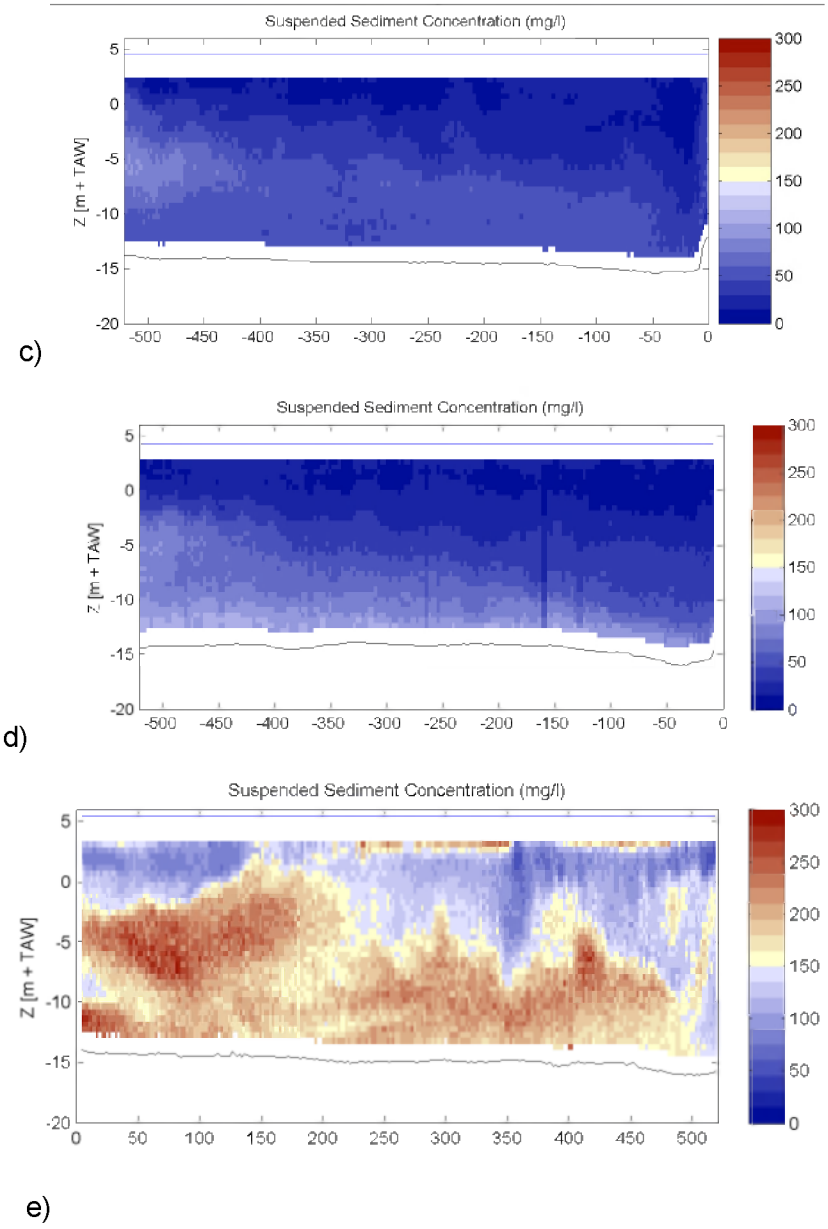


Figure 5-10: a) Suspended sediment concentration on 17/11/2005, b) on 22/03/2006 , c) on 27/09/2006, d) on 24/10/2007 and e) on 11/03/2008 at 1h after high water

The volume of water, crossing the dock's entrance during flood or ebb on a measurement day, was calculated by integrating the discharge curve during flood and ebb respectively. (Figure 5-11) and (Table 5-1) show the results. During flood on the 11th of March 2008, 5 642 000m³ water crossed the entrance and during ebb 11 872 000 m³. Comparing to the other campaigns, the volume during ebb is a lot higher and during flood rather average. The (Table 5-1) shows also the theoretical expected estimates of the volume during ebb and flood, which is result of a multiplication of area of Deurganckdok and tidal difference. The expected volume of water during ebb is smaller than the calculated water volume and during flood the expected volume is more or less equal to the calculated volume. The differences mean that the calculated values during ebb are probably an overestimation of the reality.

The mass of the suspended sediment, crossing dock's entrance during flood or ebb on a measurement day, was calculated on a similar manner as the volume. The flux curve was integrated (Figure 5-12) and (Table 5-2) show the results. During ebb on the 11th of March 2008, 655 tonnes SS crossed the entrance and during flood 1163 tonnes. 508 tonnes SS was deposited in the dock during the tidal cycle. Comparing with other campaigns, 508 tonnes are a high average (Table 5-2). Since flux is calculated with discharge and SS concentration, a similar overestimation and underestimation as the water volumes will achieve in the calculated SS masses.

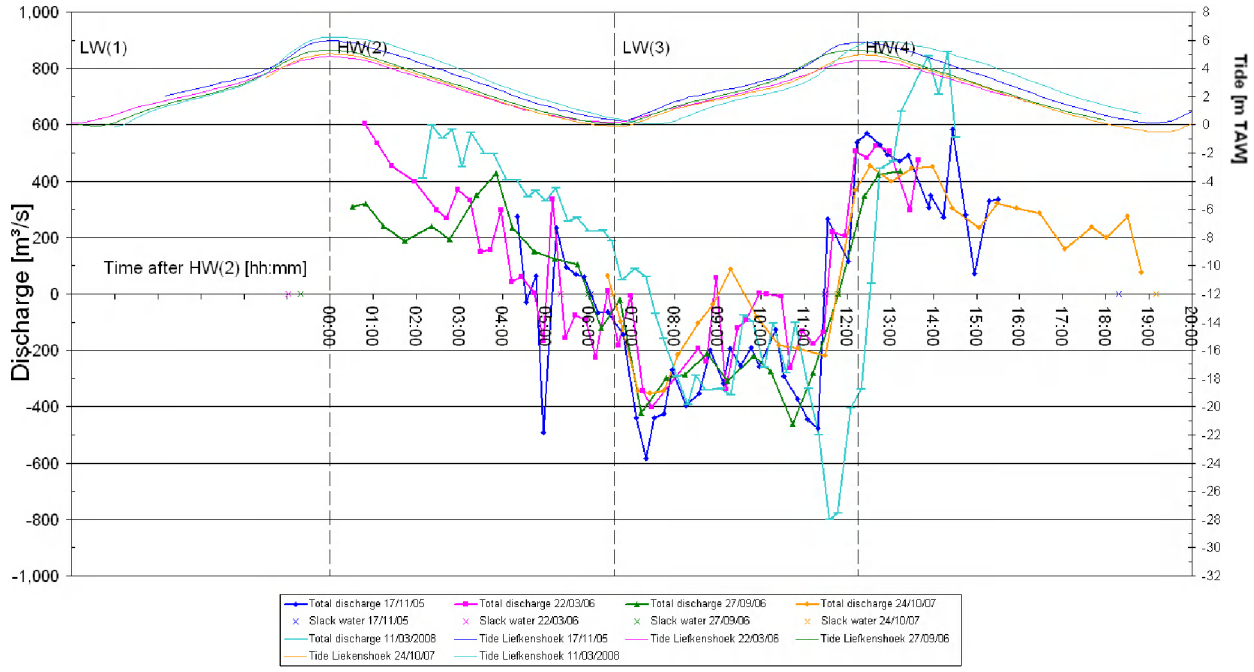


Figure 5-11: Total discharge on 17/02/2005 (Neap tide), 22/03/2006 (Neap tide), 27/09/2006 (Average tide, 24/10/2007 (Average tide) & 11/03/2008 (Spring tide)

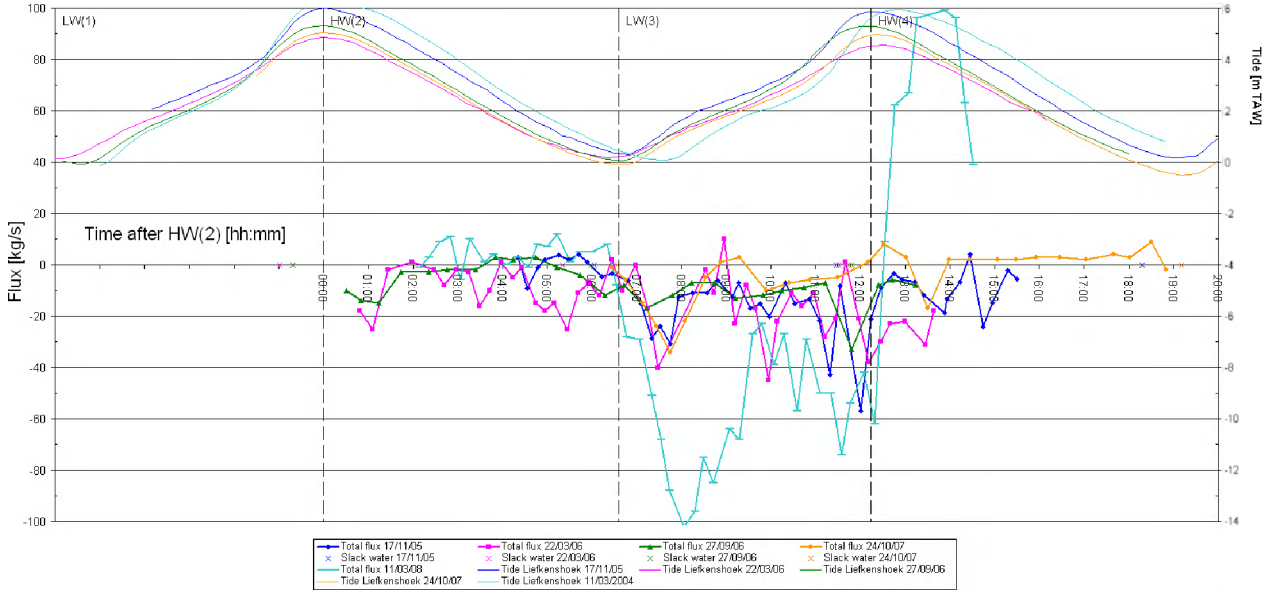


Figure 5-12: Total flux on 17/02/2005 (Neap tide), 22/03/2006 (Neap tide), 27/09/2006 (Average tide), 24/10/2007 (Average tide) & 11/03/2008 (Spring tide)

Table 5-1: Water volume during ebb, flood and measurement campaign on 17/11/2005 (Spring tide), 22/03/2006 (Neap tide), 27/09/2006 (Average tide), 24/10/2007 (Average tide) & 11/03/2008 (Spring tide)

Measurement Day		***17/11/2005***	***22/03/2006***	***27/09/2006***	***24/10/2007***	***11/03/2008***
Ebb	Volume [1000x m³]	6 620	7 122	5 914	7 649	11 872
	Duration [HH:MM]	6:50	6:20	6:40	7:24	7:44
	Estimated Volume [1000x m³]	4 276	3 511	3 946	5 592	6 254
	Tidal Difference [m]	5.70	4.68	5.26	5.49	6.14
Flood	Volume [1000x m³]	-5 558	-3 517	-5 224	- 2 865	-5 642
	Duration [HH:MM]	5:24	6:10	5:48	5:11	5:05
	Estimated Volume [1000x m³]	-4 186	-3 286	-3 931	-5 154	-5 959
	Tidal Difference [m]	5.58	4.38	5.24	5.06	5.85
Net	Volume [1000x m³]	1 062	3 605	690	4 784	6 230
	Duration [HH:MM]	12:14	12:30	12:28	12:38	12:22
	Estimated Volume [1000x m³]	90	225	15	438	295
Fresh water (Schelle)	Volume [1000x m³]	3 987	4 248	1 473	2 069	12 741
	Duration [HH:MM]	12:14	12:30	12:28	12:35	12:22
Measurement Campaign	Volume [1000x m³]	-144	3 904	879	4 848	5 902
	Duration [HH:MM]	11:09	12:51	12:43	12:23	12:22
Deurganckdok	Area [1000x m²]	750.154	750.154	750.154	1018.606	1018.606

Table 5-2: SS Mass during ebb, flood and measurement campaign on 17/11/2005 (Spring tide), 22/03/2006 (Neap tide), 27/09/2006 (Average tide), 24/10/2007 (Neap tide) & 11/03/2008 (Spring tide)

Measurement Day		***17/11/2005***	***22/03/2006***	***27/09/2006***	***24/10/2007***	***11/03/2008***
Ebb	SS Mass [Tonnes]	-210	-267	-126	34	655
	Duration [HH:MM]	6:50	6:20	6:40	7:24	7:44
	Tidal Difference [m]	5.70	4.68	5.26	5.49	6.14
Flood	SS Mass [Tonnes]	-277	-338	-256	-175	-1 163
	Duration [HH:MM]	5:24	6:10	5:48	5:11	5:05
	Tidal Difference [m]	5.58	4.38	5.26	5.06	5.85
Net	SS Mass [Tonnes]	-487	-605	-382	-141	-508
	Duration [HH:MM]	12:14	12:30	12:28	12:35	12:22
Measurement Campaign	SS Mass [Tonnes]	-484	-648	-371	-139	-525
	Duration [HH:MM]	11:09	12:51	12:43	12:35	12:22

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IMDC (2007f). Uitbreiding studie densiteitsstromingen in de Beneden Zeeschelde in het kader van LTV Meetcampagne naar hooggeconcentreerde slibsuspensies Deelrapport 11.4 Through tide Measurement Sediview 28/9 Veremans - Waarde(I/RA/11291/06.107/MSA), in opdracht van AWZ.

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IMDC (2007h). Uitbreiding studie densiteitsstromingen in de Beneden Zeeschelde in het kader van LTV Meetcampagne naar hooggeconcentreerde slibsuspensies Deelrapport 11.6 Through tide Measurement Salinity Distribution 26/9 Scheldewacht – Deurganckdok in opdracht van AWZ.

IMDC (2007i) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 1.1 Sediment Balance: Three monthly report 1/4/2006 – 30/06/2006 (I/RA/11283/06.113/MSA)

IMDC (2007j) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 1.2 Sediment Balance: Three monthly report 1/7/2006 – 30/09/2006 (I/RA/11283/06.114/MSA)

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IMDC (2007o) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.7 Salt-Silt distribution & Frame Measurements Deurganckdok 15/07/2006 – 31/10/2006 (I/RA/11283/06.122/MSA)

IMDC (2007p) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.8 Salt-Silt distribution & Frame Measurements Deurganckdok 15/01/2007 – 15/03/2007 (I/RA/11283/06.123/MSA)

IMDC (2007q) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 3.1 Boundary conditions: Three monthly report 1/1/2007 – 31/03/2007 (I/RA/11283/06.127/MSA)

IMDC (2007r) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing Deelrapport 1.10: Sediment Balance: Three monthly report 1/4/2007 – 30/06/2007 (I/RA/11283/07.081/MSA)

IMDC (2007s) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 1.11: Sediment Balance: Three monthly report 1/7/2007 – 30/09/2007 (I/RA/11283/07.082/MSA)

IMDC (2007t) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.16: Salt-Silt distribution Deurganckdok summer (21/6/2007 – 30/07/2007) (I/RA/11283/07.092/MSA)

IMDC (2007v) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 3.10: Boundary conditions: Three monthly report 1/04/2007 – 30/06/2007 (I/RA/11283/07.097/MSA)

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IMDC (2008a) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.5: Through tide measurement Sediview average tide 24/10/2007 (I/RA/11283/06.120/MSA)

IMDC (2008b) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 4.1: Analysis of siltation Processes and Factors (I/RA/11283/06.129/MSA)

IMDC (2008c) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 1.12: Sediment Balance: Four monthly report 1/9/2007 – 31/12/2007 (I/RA/11283/07.083/MSA)

IMDC (2008d) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 1.13: Sediment Balance: Four monthly report 1/01/2007 – 31/03/2007 (I/RA/11283/07.084/MSA)

IMDC (2008e) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 1.14: Annual Sediment Balance. (I/RA/11283/07.085/MSA)

IMDC (2008f) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.09: Calibration stationary equipment autumn (I/RA/11283/07.095/MSA)

IMDC (2008g) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.10: Through tide measurement SiltProfiler 23 October 2007 (I/RA/11283/07.086/MSA)

IMDC (2008h) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.11: Through tide measurement Salinity Profiling winter 12 March 2008 (I/RA/11283/07.087/MSA)

IMDC (2008i) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.12: Through tide measurement Sediview winter 11 March 2008 – Transect I (I/RA/11283/07.088/MSA)

IMDC (2008j) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.13: Through tide measurement Sediview winter 11 March 2008 – Transect K (I/RA/11283/07.089/MSA)

IMDC (2008k) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.14: Through tide measurement Sediview winter 11 March 2008 – Transect DGD (I/RA/11283/07.090/MSA)

IMDC (2008l) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.15: Through tide measurement SiltProfiler winter 12 March 2008 (I/RA/11283/07.091/MSA)

IMDC (2008m) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.17: Salt-Silt distribution & Frame Measurements Deurganckdok autumn (17/9/2007-10/12/2007) (I/RA/11283/07.093/MSA)

IMDC (2008n) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.18: Salt-Silt distribution & Frame Measurements Deurganckdok winter (18/02/2007-31/03/2008) (I/RA/11283/07.094/MSA)

IMDC (2008o) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 2.19: Calibration stationary & mobile equipment winter (I/RA/11283/07.096/MSA)

IMDC (2008p) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 3.12: Boundary conditions: Three monthly report 1/9/2007 – 31/12/2007 (I/RA/11283/07.099/MSA)

IMDC (2008q) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 3.13: Boundary conditions: Three monthly report 1/1/2008 – 31/3/2007 (I/RA/11283/07.100/MSA)

IMDC (2008r) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 3.14: Boundary conditions: Annual report (I/RA/11283/07.101/MSA)

IMDC (2008s) Langdurige metingen Deurganckdok: Opvolging en analyse aanslibbing. Deelrapport 4.10: Analysis of siltation Processes and Factors (I/RA/11283/07.102/MSA)

TV SAM (2006a) Langdurige stationaire ADCP stroommetingen te Oosterweel dukdalf 01/2005-06/2005. 42SR S032PIB 2A.

TV SAM (2006b) Langdurige stationaire ADCP stroommetingen te Oosterweel dukdalf 07/2005-12/2005. 42SR S033PIB 2A.

TV SAM (2006c) Langdurige stationaire ADCP stroommetingen te Oosterweel dukdalf 01/2006-06/2006. 42SR S032PIB 2A.

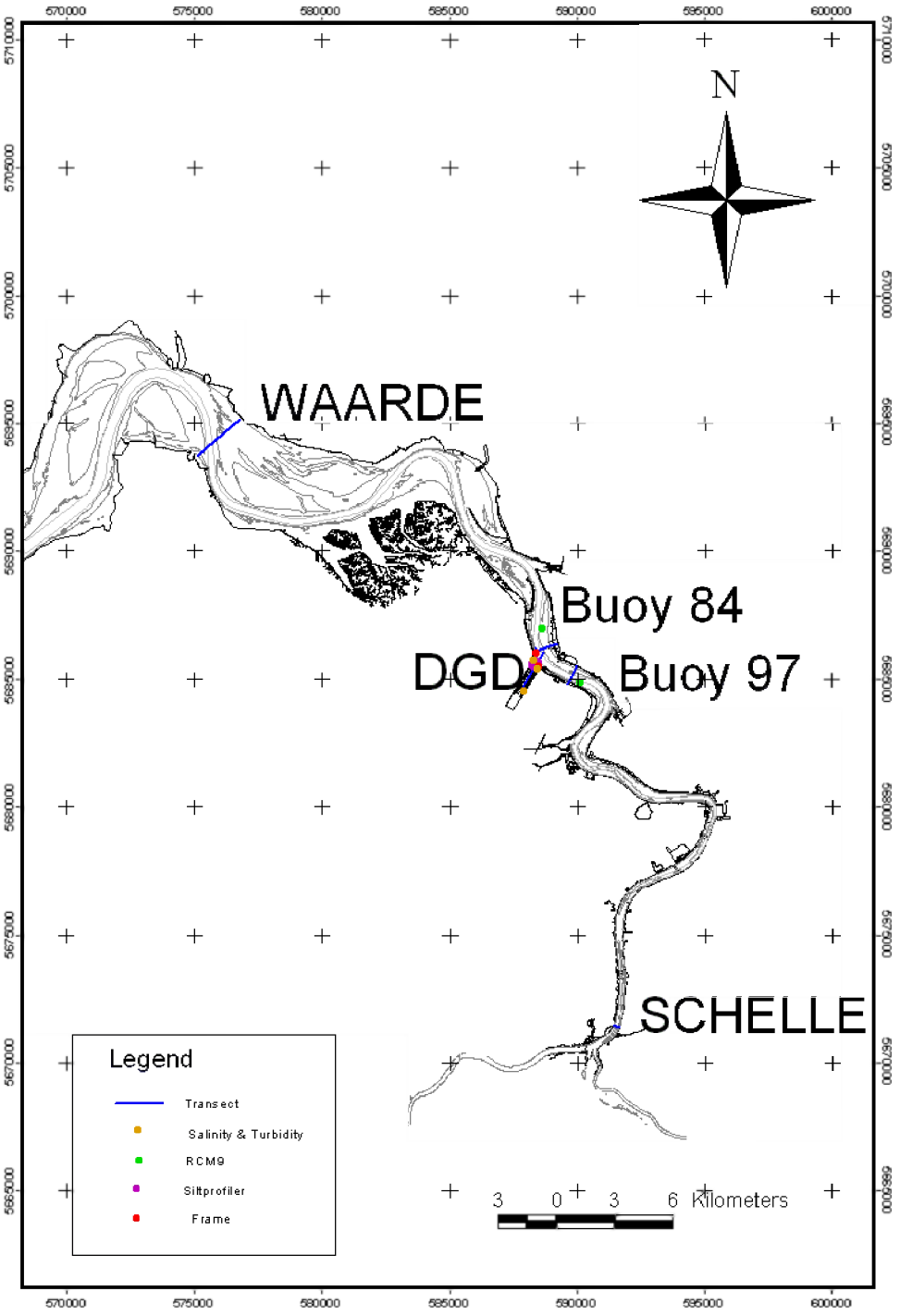
Unesco (1983). Algorithms for computation of fundamental properties of seawater, UNESCO Technical Papers in Marine Science, 44. UNESCO, France.

Wunderground (2008). Weather Underground: www.wunderground.com

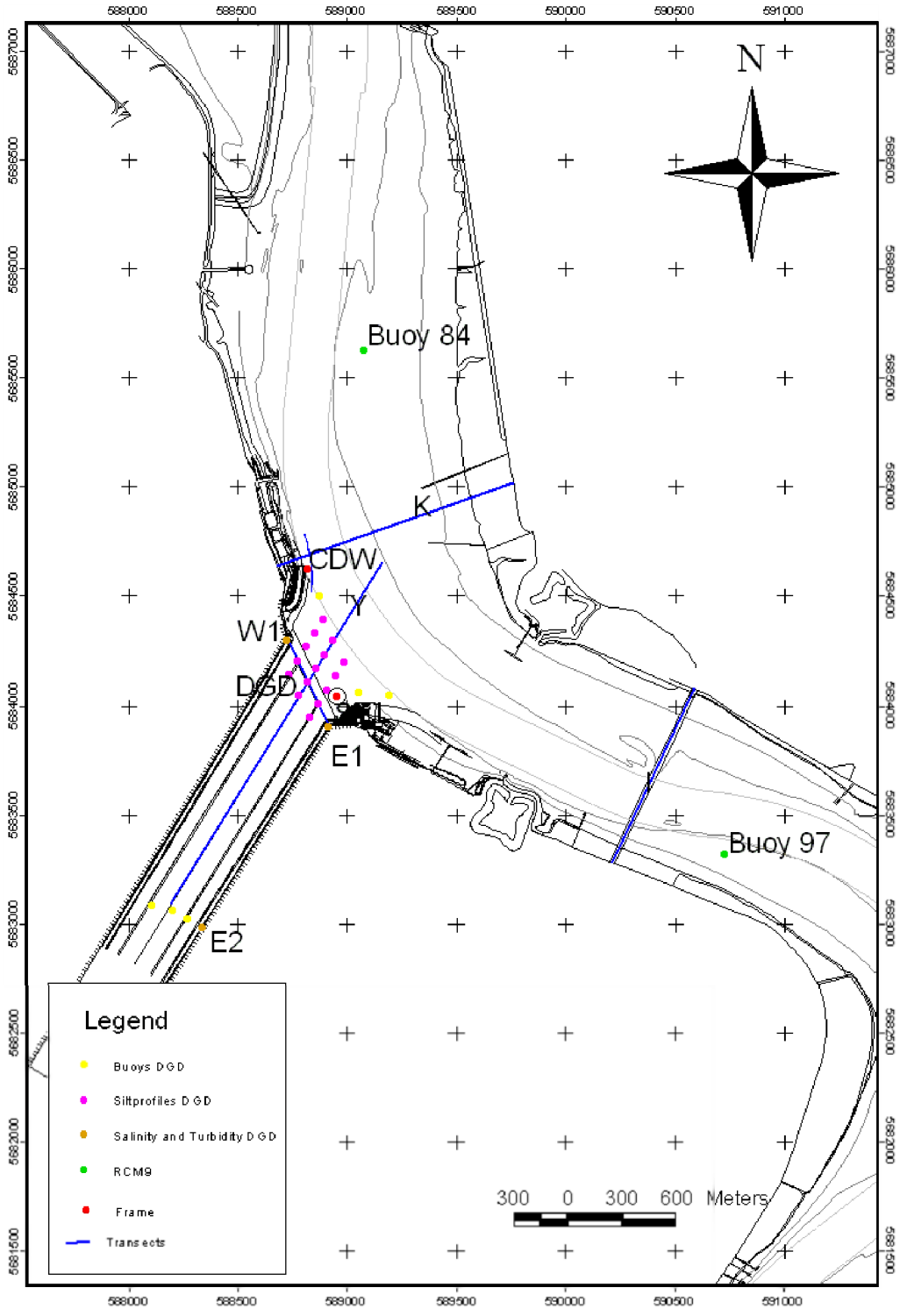
APPENDIX A.

OVERVIEW OF MEASUREMENT

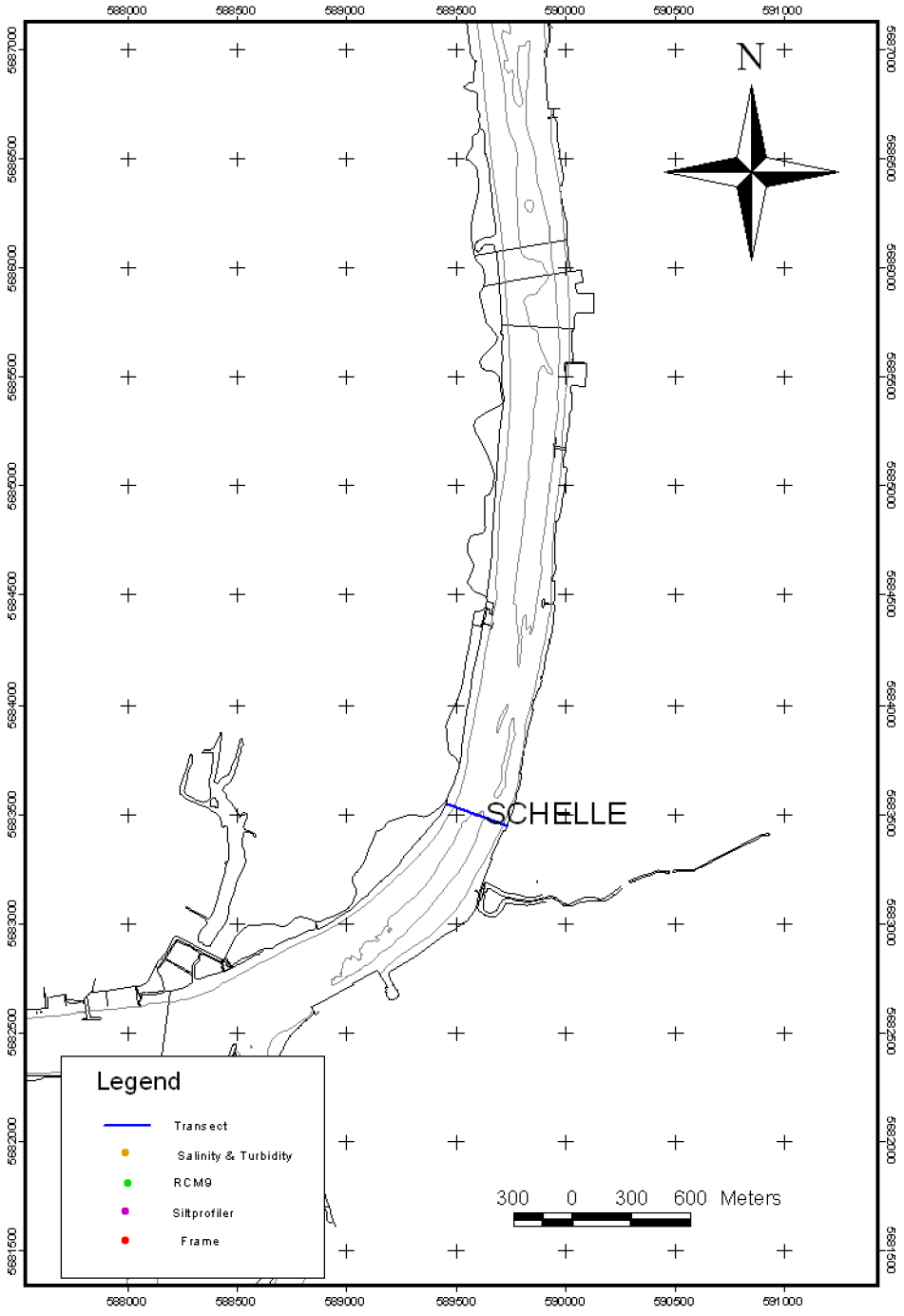
A.1 Overview of the measurement locations for the whole HCBS2 and Deurganckdok measurement campaigns



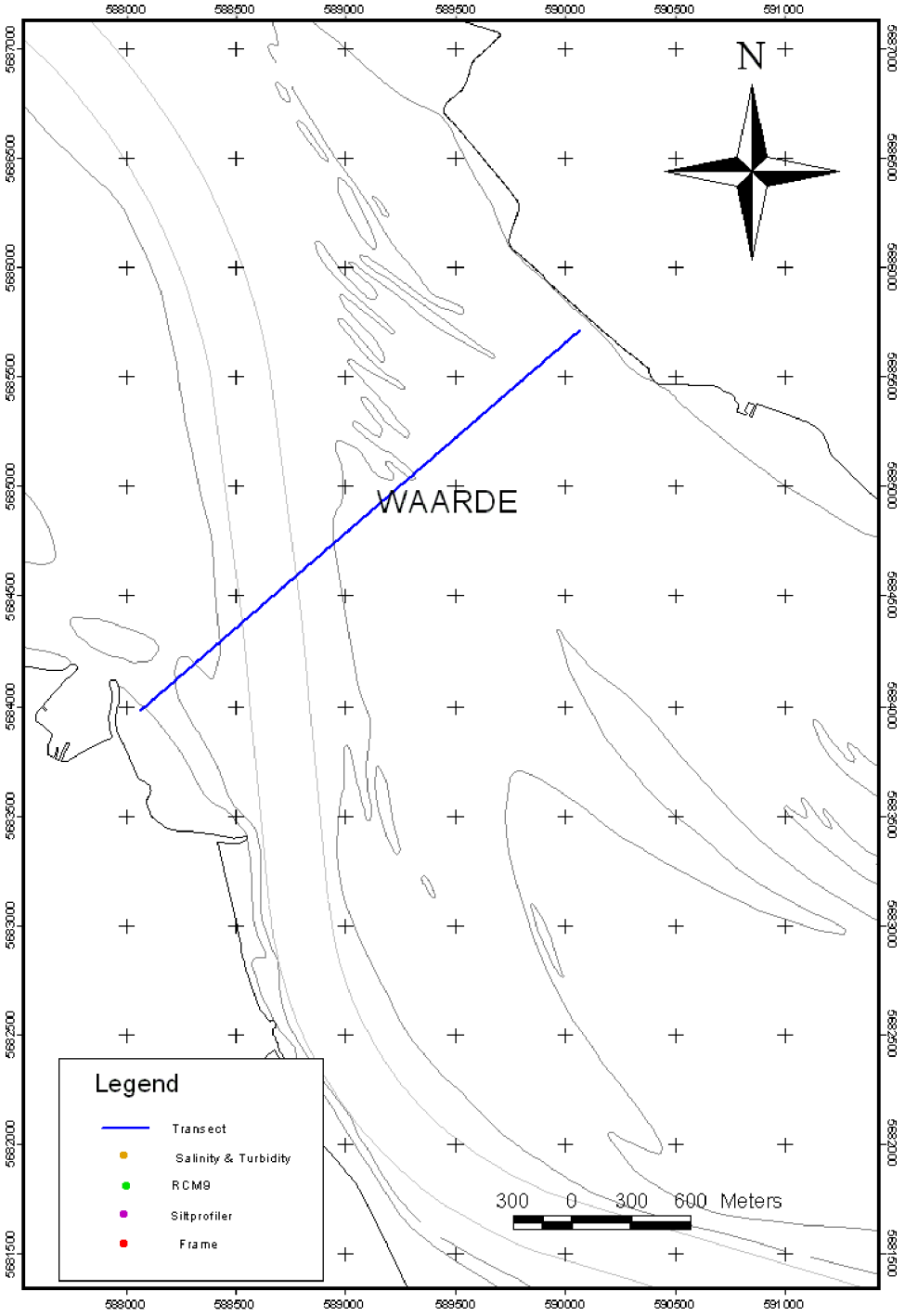
Annex Figure A-1: Overview of the measurement locations



Annex Figure A-2: Overview of the measurement locations at Deurganckdok



Annex Figure A-3: Transect S in Schelle



Annex Figure A-4: Transect W in Waarde

A.2 Overview of all measurement locations HCBS and Deurganckdok measurement campaigns

Annex Table A-1: coordinates of theoretical transects

Transect	Start Easting	Start Northing	End Easting	End Northing
I	590318.00	5683302.00	590771.00	5684257.00
K	588484.00	5684924.00	589775.00	5685384.00
SCHELLE	592645.07	5665794.06	592952.68	5665682.28
DGD	588764.88	5684056.49	588540.95	5684526.94
Y	589059.09	5684948.36	587898.76	5683076.56
WAARDE	573541.00	5696848.20	571318.00	5694932.90

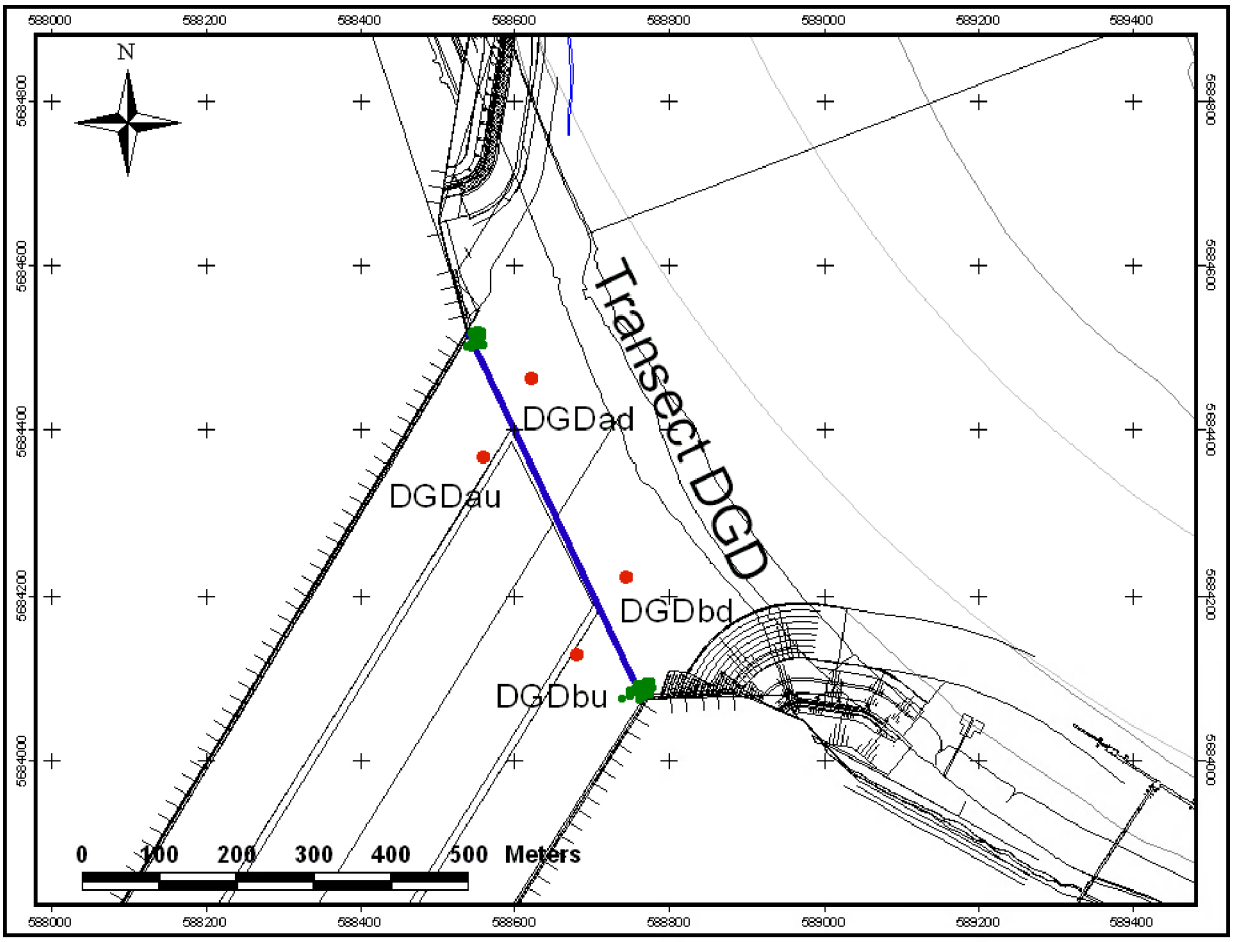
Annex Table A-2: coordinates of SiltProfiler gauging locations

SP	EASTING	NORTHING
1	588737	5684638
2	588690	5684562
3	588643	5684486
4	588596	5684411
5	588549	5684335
6	588606	5684217
7	588653	5684293
8	588700	5684368
9	588747	5684444
10	588793	5684520
11	588850	5684402
12	588803	5684326
13	588756	5684250
14	588709	5684174
15	588662	5684099

A.3 Measurement overview at Transect DGD on 11/03/2008

FileName	*End time [hh:mm MET]*	*Time after HW [hh:mm]*	*Easting Start (UTM31 ED50)*	*Northing Start (UTM31 ED50)*	*Easting Stop (UTM31 ED50)*	*Northing Stop (UTM31 ED50)*	*Transect length [m]*	*Transect heading [°]*
3003DGDt_sub.csv	07:11	02:11	588776	5684074	588549	5684529	509	334
3005DGDs_sub.csv	07:23	02:23	588558	5684530	588775	5684072	507	155
3007DGDt_sub.csv	07:38	02:38	588776	5684079	588548	5684530	506	333
3009DGDs_sub.csv	07:52	02:52	588553	5684530	588771	5684067	512	155
3011DGDt_sub.csv	08:05	03:05	588771	5684072	588547	5684524	504	334
3013DGDs_sub.csv	08:18	03:18	588554	5684529	588771	5684068	510	155
3015DGDt_sub.csv	08:37	03:37	588772	5684066	588544	5684510	500	333
3017DGDs_sub.csv	08:50	03:50	588558	5684523	588759	5684069	497	156
3019DGDt_sub.csv	09:08	04:08	588770	5684064	588548	5684524	511	334
3021DGDs_sub.csv	09:22	04:22	588548	5684520	588758	5684066	500	155
3023DGDt_sub.csv	09:38	04:38	588773	5684071	588545	5684528	510	334
3025DGDs_sub.csv	09:48	04:48	588549	5684529	588774	5684062	518	154
3027DGDt_sub.csv	10:02	05:02	588771	5684073	588547	5684530	508	334
3029DGDs_sub.csv	10:15	05:15	588552	5684532	588763	5684073	506	155
3031DGDt_sub.csv	10:33	05:33	588768	5684072	588548	5684527	506	334
3033DGDs_sub.csv	10:45	05:45	588551	5684526	588771	5684064	511	155
3035DGDt_sub.csv	11:02	06:02	588772	5684071	588547	5684527	509	334
3037DGDs_sub.csv	11:22	06:22	588560	5684512	588768	5684063	494	155
3039DGDt_sub.csv	11:35	06:35	588762	5684067	588546	5684528	509	335
3041DGDs_sub.csv	11:48	06:48	588546	5684520	588771	5684066	507	154
3043DGDt_sub.csv	12:06	07:06	588770	5684068	588547	5684528	512	334
3045DGDs_sub.csv	12:22	07:22	588541	5684511	588770	5684064	503	153
3047DGDt_sub.csv	12:34	-05:16	588741	5684056	588545	5684515	499	337
3049DGDs_sub.csv	12:46	-05:04	588550	5684513	588762	5684063	497	155
3051DGDt_sub.csv	13:05	-04:45	588751	5684060	588540	5684511	499	335
3053DGDt_sub.csv	13:20	-04:30	588550	5684523	588771	5684062	511	154
3055DGDt_sub.csv	13:31	-04:19	588760	5684066	588546	5684528	510	335
3057DGDs_sub.csv	13:45	-04:05	588552	5684525	588768	5684061	512	155
3059DGDt_sub.csv	14:06	-03:44	588767	5684064	588546	5684527	513	334
3061DGDs_sub.csv	14:20	-03:30	588552	5684523	588770	5684061	511	155
3063DGDt_sub.csv	14:38	-03:12	588762	5684065	588547	5684529	512	335
3065DGDt_sub.csv	14:50	-03:00	588551	5684531	588763	5684055	521	156
3067DGDt_sub.csv	15:06	-02:44	588752	5684063	588548	5684528	509	336
3069DGDs_sub.csv	15:19	-02:31	588555	5684532	588764	5684061	515	156
3071DGDt_sub.csv	15:37	-02:13	588767	5684067	588548	5684530	512	335
3073DGDs_sub.csv	15:49	-02:01	588553	5684531	588767	5684058	519	156
3075DGDt_sub.csv	16:08	-01:42	588750	5684067	588546	5684525	501	336
3077DGDs_sub.csv	16:22	-01:28	588553	5684531	588765	5684056	520	156
3079DGDt_sub.csv	16:37	-01:13	588765	5684061	588547	5684528	515	335
3081DGDs_sub.csv	16:49	-01:01	588547	5684517	588763	5684059	506	155

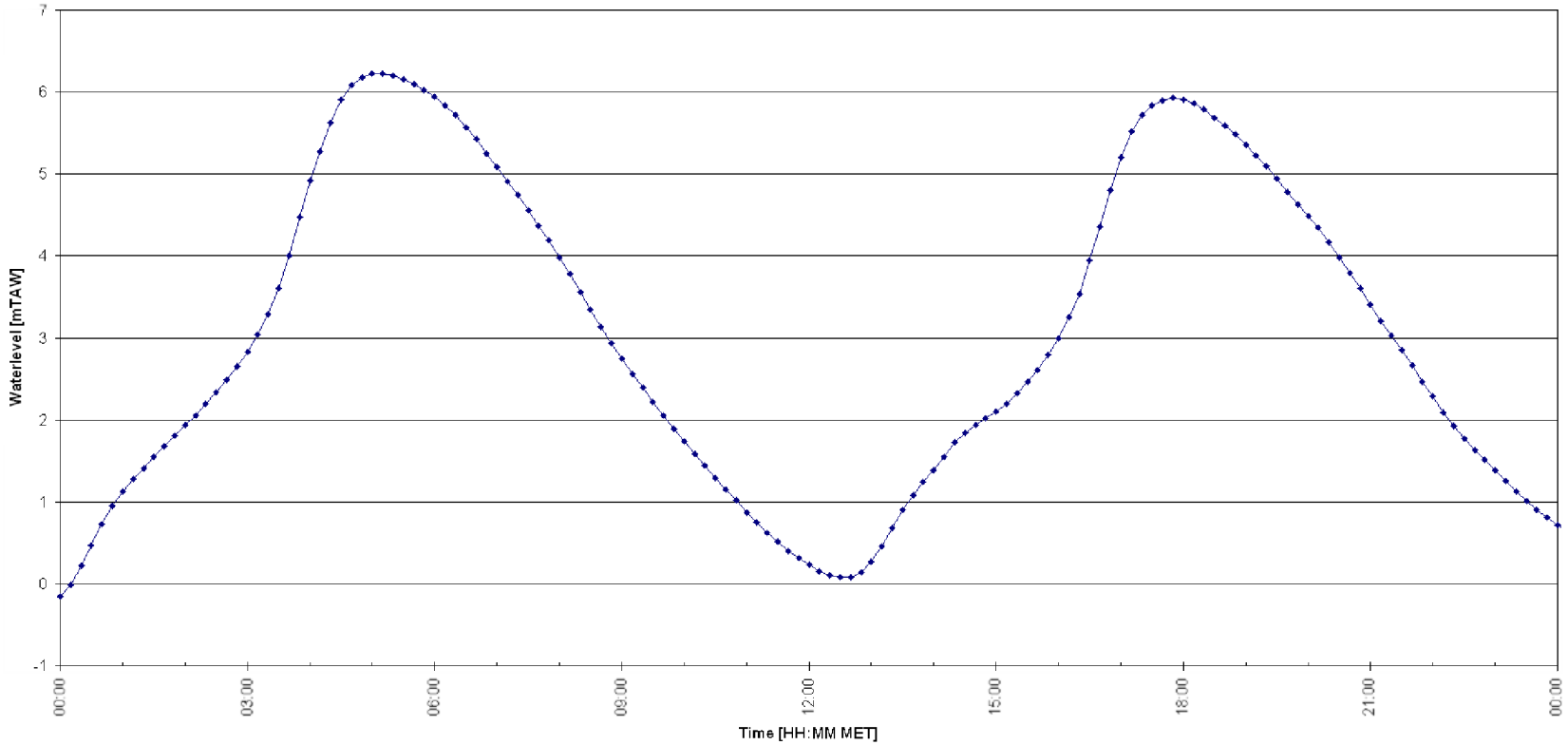
FileName	*End time [hh:mm MET]*	*Time after HW [hh:mm]*	*Easting Start (UTM31 ED50)*	*Northing Start (UTM31 ED50)*	*Easting Stop (UTM31 ED50)*	*Northing Stop (UTM31 ED50)*	*Transect length [m]*	*Transect heading [°]*
3083DGDt_sub.csv	17:07	-00:43	588755	5684067	588546	5684527	506	336
3085DGDs_sub.csv	17:21	-00:29	588555	5684528	588767	5684060	514	156
3087DGDt_sub.csv	17:35	-00:15	588757	5684070	588548	5684527	502	335
3089DGDs_sub.csv	17:48	-00:02	588556	5684524	588770	5684061	510	155
3091DGDt_sub.csv	18:06	00:16	588760	5684076	588547	5684529	500	335
3093DGDs_sub.csv	18:18	00:28	588556	5684512	588767	5684060	499	155
3095DGDt_sub.csv	18:42	00:52	588770	5684079	588546	5684528	501	333
3097DGDt_sub.csv	18:55	01:05	588552	5684527	588770	5684061	515	155
3099DGDt_sub.csv	19:10	01:20	588778	5684070	588547	5684526	511	333
3101DGDs_sub.csv	19:22	01:32	588554	5684527	588764	5684058	514	156
3103DGDt_sub.csv	19:33	01:43	588762	5684075	588549	5684527	499	335



Annex Figure A-5: Location of start en end points of the sailed tracks

APPENDIX B. TIDAL DATA

11283 – March 2008 SURVEY



Measured tide on 11/03/2008 at Liefkenshoek

Location:	Date:
River Scheldt	11/03/2008

Data processed by: IMDC

In association with: WL | delft hydraulics, GEMS International

I/RA/11283/07.090/MSA

APPENDIX C.

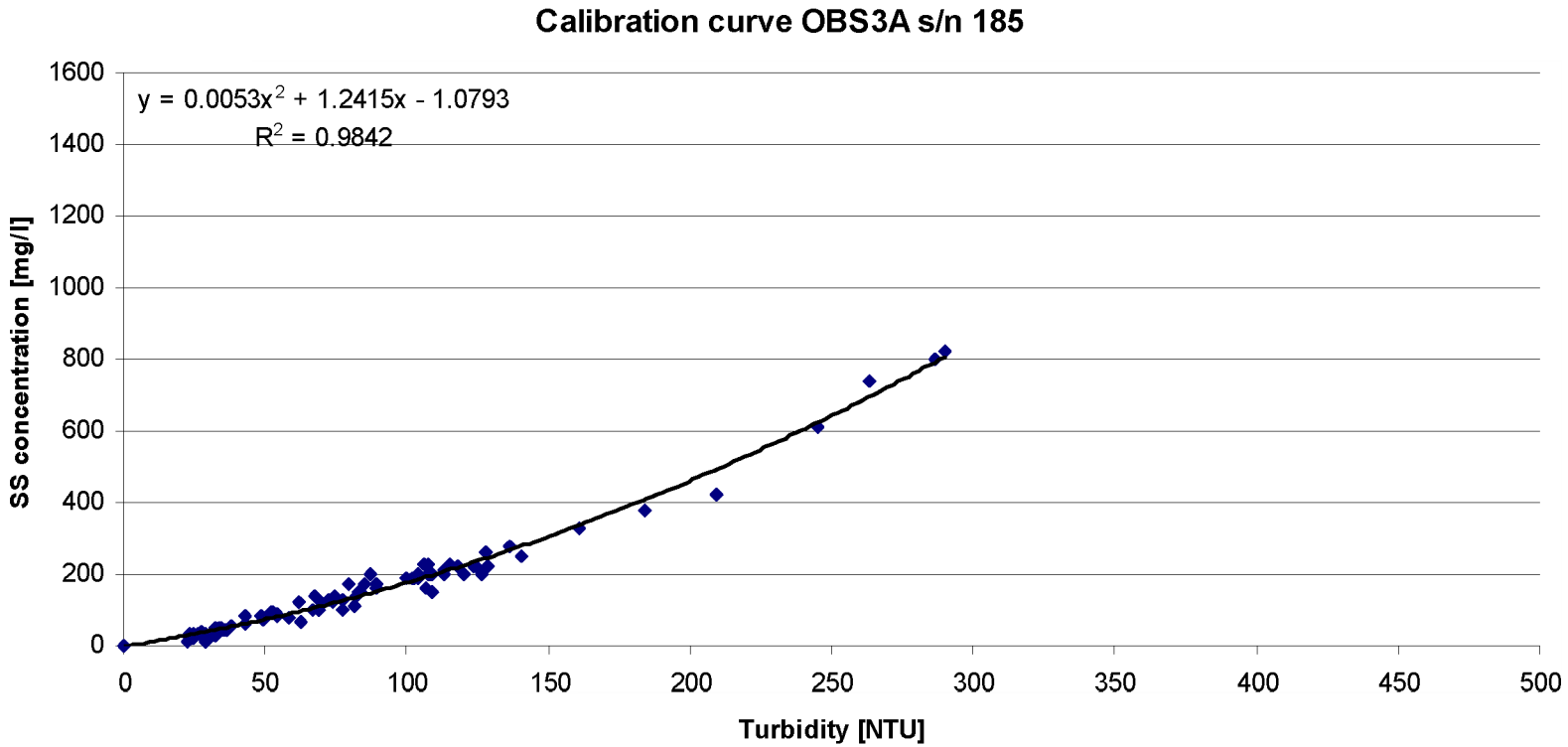
NAVIGATION INFORMATION AS RECORDED ON SITE

Ship:		Parel II	
Location:		Deurganckdok (transect DGD)	
Nr.	Time (MET)	Type ship	Direction (Invaart, Uitvaart)
1	7:30	2 Binnenschepen	Invaart
2	7:35	1 Binnenschip	Invaart
3	7:45	1 Binnenschip	Uitvaart
4	8:10	2 Binnenschepen	Uitvaart
5	8:54	1 Bagger zeeschip	Invaart
6	9:06	1 Binnenschip	Invaart
7	9:15	1 Binnenschip	
8	9:30	1 Binnenschip	Uitvaart
9	9:40	1 Binnenschip	Invaart
10	9:40	Sleper	Invaart
11	10:10	Duwbak	Uitvaart
12	10:41	Sleper	Uitvaart
13	10:46	Sleper	Uitvaart
14	11:00	1 Binnenschip	Uitvaart
15	11:00	Zeeschip	Invaart
16	11:14	Binnenschip	Invaart
17	11:15	Binnenschip	Uitvaart
18	11:16	Binnenschip	Invaart
19	11:40	Binnenschip	Uitvaart
20	11:45	Sleper	Uitvaart
21	11:45	Binnenvaart	Uitvaart
22	12:01	Binnenvaart	Invaart
23	12:35	Binnenvaart	Invaart
24	12:44	Binnenvaart	Invaart
25	13:10	Binnenschip	Uitvaart
26	13:36	Binnenschip	Uitvaart
27	13:40	Binnenschip	Uitvaart
28	14:02	Coaster	Afvaart
29	14:28	2 Binnenschepen	Uitvaart
30	14:35	Binnenschip	Uitvaart
31	15:29	Binnenschip	Uitvaart

Ship:		***Parel II***	
Location:		***Deurganckdok (transect DGD)***	
Nr.	***Time (MET)***	***Type ship***	***Direction (Invaart, Uitvaart)***
32	*16:05*	*Binnenschip*	*Invaart*
33	*16:05*	*Binnenschip*	*Invaart*
34	*16:21*		*Uitvaart*
35	*16:51*	*Binnenschip*	*Invaart*
36	*17:18*	*Binnenschip*	*Invaart*
37	*17:42*	*Binnenschip*	*Uitvaart*
38	*17:42*	*Binnenschip*	*Uitvaart*
39	*17:44*	*Sleper*	*Invaart*
40	*17:44*	*Sleper*	*Invaart*
41	*18:02*	*Sweepbeam*	*Uitvaart*
42	*18:30*	*Maersk Maryland*	*Uitvaart*
43	*18:47*	*DN 31*	*Invaart*
44	*19:04*	*Binnenvaart*	*Uitvaart*
45	*19:07*	*Binnenvaart*	*Invaart*
46	*19:08*	*Binnenvaart*	*Uitvaart*
47	*19:31*	*Binnenvaart*	*Invaart*

APPENDIX D. CALIBRATION GRAPH OF OBS3A TURBIDITY SENSOR

11283 – March 2008 SURVEY



Calibration Graph of OBS3A s/n 185		Data processed by: IMDC
Location: River Scheldt (DGD)	Date: 11/03/2008	In association with: WL | delft hydraulics, GEMS International
		I/RA/11283/07.090/MSA

APPENDIX E.

UNESCO PPS-78 FORMULA FOR CALCULATING SALINITY

Practical Salinity Scale (PPS 78) Salinity in the range of 2 to 42

Constants from the 19th Edition of Standard Methods

R cond.ratio	0.0117	$R = \frac{C}{42.914 mS/cm}$	
C Cond at t	**0.5**		**Input conductivity in mS/cm of sample**
t deg. C	**22.00**		**Input temperature of sample solution**
P dBar	**20**		**Input pressure at which sample is measured in decibars**
Rp	1.0020845	$R_p = 1 + \frac{p(e_1 + e_2 p + e_3 p^2)}{1 + d_1 t + d_2 t^2 + (d_3 + d_4 t)R}$	
rt	1.1641102	$r_t = c_0 + c_1 t + c_2 t^2 + c_3 t^3 + c_4 t^4$	
Rt	0.0099879	$R_t = \frac{R}{R_p \times r_t}$	
Delta S	-0.0010	$\text{Delta S} = \frac{(t-15)}{1+k(t-15)}(b_0 + b_1 R_t^{1/2} + b_2 R_t + b_3 R_t^{3/2} + b_4 R_t^2 + b_5 R_t^{5/2})$	
S = Salinity	**0.257**	$S = a_0 + a_1 R_t^{1/2} + a_2 R_t + a_3 R_t^{3/2} + a_4 R_t^2 + a_5 R_t^{5/2} + \text{delta S}$	

a0	0.0080	b0	0.0005	c0	0.6766097	d1	3.426E-02	e1	2.070E-04
a1	-0.1692	b1	-0.0056	c1	2.00564E-02	d2	4.464E-04	e2	-6.370E-08
a2	25.3851	b2	-0.0066	c2	1.104259E-04	d3	4.215E-01	e3	3.989E-12
a3	14.0941	b3	-0.0375	c3	-6.9698E-07	d4	-3.107E-03		
a4	-7.0261	b4	0.0636	c4	1.0031E-09				
a5	2.7081	b5	-0.0144						
		k	0.0162						

R = ratio of measured conductivity to the conductivity of the Standard Seawater Solution

Conductivity Ratio R is a function of salinity, temperature, and hydraulic pressure. So that we can factor R into three parts i.e.

R = Rt x Rp x rt

R = C(S,t,p)/C(35,15,0)

C = 42.914 mS/cm at 15 deg C and 0 dbar pressure ie C(35,15,0) where 35 is the salinity

Ocean pressure is usually measured in decibars. 1 dbar = 10^-1 bar = 10^5 dyne/cm^2 = 10^4 Pascal.

APPENDIX F. OVERVIEW OF SEDIVIEW SETTINGS

Ship:		***Parel II***	
Location:		***Deurganckdok (transect DGD)***	
Date		***11/03/2008***	
Parameters	***Value***	***Parameters***	***Value***
Inst. Depth (m)	1.1	*Compass offset (°)*	2.3
Force depth (m)	0	*Beam 3 misalignment (°)*	0
Velocity reference	BT	*Effective particle size (µm)*	20
Speed of sound algorithm	Urick	*Beam1 scale factor*	0.431
Error velocity	YES	*Beam2 scale factor*	0.417
External heading	NO	*Beam3 scale factor*	0.427
External Depth	NO	*Beam4 scale factor*	0.445
SSC factor top (%)	100	*Discharge factor top*	Constant
SSC factor bottom (%)	Variable	*Discharge factor bottom*	Power
Shape factor left bank	0.91	*Shape factor right bank*	0.91

Filename	***Calibration const (Ks)***	***Backscatter coefficient (S)***	***SSC factor bottom (%)***	***Distance to the left bank (m)***	***Distance to the right bank (m)***
3003DGDt_sub.csv	55	20.75	117	1.32	11.56
3005DGDs_sub.csv	55	21.00	141	4.43	10.31
3007DGDt_sub.csv	55	21.00	147	0.33	15.79
3009DGDs_sub.csv	55	20.50	125	2.51	7.45
3011DGDt_sub.csv	55	19.50	111	5.47	11.88
3013DGDs_sub.csv	55	19.50	103	3.35	8.28
3015DGDt_sub.csv	55	19.75	109	16.05	5.84
3017DGDs_sub.csv	55	20.00	109	10.68	14.54
3019DGDt_sub.csv	55	20.50	102	5.69	4.71
3021DGDs_sub.csv	55	20.50	102	8.85	12.60
3023DGDt_sub.csv	55	20.25	101	1.13	10.55
3025DGDs_sub.csv	55	20.50	102	1.89	1.81
3027DGDt_sub.csv	55	21.00	102	0.29	12.96
3029DGDs_sub.csv	55	21.25	103	0.03	15.78
3031DGDt_sub.csv	55	21.50	105	2.98	13.00
3033DGDs_sub.csv	55	21.00	110	5.48	4.77
3035DGDt_sub.csv	55	20.50	108	2.26	10.76
3037DGDs_sub.csv	55	20.50	111	22.04	5.14
3039DGDt_sub.csv	55	20.75	116	1.01	11.81
3041DGDs_sub.csv	55	20.75	106	8.24	6.77
3043DGDt_sub.csv	55	20.50	106	1.18	8.48

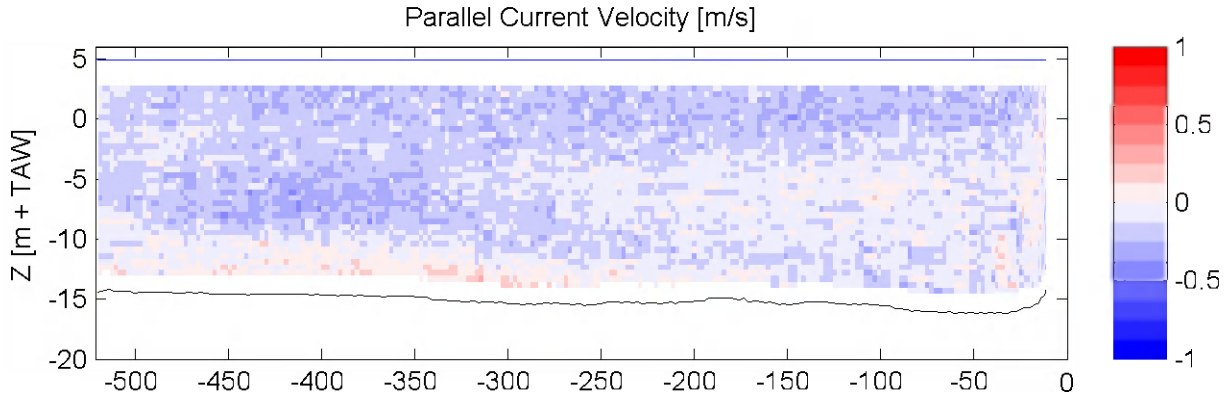
Filename	*Calibration const (Ks)*	*Backscatter coefficient (S)*	*SSC factor bottom (%)*	*Distance to the left bank (m)*	*Distance to the right bank (m)*
3045DGDs_sub.csv	55	20.50	124	14.28	4.99
3047DGDt_sub.csv	55	20.50	137	12.45	10.30
3049DGDs_sub.csv	55	20.25	131	16.98	7.65
3051DGDt_sub.csv	55	19.60	111	13.67	9.37
3053DGDt_sub.csv	55	20.00	114	7.35	3.03
3055DGDt_sub.csv	55	20.00	114	1.09	10.98
3057DGDs_sub.csv	55	20.25	100	6.50	3.33
3059DGDt_sub.csv	55	20.50	100	1.94	6.53
3061DGDs_sub.csv	55	20.50	109	8.39	2.49
3063DGDt_sub.csv	55	20.75	109	0.44	9.26
3065DGDt_sub.csv	55	21.00	104	1.01	0.15
3067DGDt_sub.csv	55	21.00	126	1.58	11.68
3069DGDs_sub.csv	55	21.00	124	1.93	4.35
3071DGDt_sub.csv	55	21.00	103	0.35	9.26
3073DGDs_sub.csv	55	20.50	105	1.76	1.29
3075DGDt_sub.csv	55	20.50	102	4.32	15.98
3077DGDs_sub.csv	55	21.00	102	1.74	0.18
3079DGDt_sub.csv	55	20.75	102	1.71	4.62
3081DGDs_sub.csv	55	20.00	102	11.75	3.84
3083DGDt_sub.csv	55	20.00	102	1.83	13.88
3085DGDs_sub.csv	55	20.00	102	5.18	2.71
3087DGDt_sub.csv	55	19.75	101	3.00	16.44
3089DGDs_sub.csv	55	19.50	101	9.25	2.60
3091DGDt_sub.csv	55	19.25	100	1.12	20.26
3093DGDs_sub.csv	55	19.25	102	19.67	2.60
3095DGDt_sub.csv	55	19.00	102	1.57	18.61
3097DGDt_sub.csv	55	19.25	106	4.43	2.29
3099DGDt_sub.csv	55	20.00	105	3.64	7.20
3101DGDs_sub.csv	55	20.25	110	5.97	1.98
3103DGDt_sub.csv	55	20.25	120	3.89	18.69

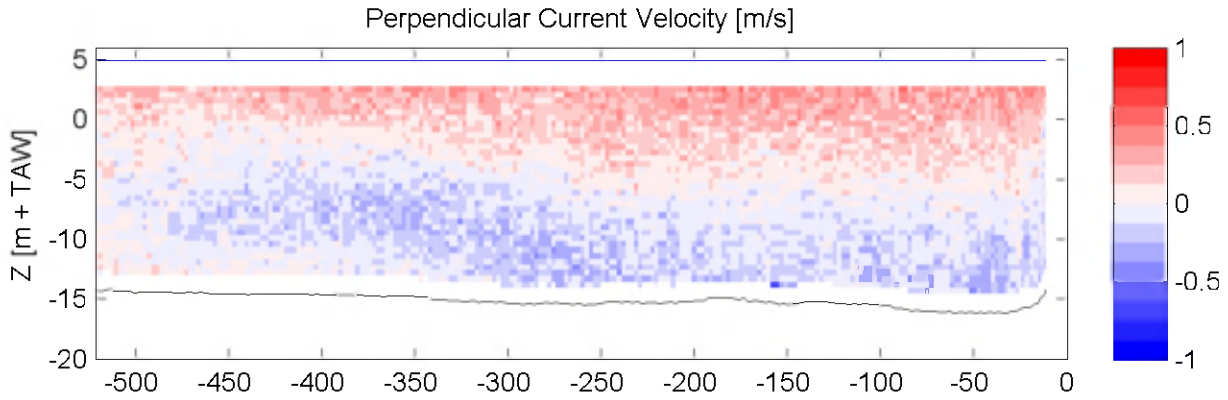
APPENDIX G. CONTOURPLOTS OF FLOW VELOCITIES, SEDIMENT CONCENTRATION AND SEDIMENT FLUX PER SAILED TRANSECT

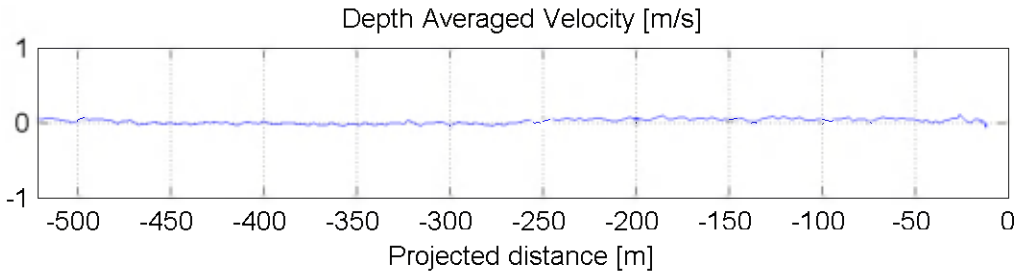
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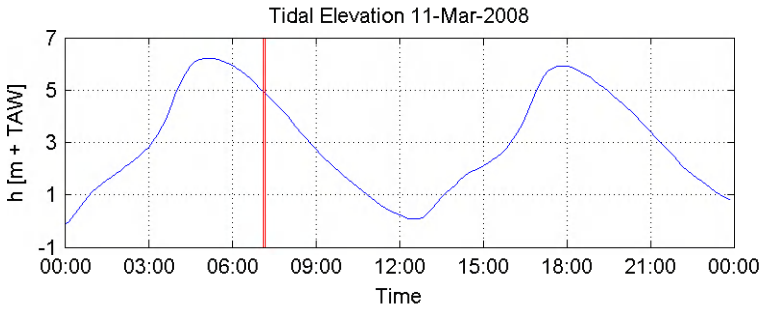
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3003DGDt_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
07:06 - 07:10

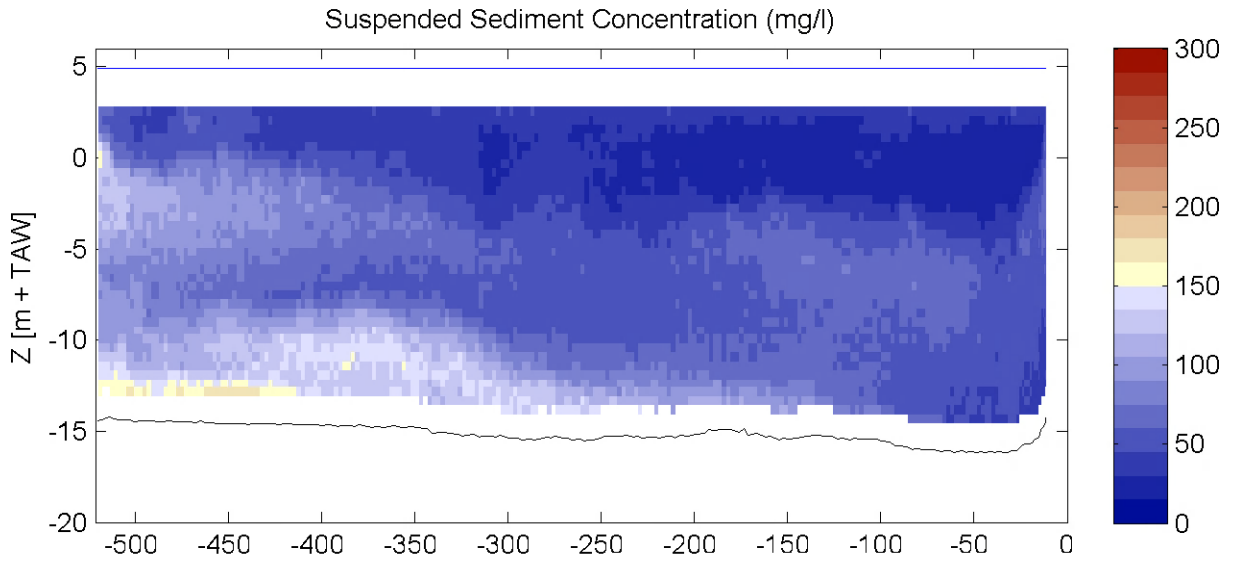
Time after HW [HH:MM]
2:08

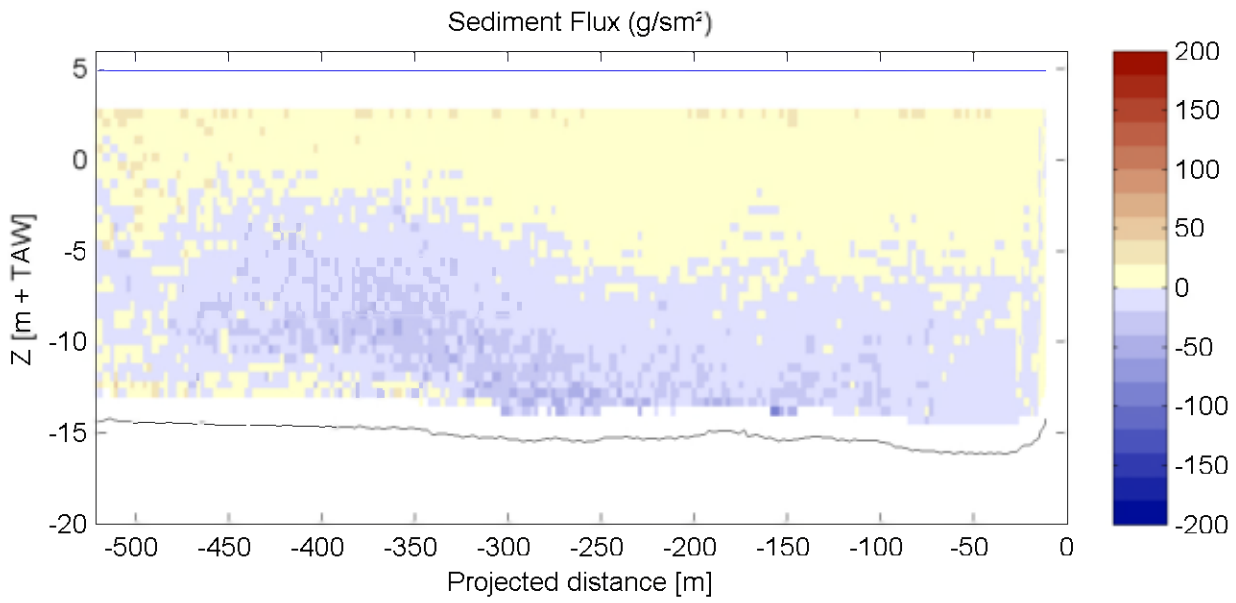
Data Processed by: IMDC
In association with :

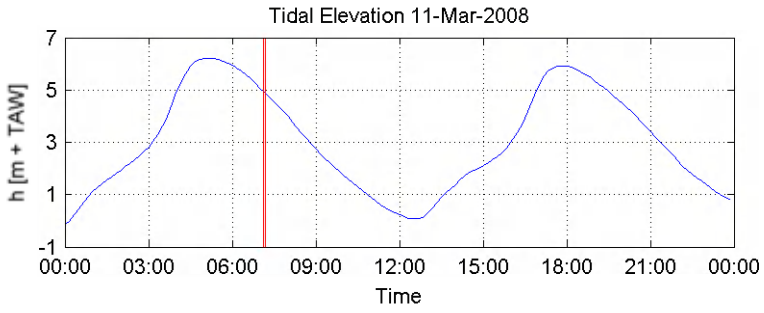
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3003DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
07:06 - 07:10

Time after HW [HH:MM]
2:08

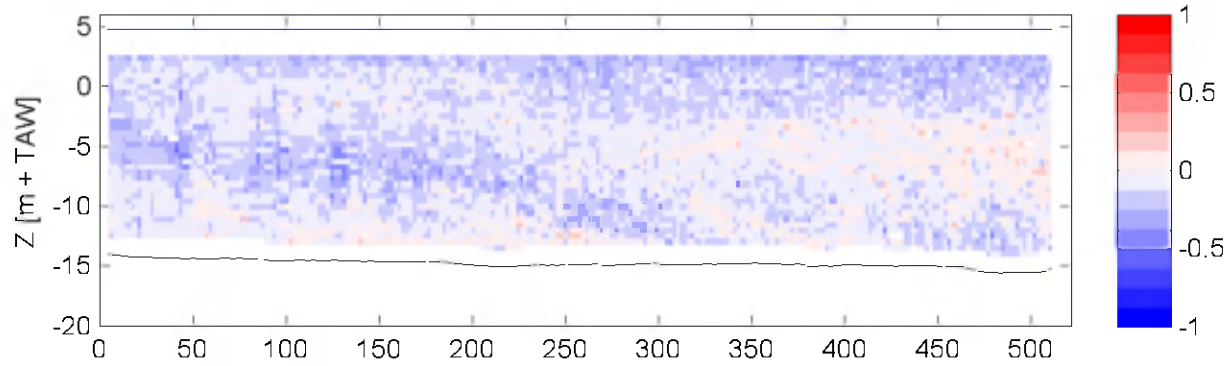
Data Processed by: IMDC
In association with :

I/RA/11283/07.090/MSA

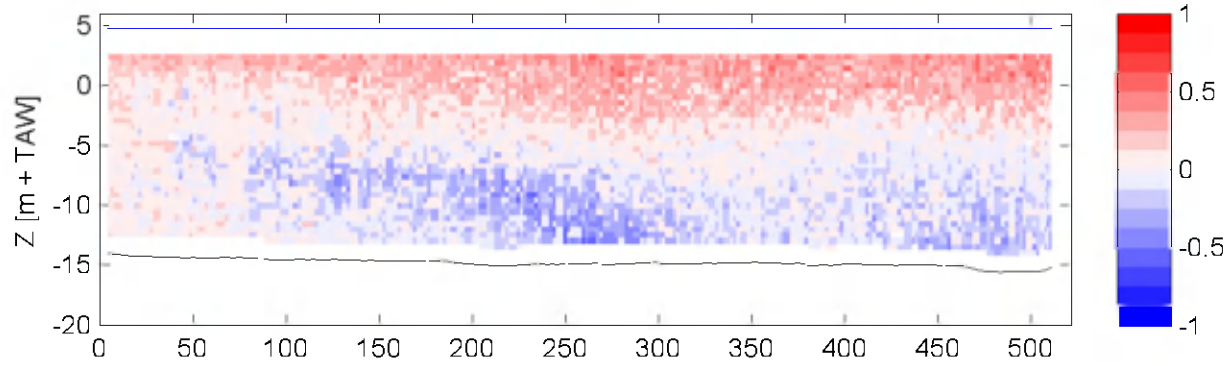
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3005DGDs_sub.csv	Location: Transect DGD

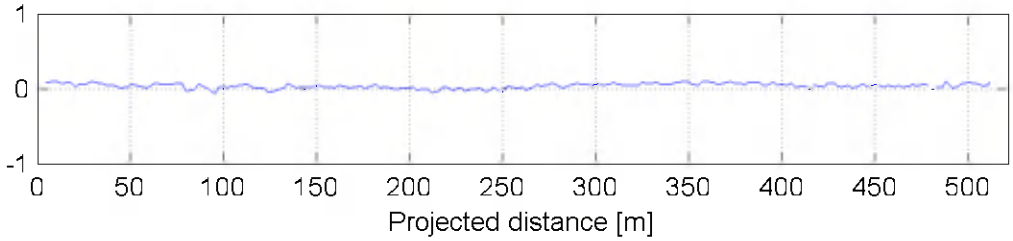
Parallel Current Velocity [m/s]



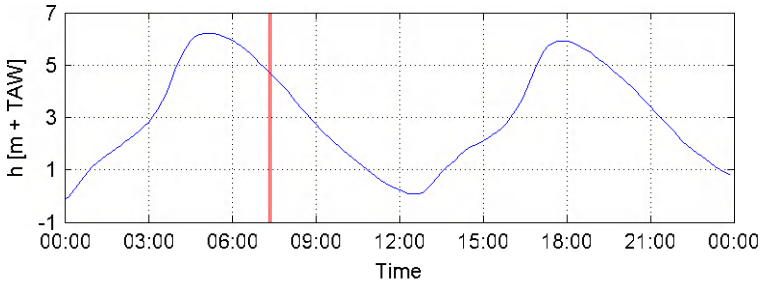
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
07:19 - 07:23

Time after HW [HH:MM]
2:21

Data Processed by: IMDC

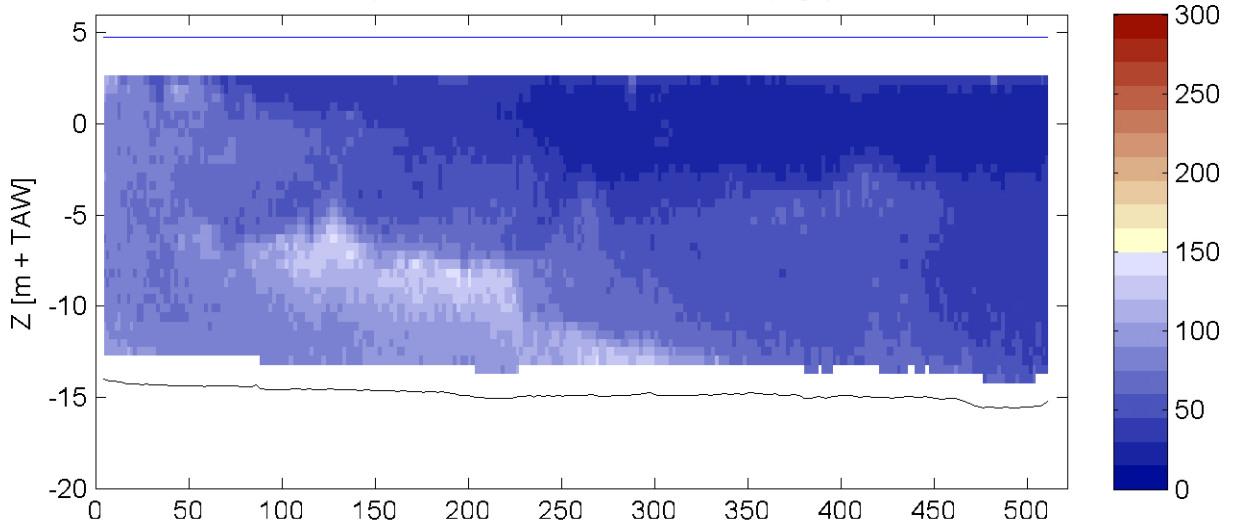
In association with :

I/RA/11283/07.090/MSA

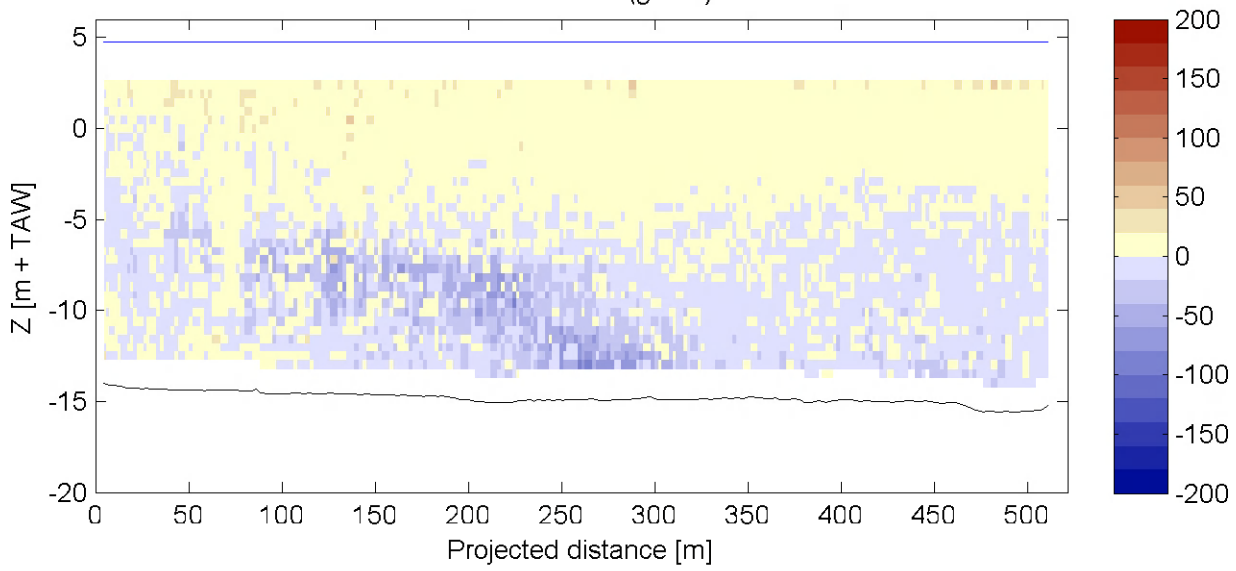
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3005DGDs_sub.csv	Location: Transect DGD

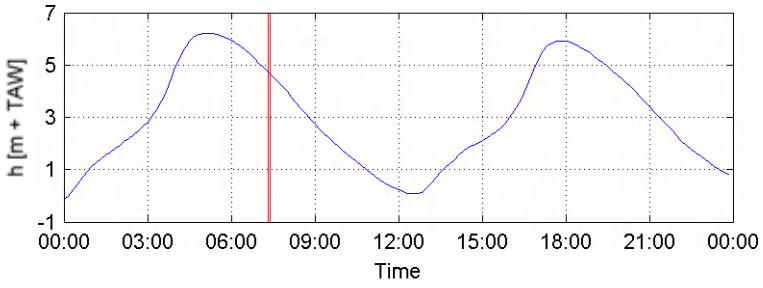
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
07:19 - 07:23

Time after HW [HH:MM]
2:21

Data Processed by: IMDC

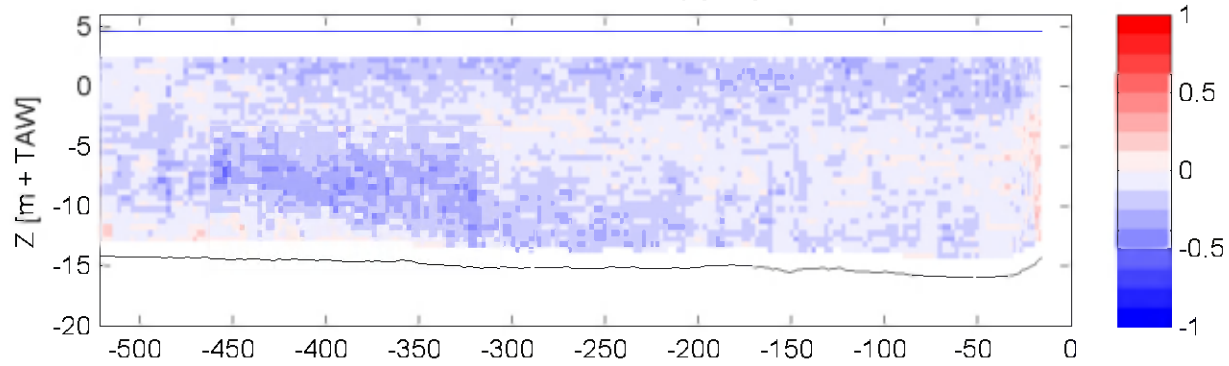
In association with :

I/RA/11283/07.090/MSA

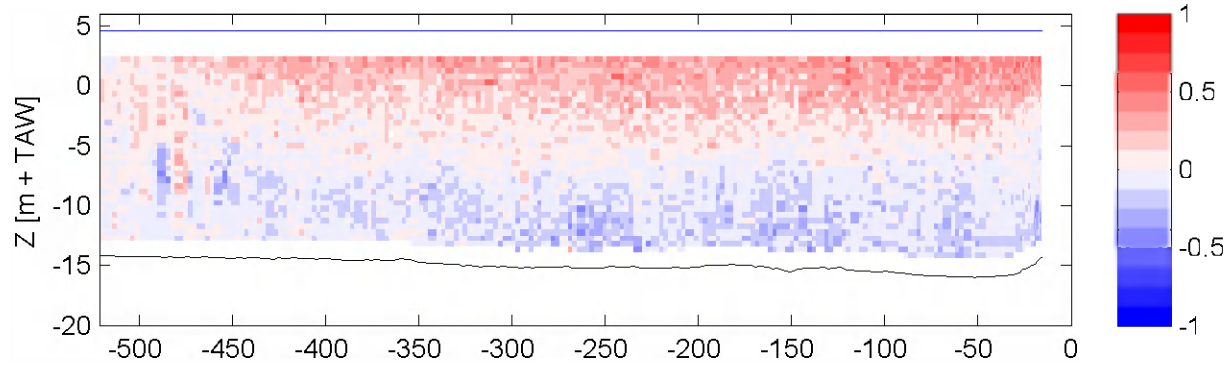
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3007DGDt_sub.csv	Location: Transect DGD

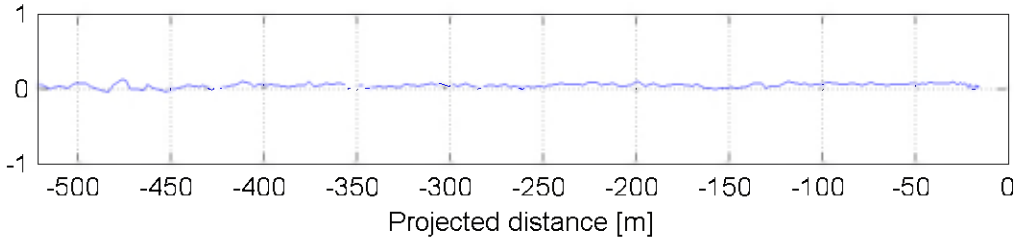
Parallel Current Velocity [m/s]



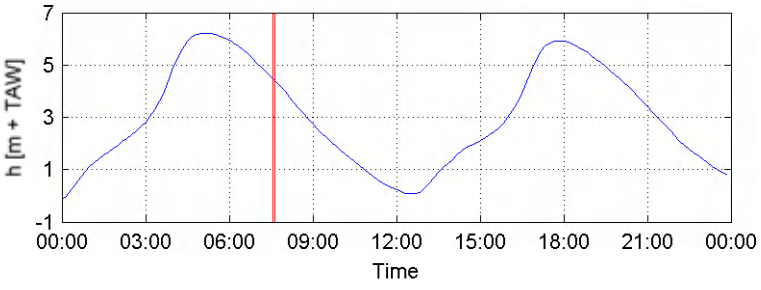
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
07:34 - 07:38

Time after HW [HH:MM]
2:36

Data Processed by: IMDC

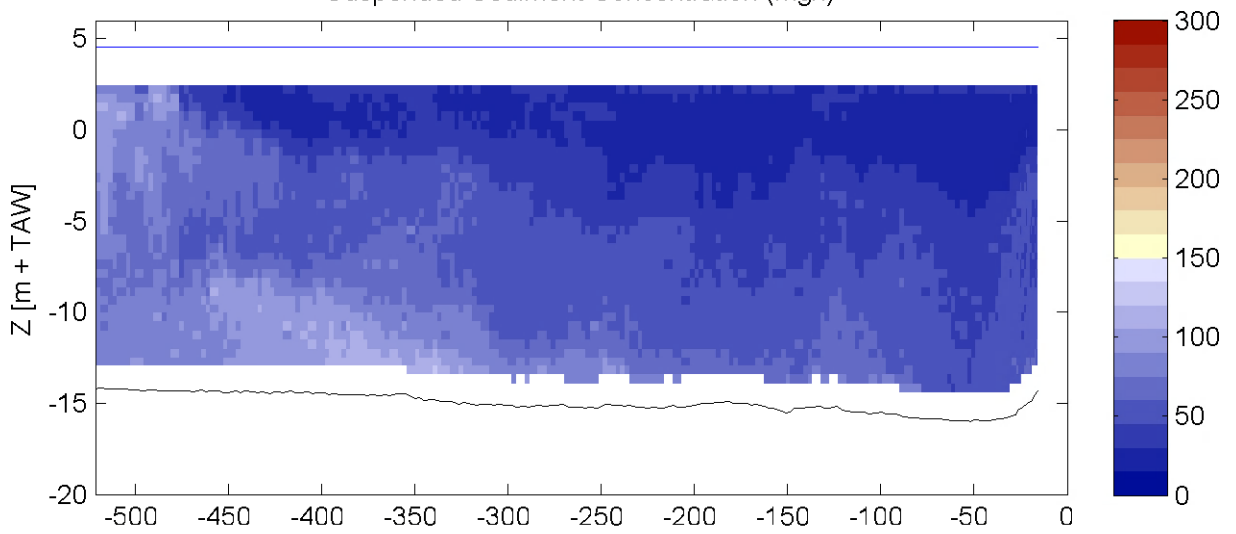
In association with :

I/RA/11283/07.090/MSA

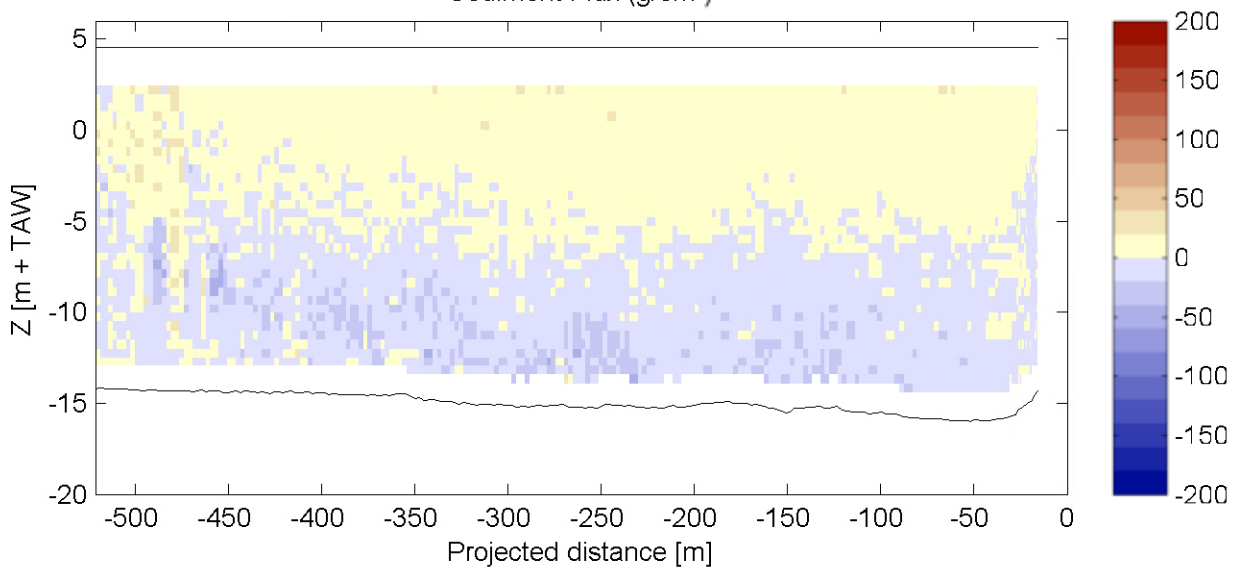
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3007DGDt_sub.csv	Location: Transect DGD

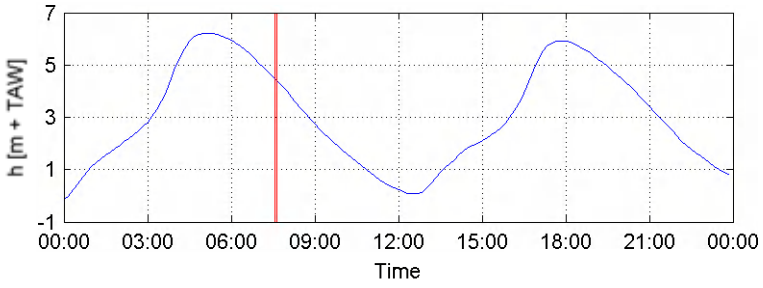
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
07:34 - 07:38

Time after HW [HH:MM]
2:36

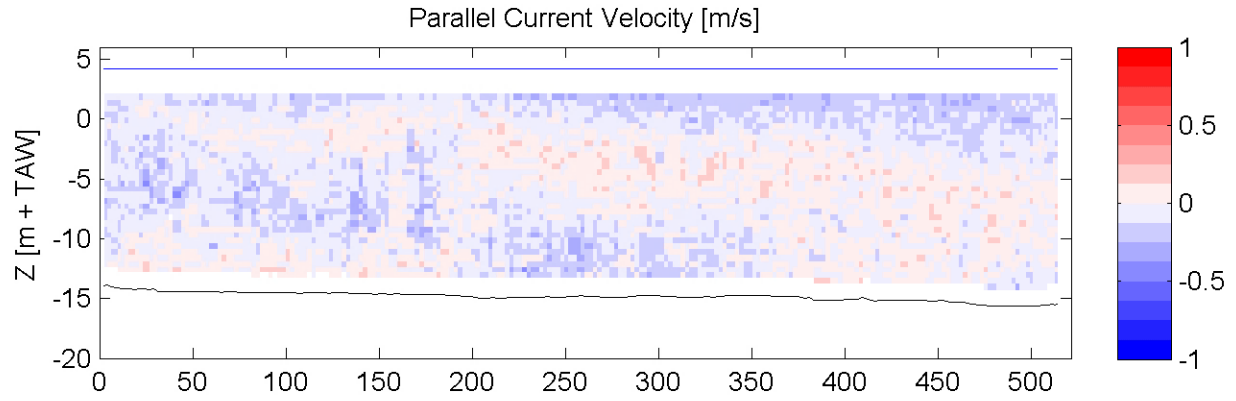
Data Processed by: IMDC

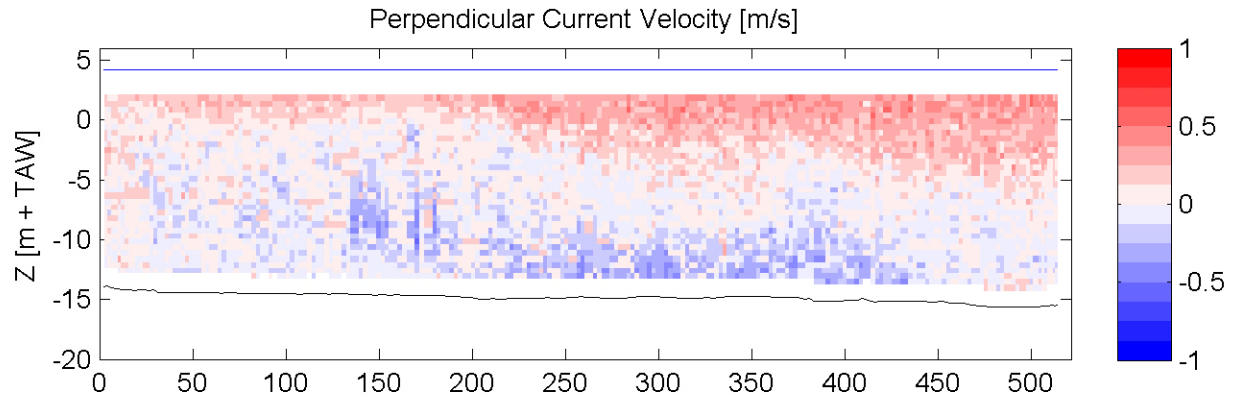
In association with :

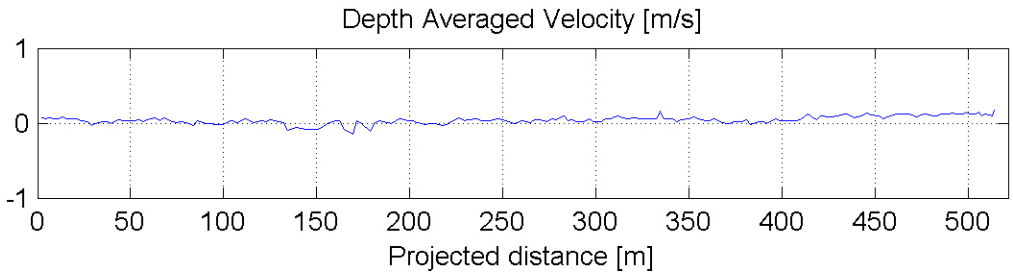
I/RA/11283/07.090/MSA

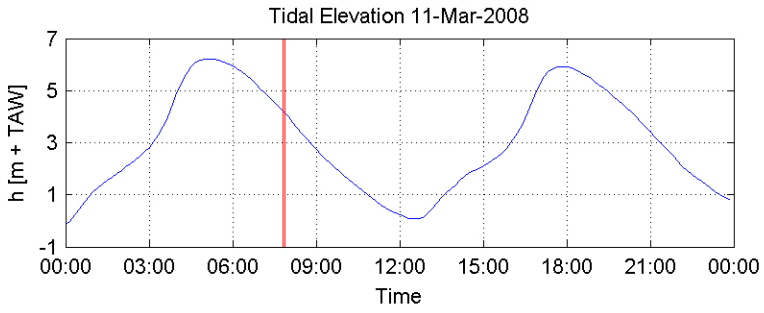
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3009DGDs_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

07:49 - 07:52

Time after HW [HH:MM]

2:51

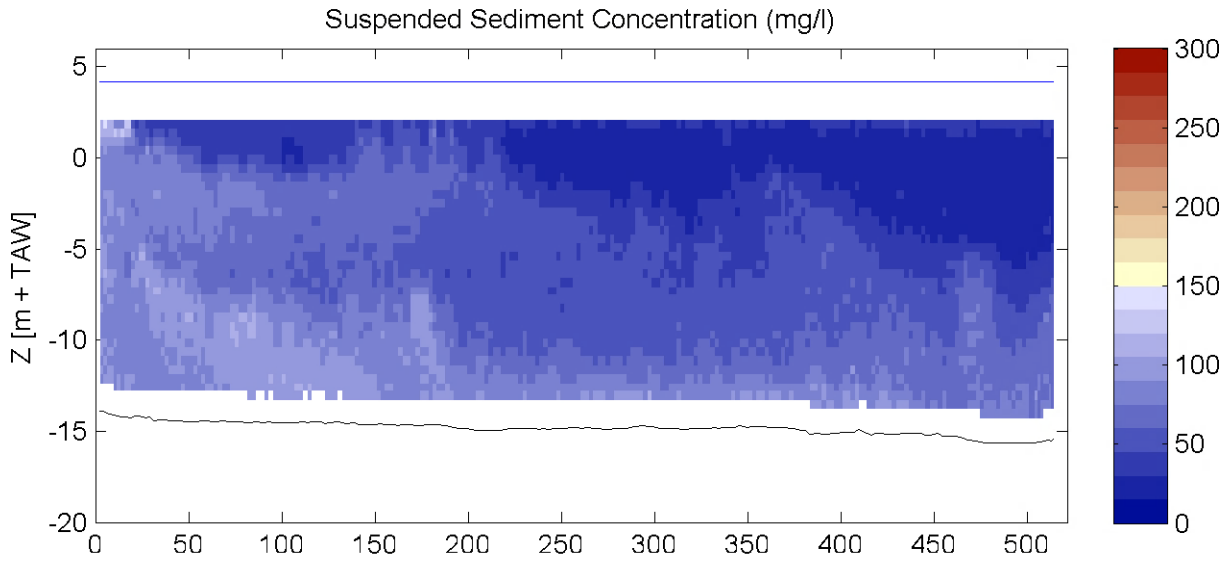
Data Processed by: IMDC

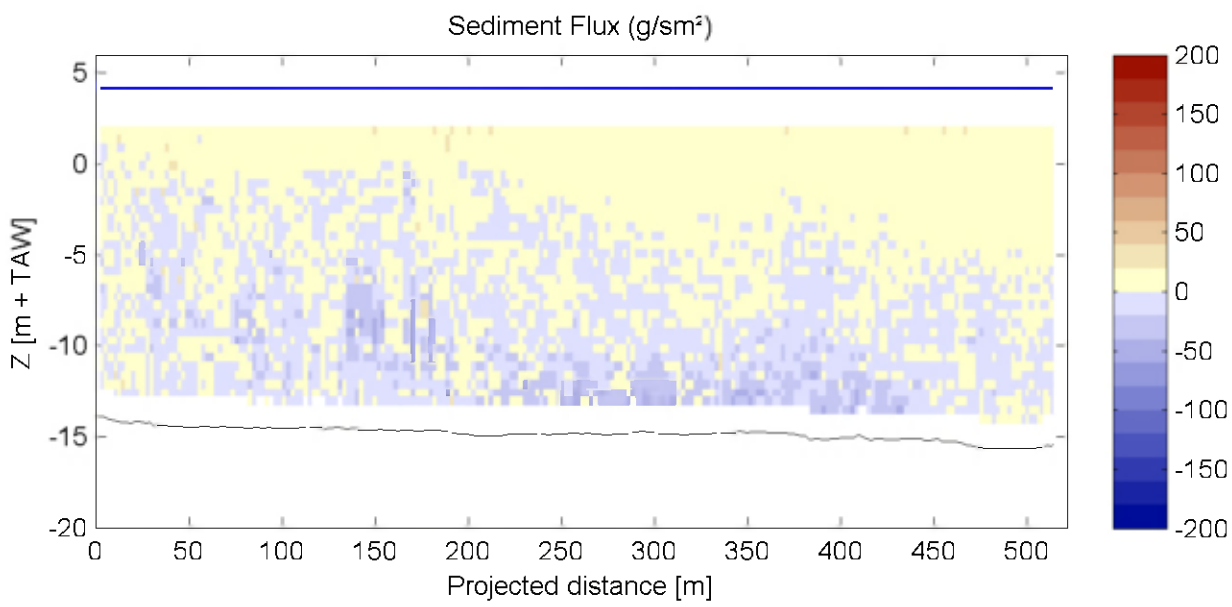
In association with : w.l | delft hydraulics, GEMS International

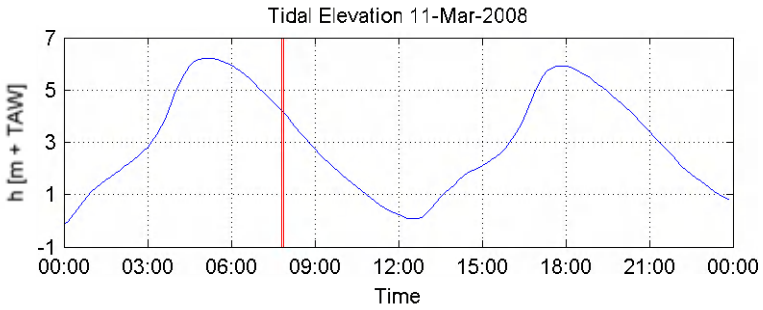
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3009DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
07:49 - 07:52

Time after HW [HH:MM]
2:51

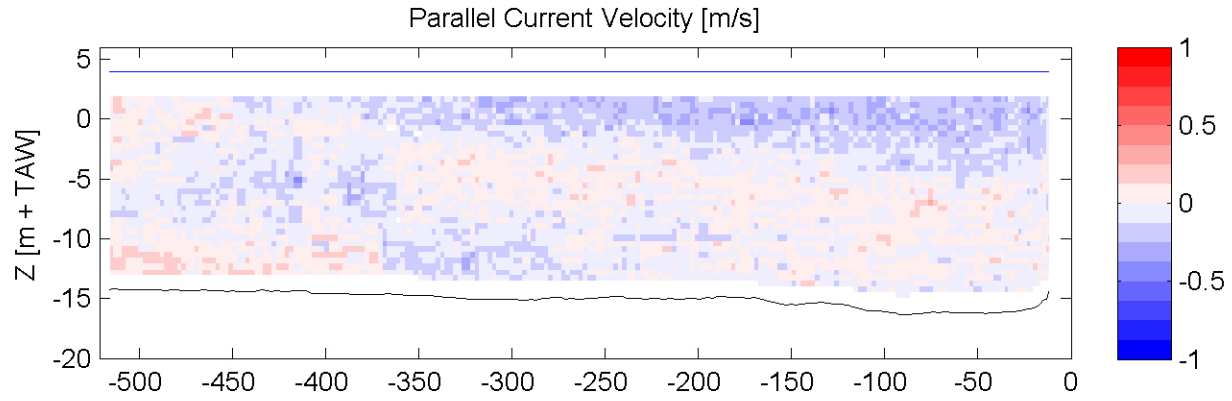
Data Processed by: IMDC

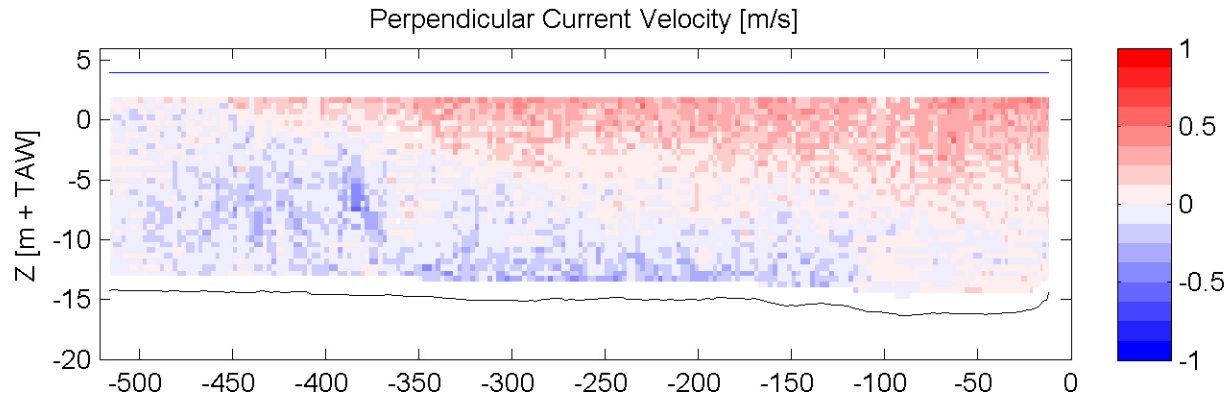
In association with :

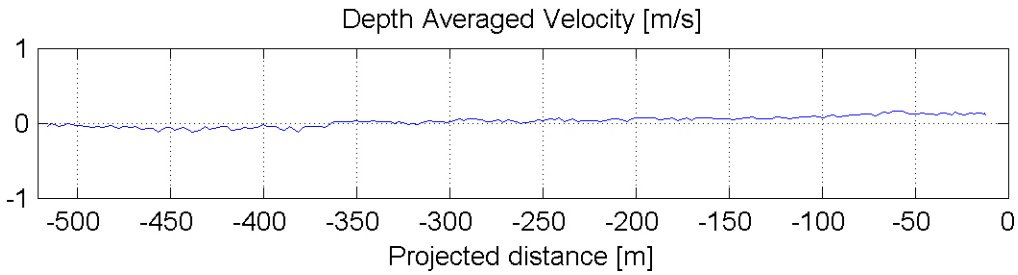
I/RA/11283/07.090/MSA

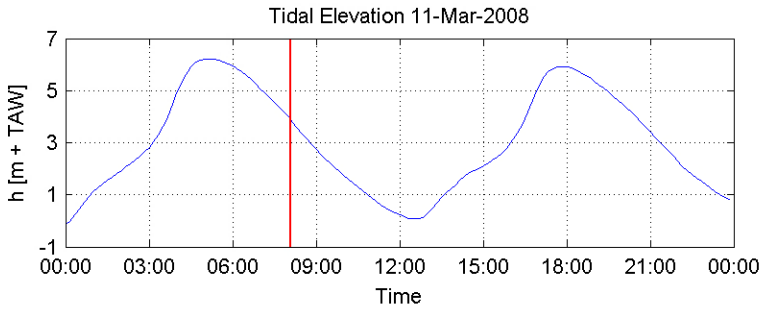
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3011DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

08:02 - 08:05

Time after HW [HH:MM]

3:03

Data Processed by: IMDC

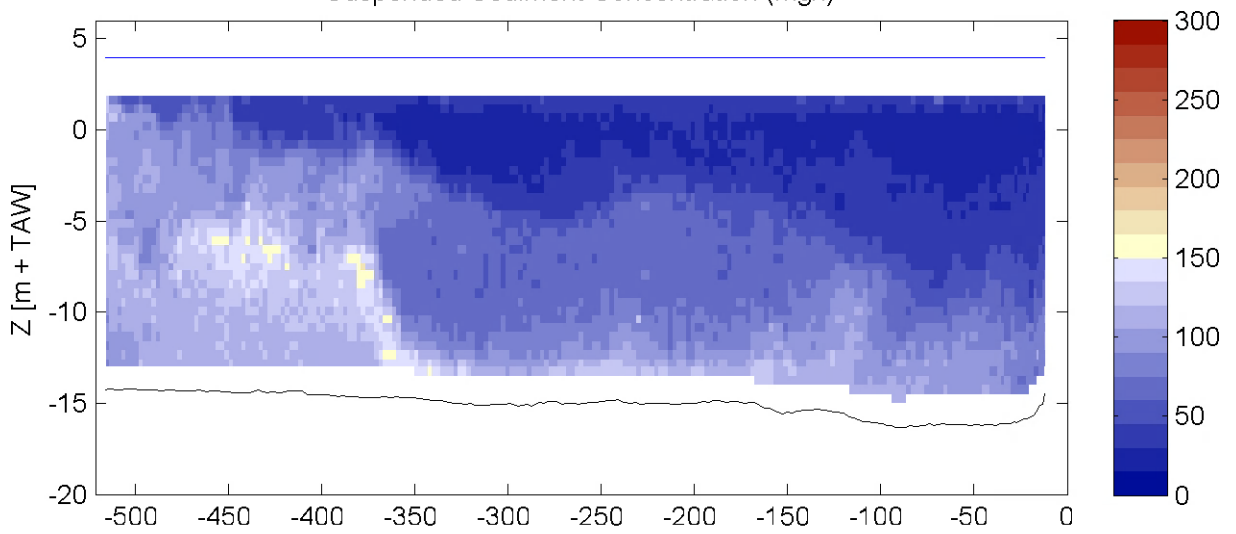
In association with : WL | delft hydraulics, GEMS International

I/RA/11283/07.090/MSA

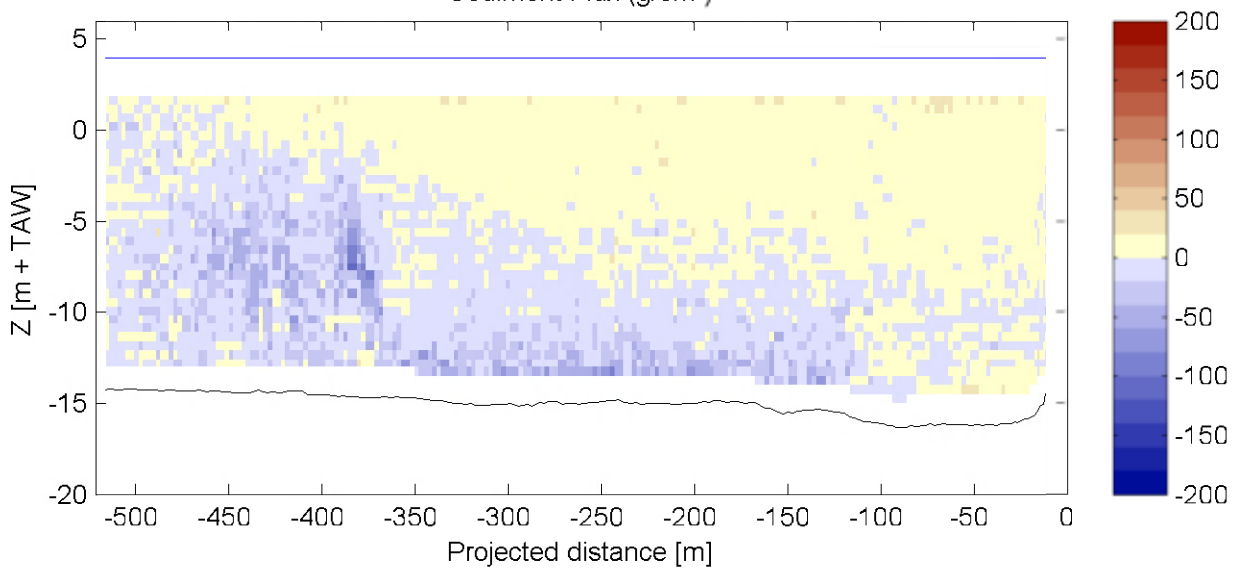
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3011DGDt_sub.csv	Location: Transect DGD

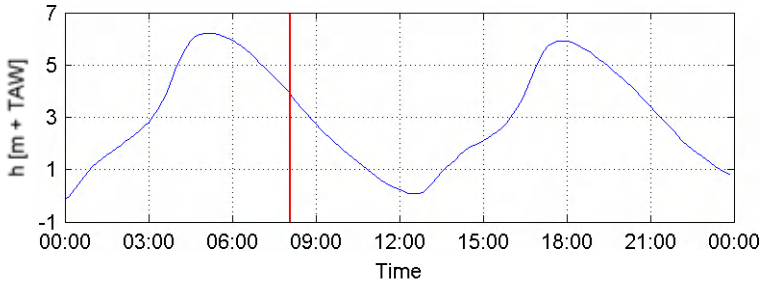
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
08:02 - 08:05

Time after HW [HH:MM]
3:03

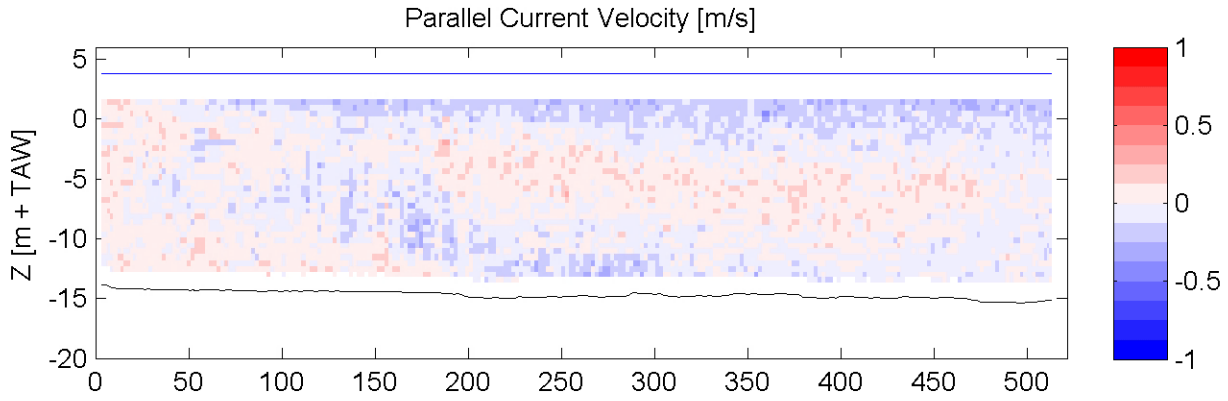
Data Processed by: IMDC

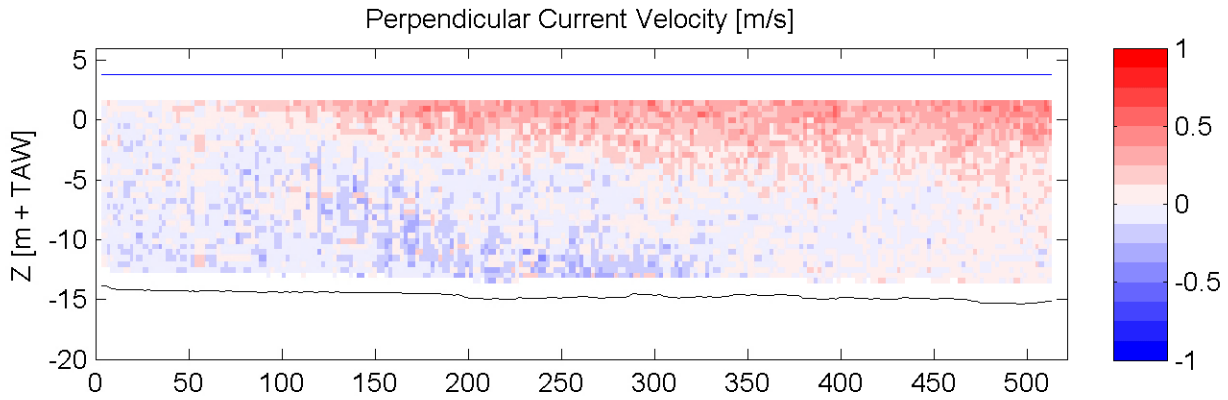
In association with :

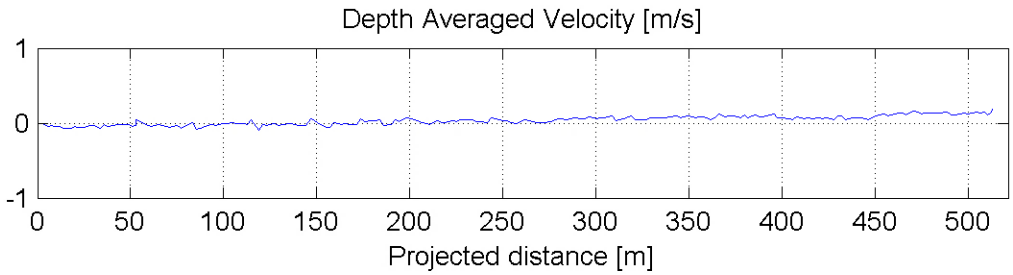
I/RA/11283/07.090/MSA

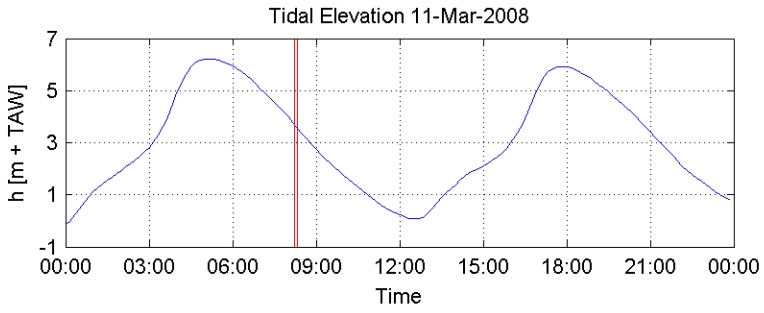
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3013DGDs_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

08:14 - 08:18

Time after HW [HH:MM]

3:16

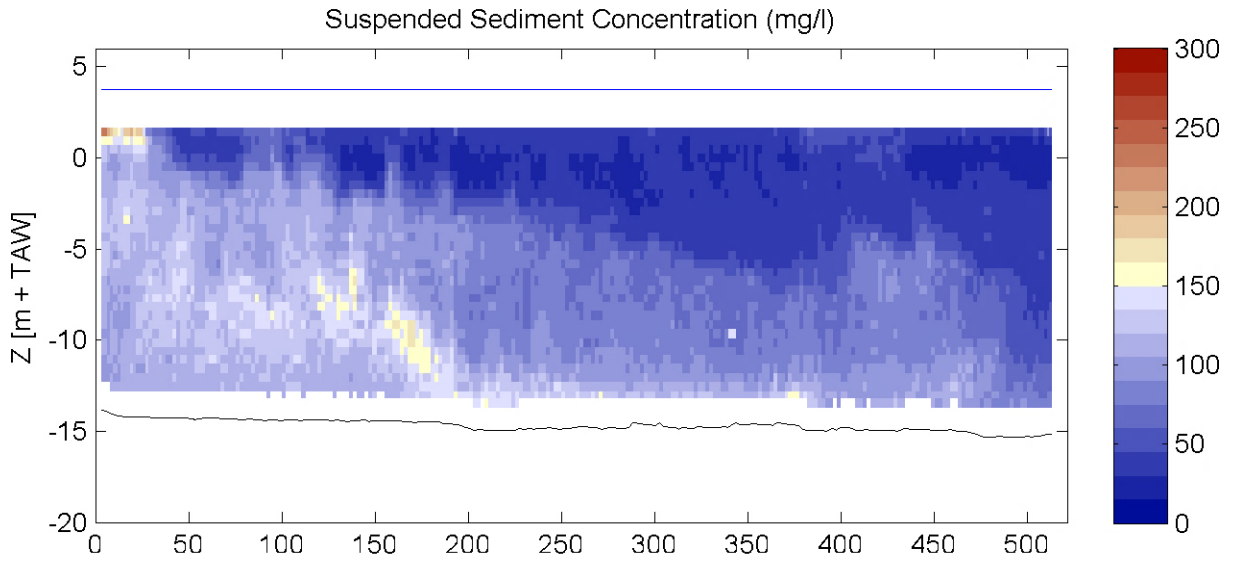
Data Processed by: IMDC

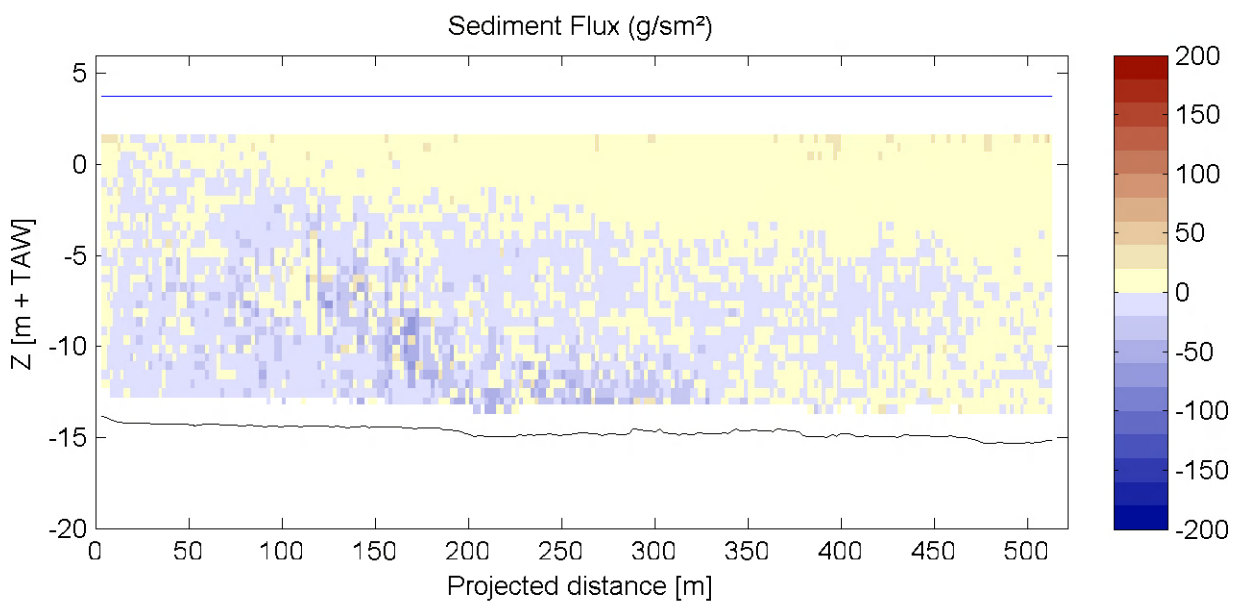
In association with : WL | delft hydraulics, GEMS International

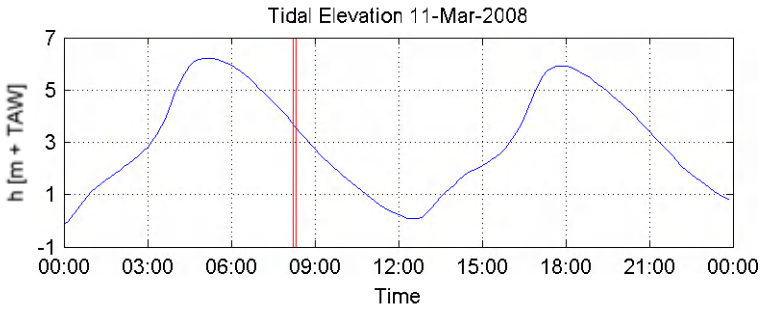
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3013DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

08:14 - 08:18

Time after HW [HH:MM]

3:16

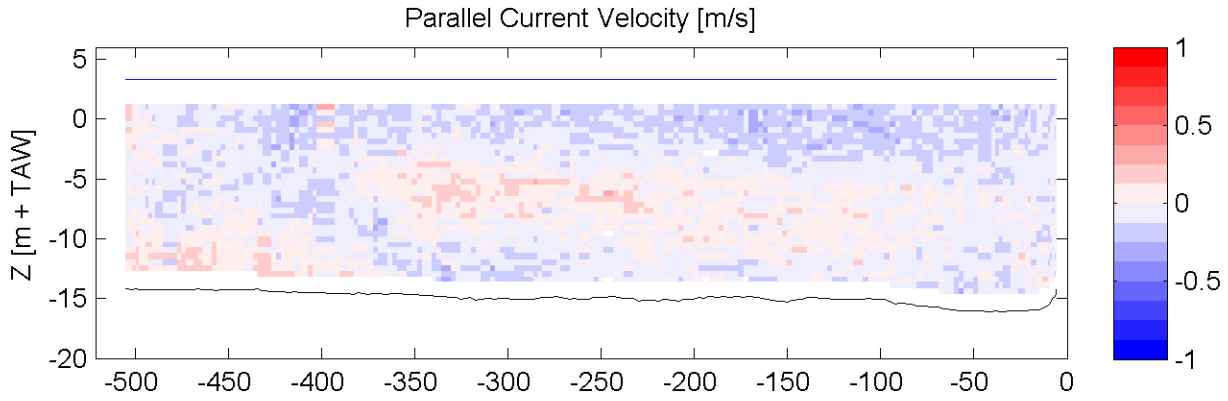
Data Processed by: IMDC

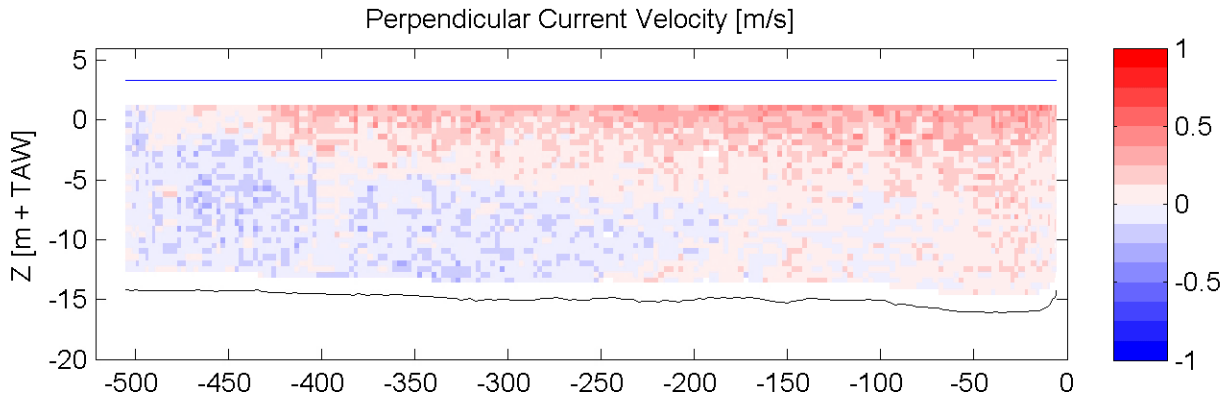
In association with :

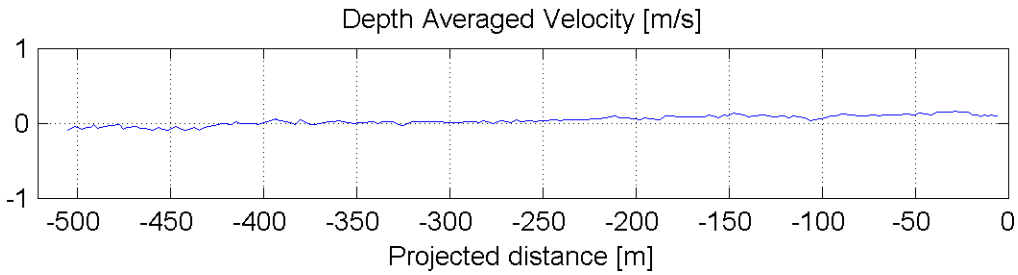
I/RA/11283/07.090/MSA

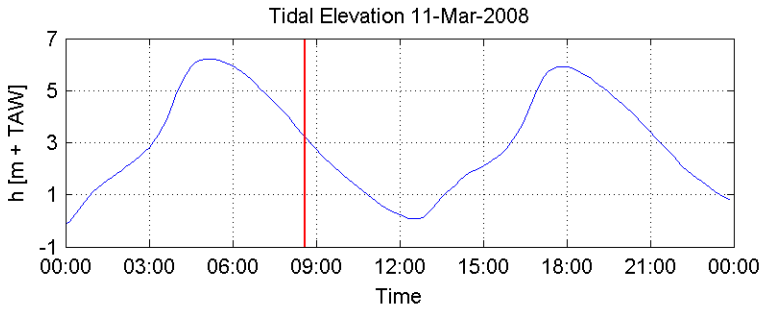
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3015DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

08:33 - 08:37

Time after HW [HH:MM]

3:35

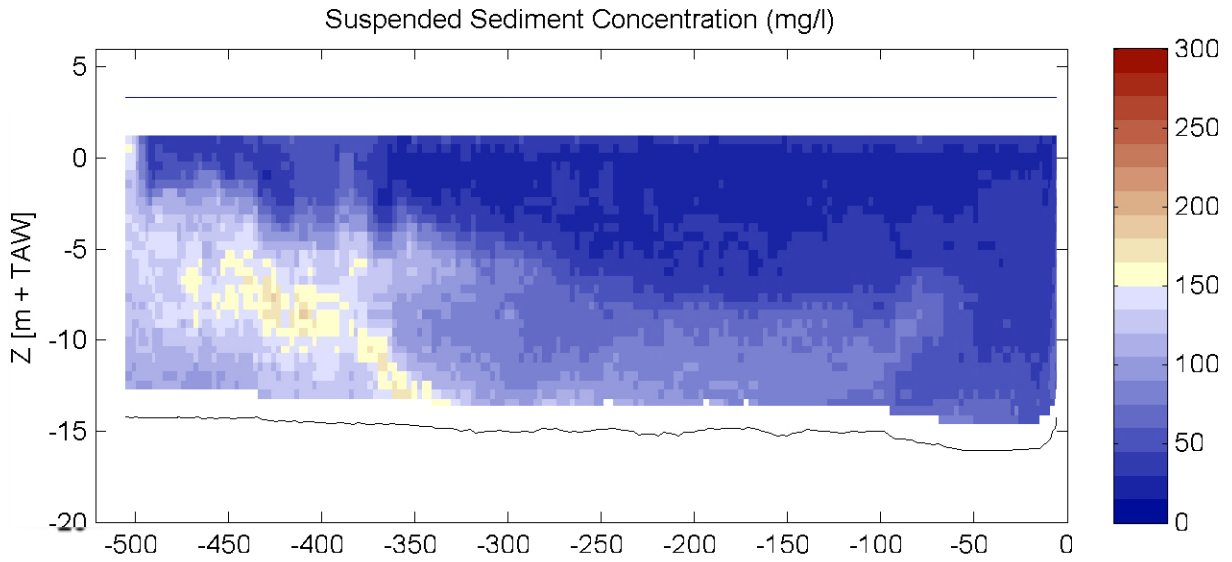
Data Processed by: IMDC

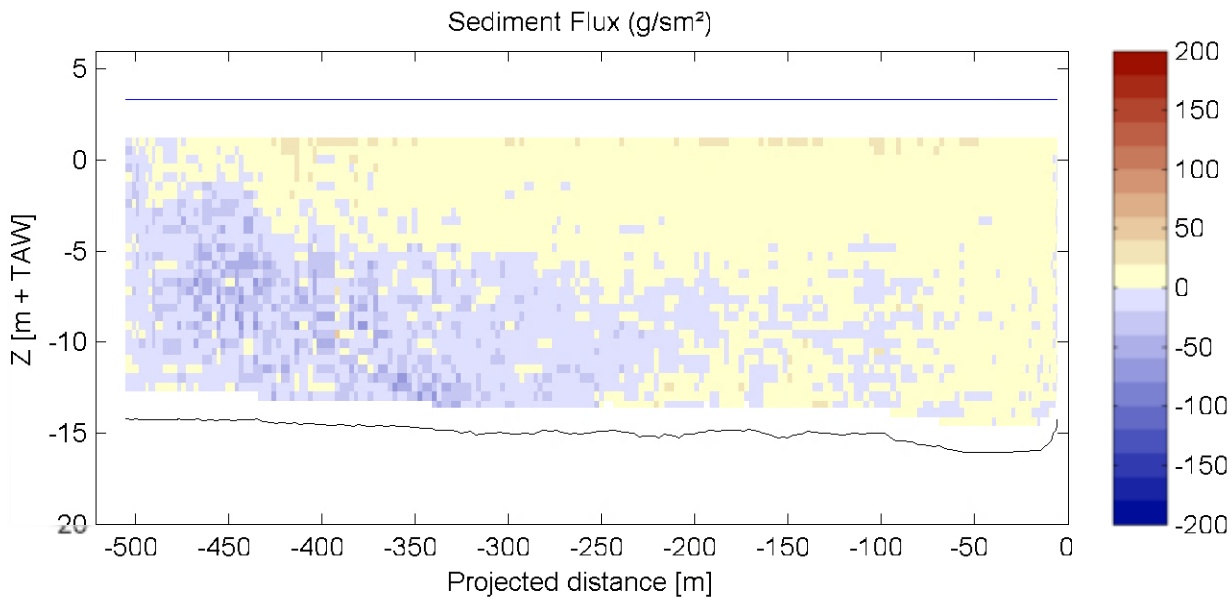
In association with : w.l | delft hydraulics, GEMS International

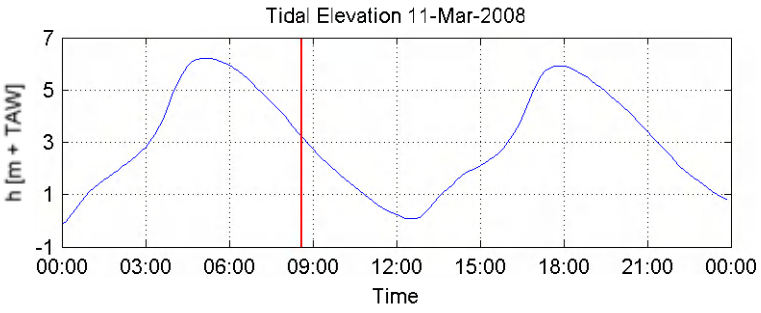
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3015DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
08:33 - 08:37

Time after HW [HH:MM]
3:35

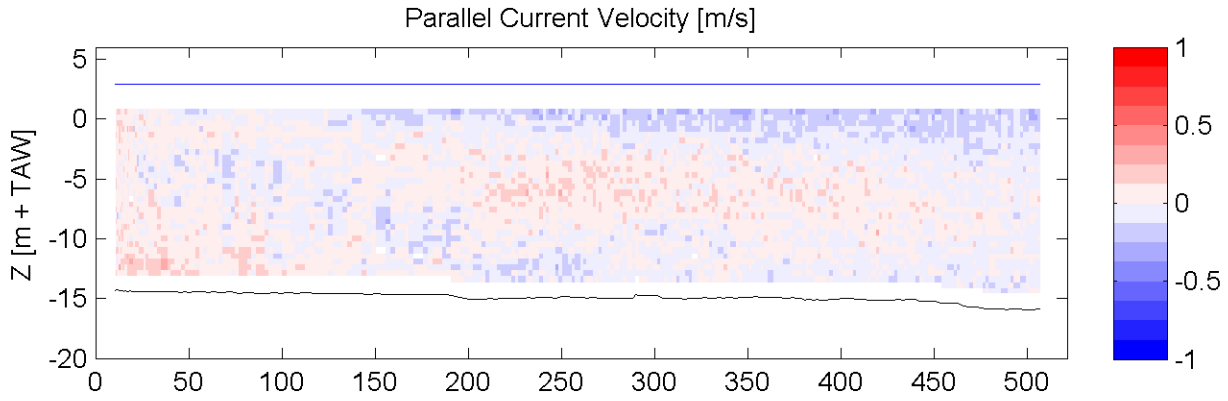
Data Processed by: IMDC

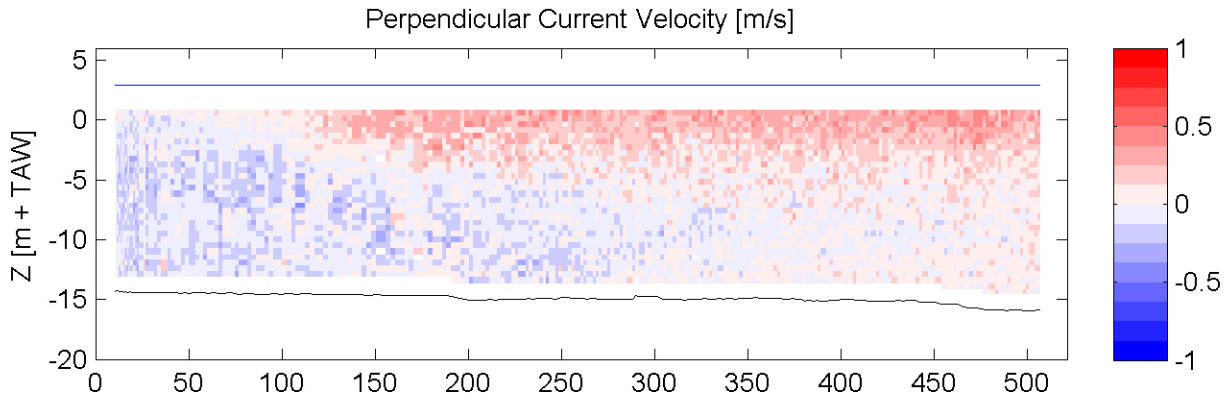
In association with :

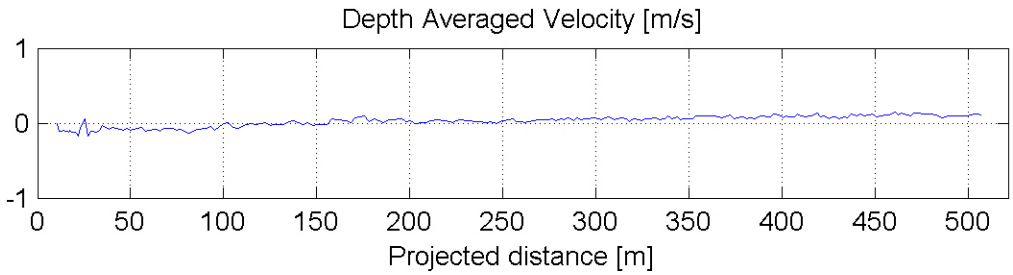
I/RA/11283/07.090/MSA

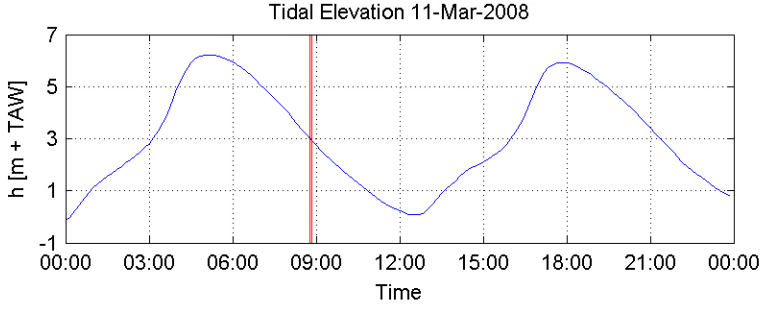
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3017DGDs_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

08:45 - 08:50

Time after HW [HH:MM]

3:47

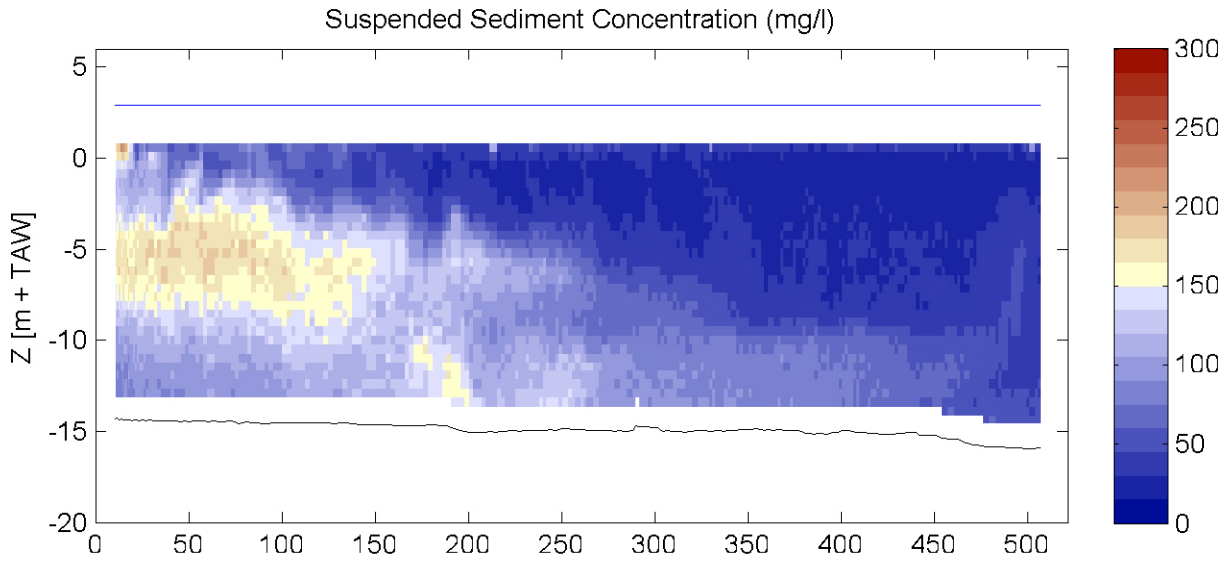
Data Processed by: IMDC

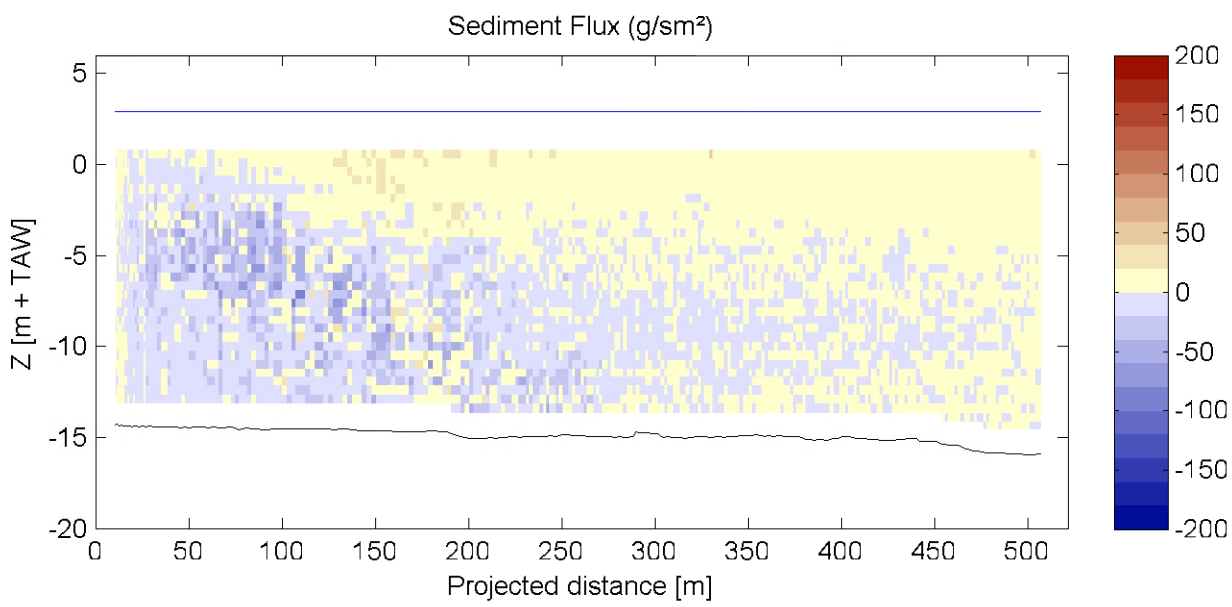
In association with : WL | delft hydraulics, GEMS International

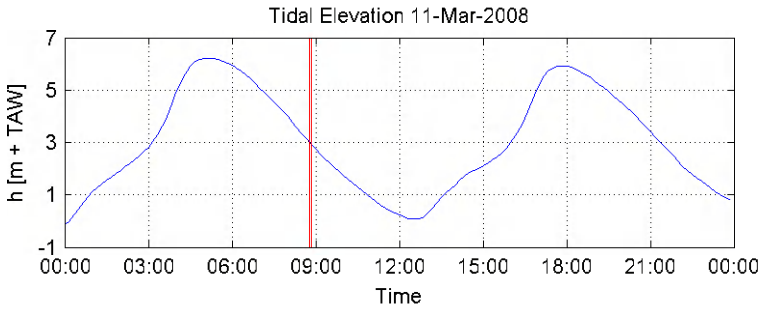
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3017DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

08:45 - 08:50

Time after HW [HH:MM]

3:47

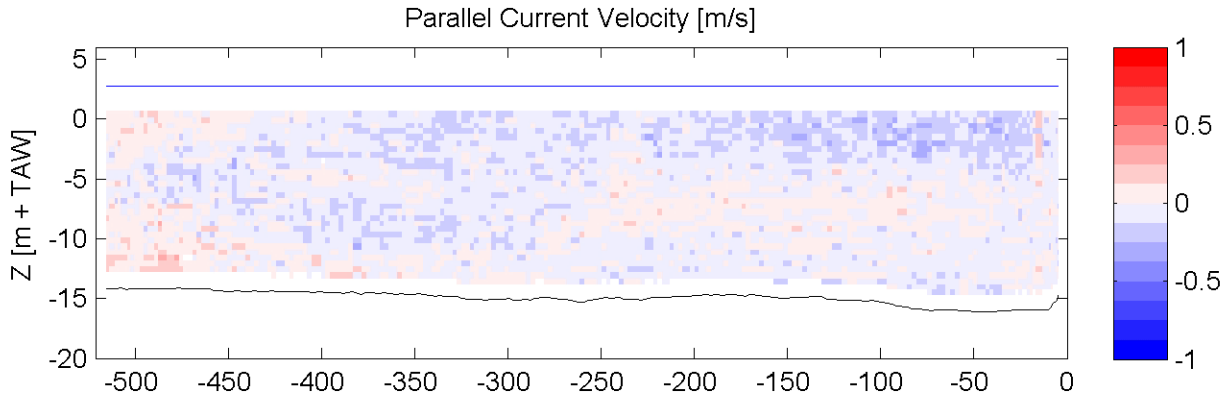
Data Processed by: IMDC

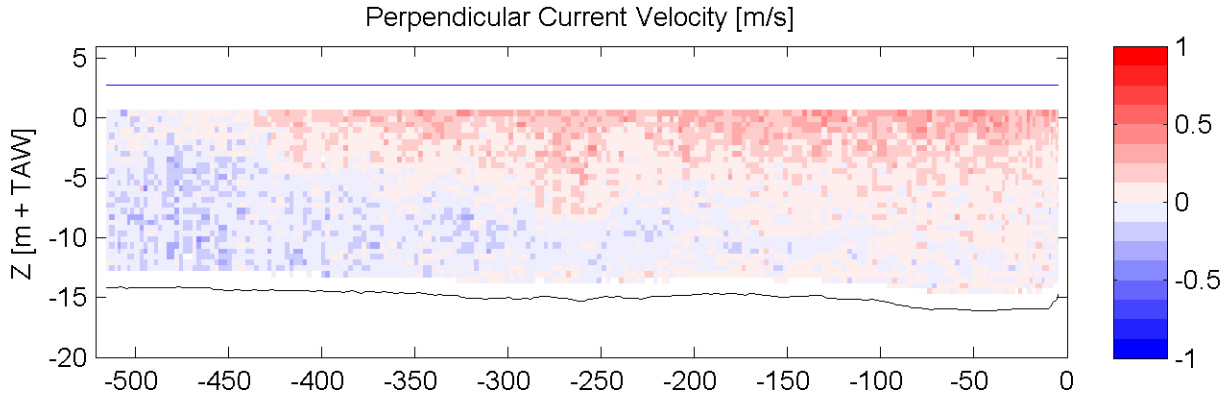
In association with :

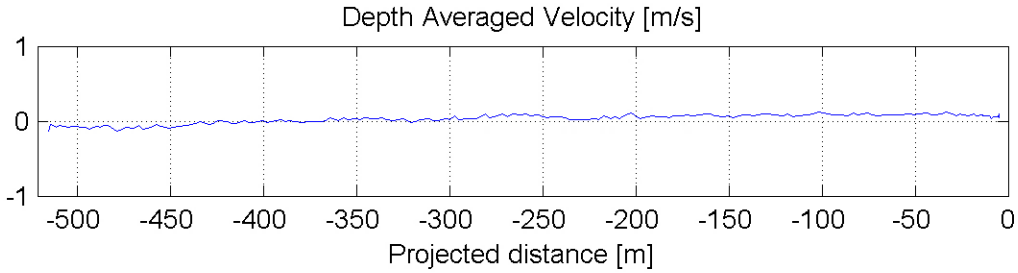
I/RA/11283/07.090/MSA

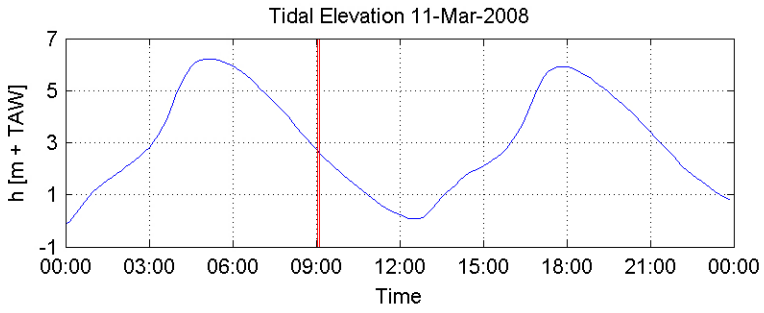
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3019DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

09:04 - 09:07

Time after HW [HH:MM]

4:05

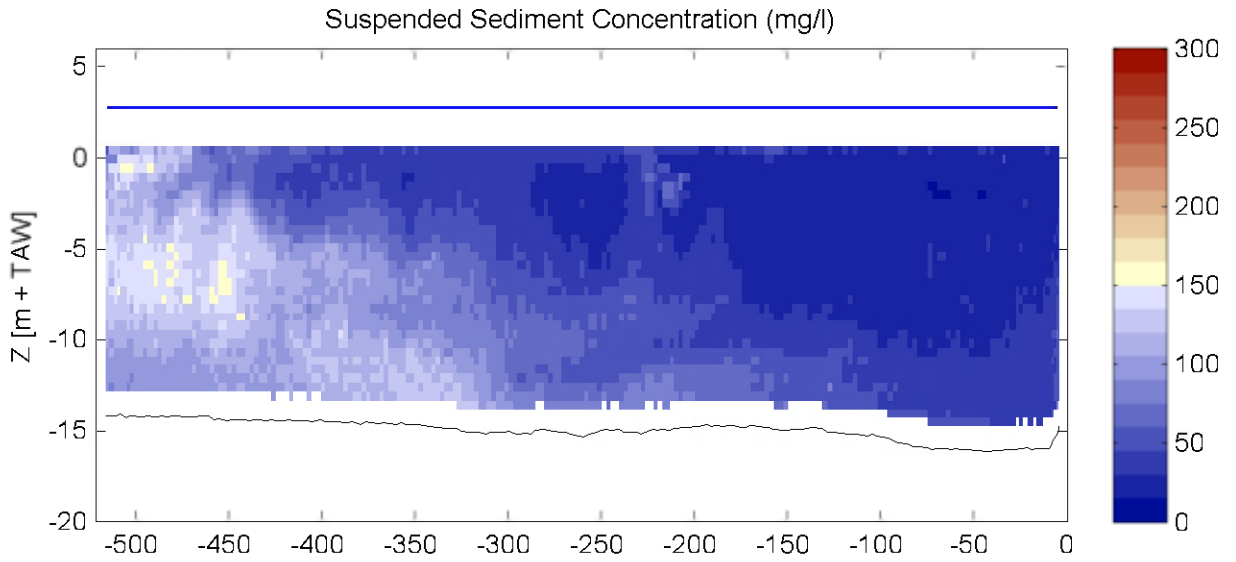
Data Processed by: IMDC

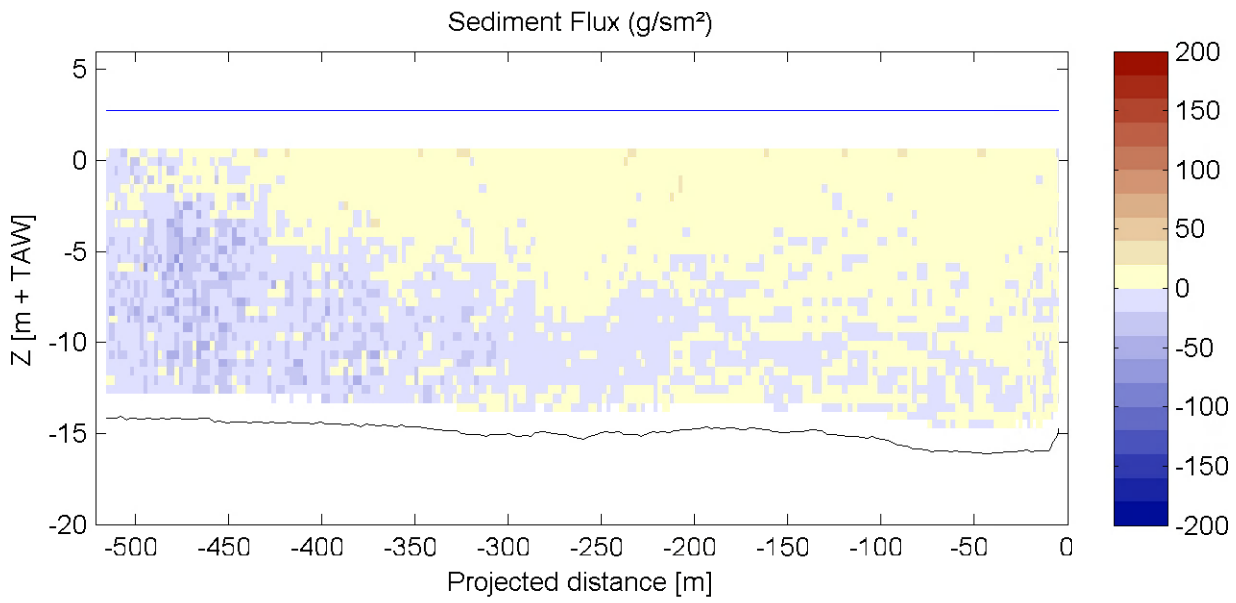
In association with : WL | delft hydraulics, GEMS International

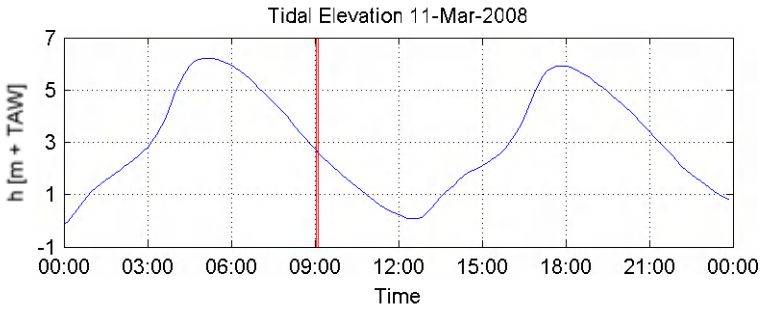
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3019DGDt_sub.csv	Location: Transect DGD







HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
09:04 - 09:07

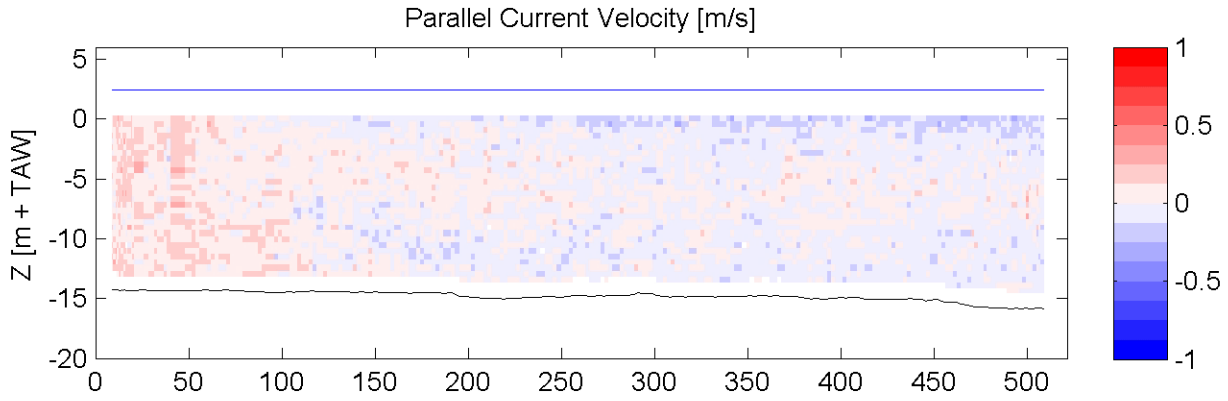
Time after HW [HH:MM]
4:05

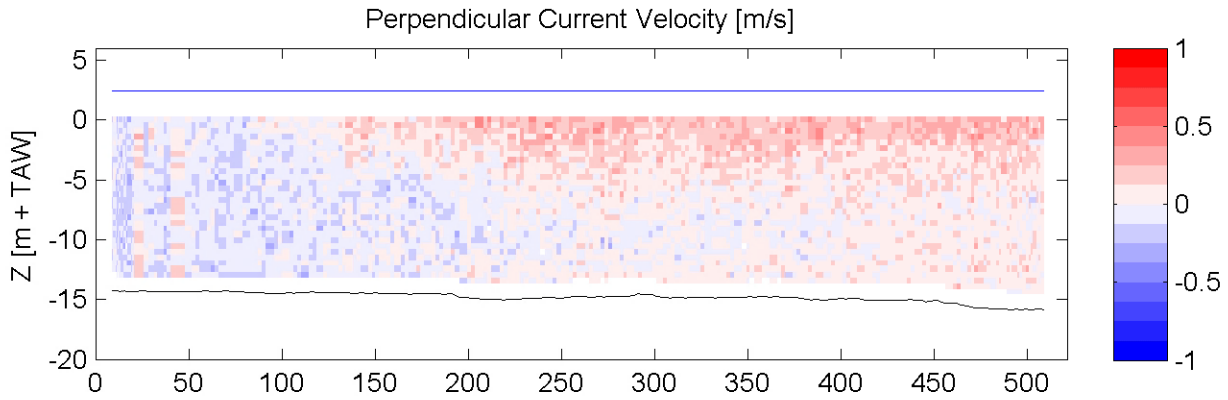
Data Processed by: IMDC
In association with :

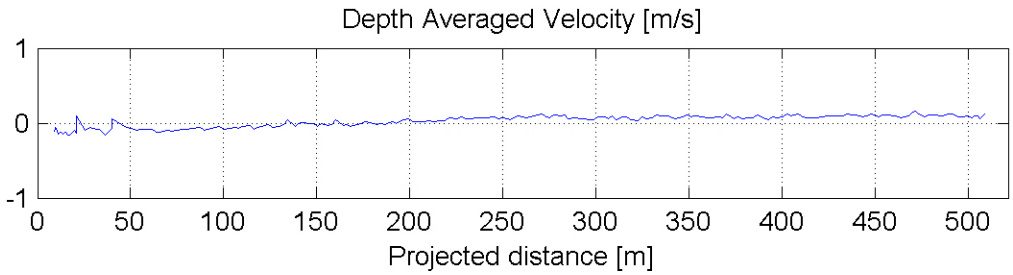
I/RA/11283/07.090/MSA

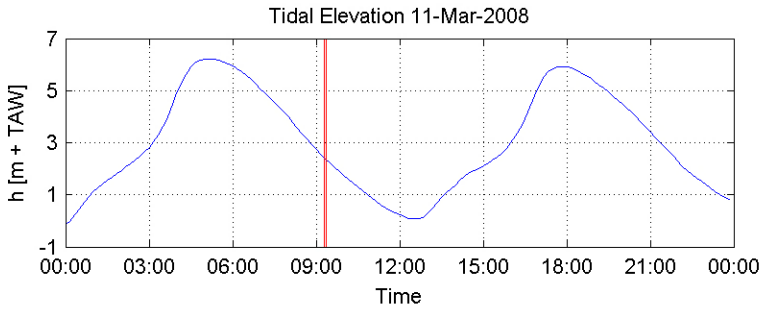
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3021DGDs_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

09:17 - 09:22

Time after HW [HH:MM]

4:20

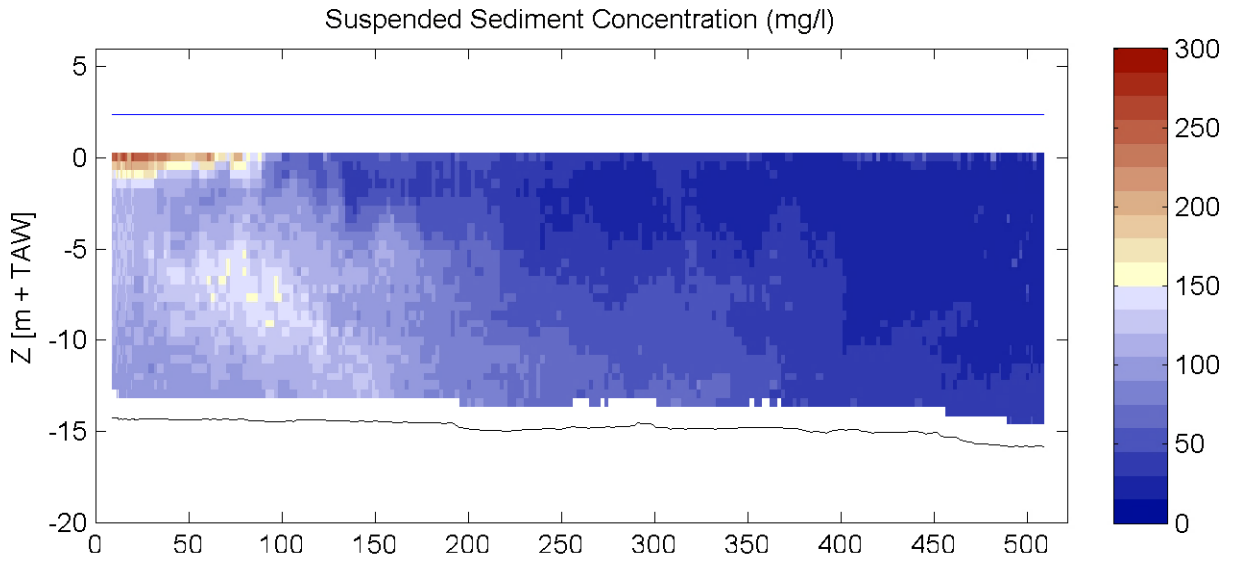
Data Processed by: IMDC

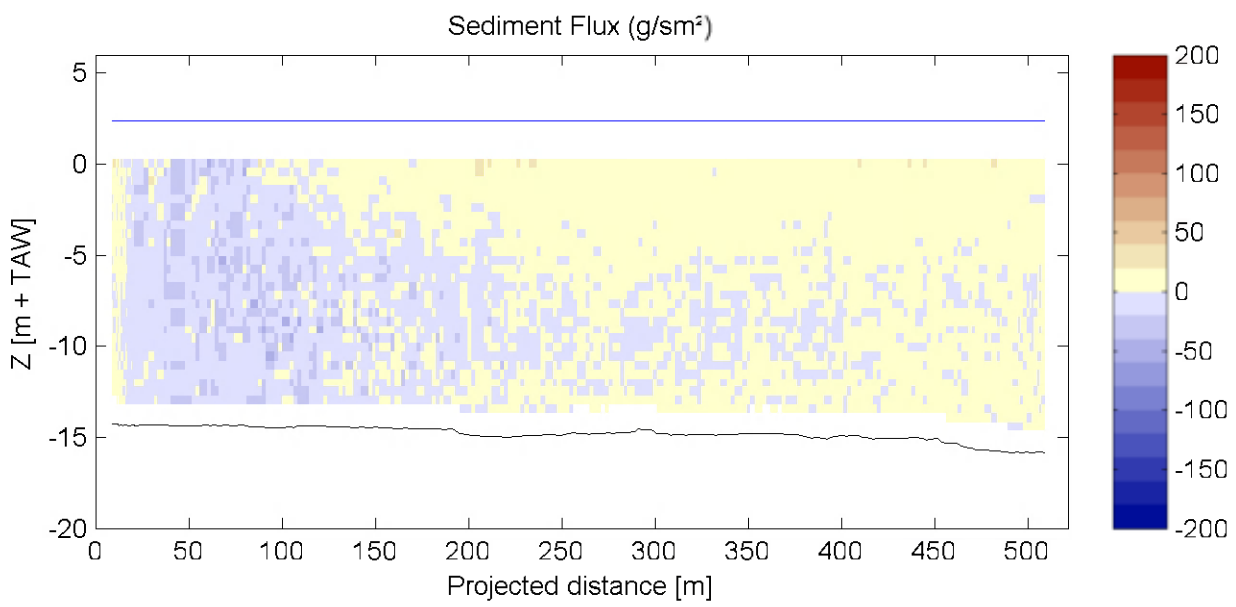
In association with : WL | delft hydraulics, GEMS International

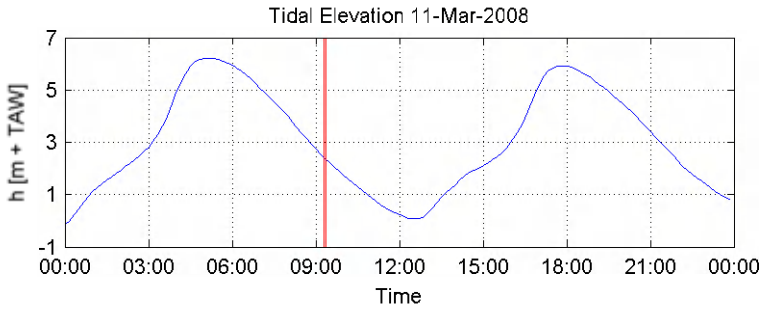
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3021DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
09:17 - 09:22

Time after HW [HH:MM]
4:20

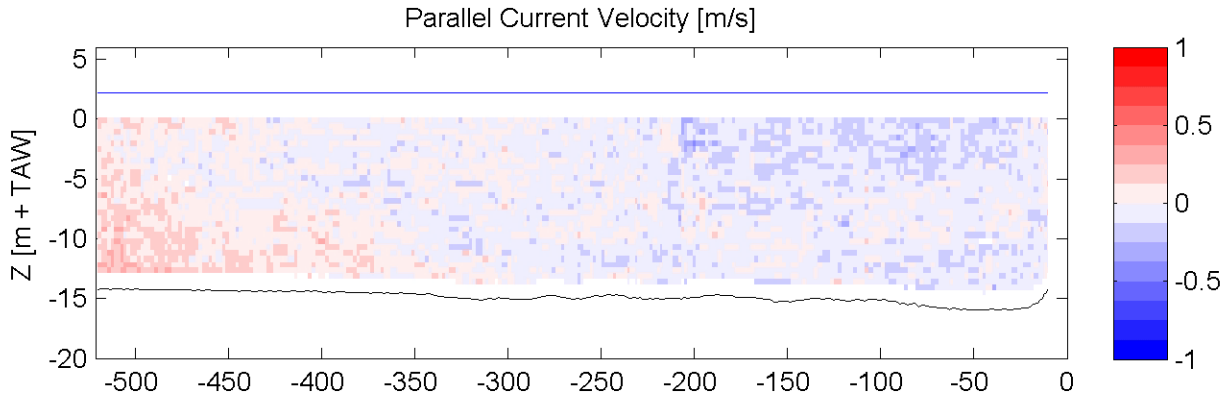
Data Processed by: IMDC

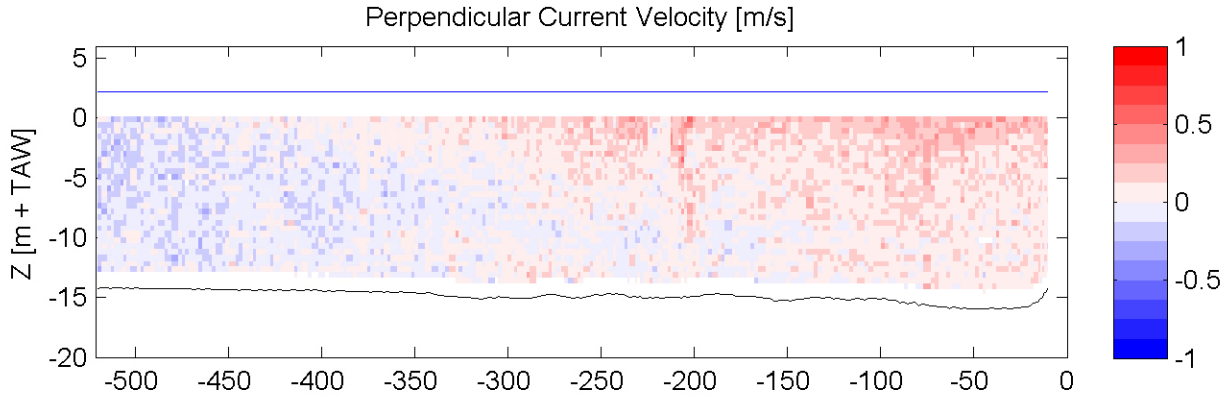
In association with :

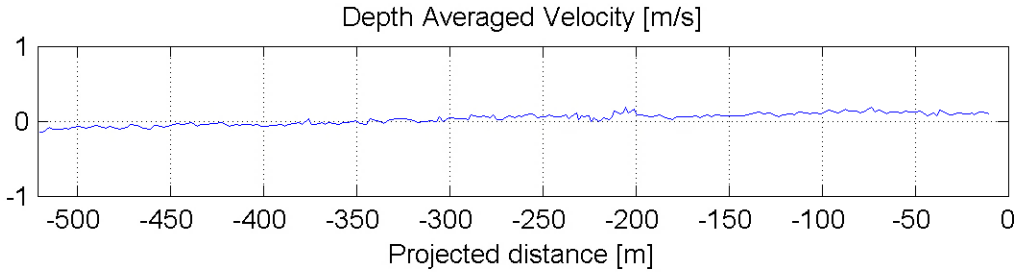
I/RA/11283/07.090/MSA

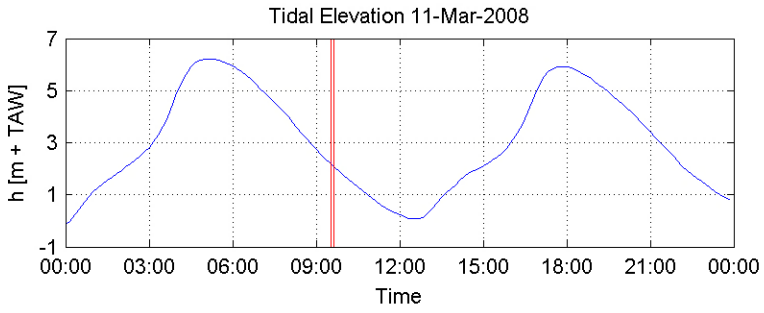
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3023DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

09:33 - 09:37

Time after HW [HH:MM]

4:35

Data Processed by: IMDC

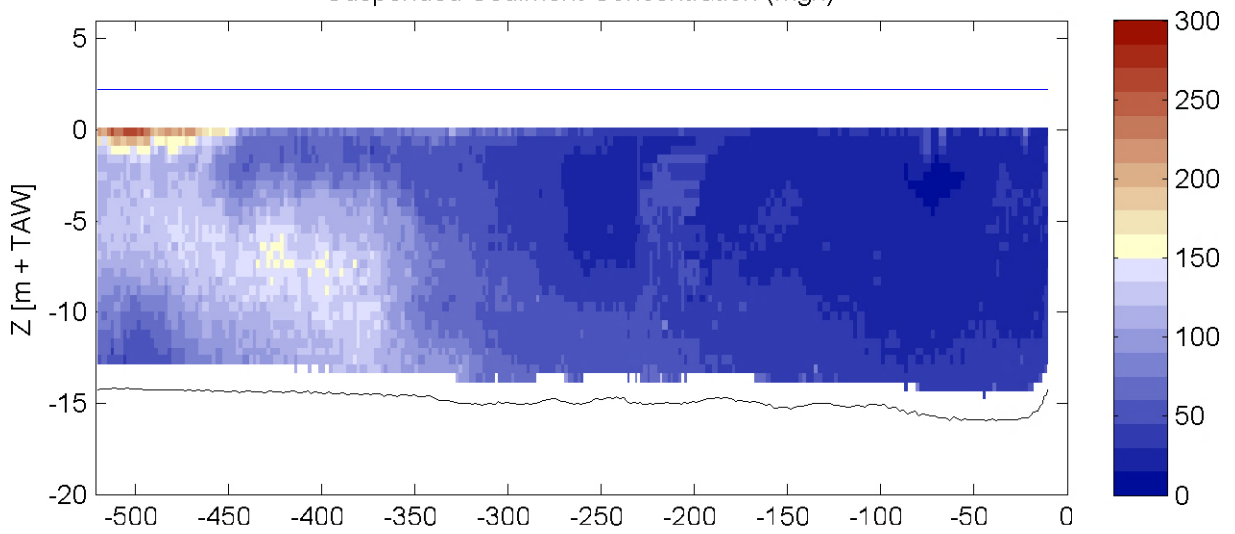
In association with : WL | delft hydraulics, GEMS International

I/RA/11283/07.090/MSA

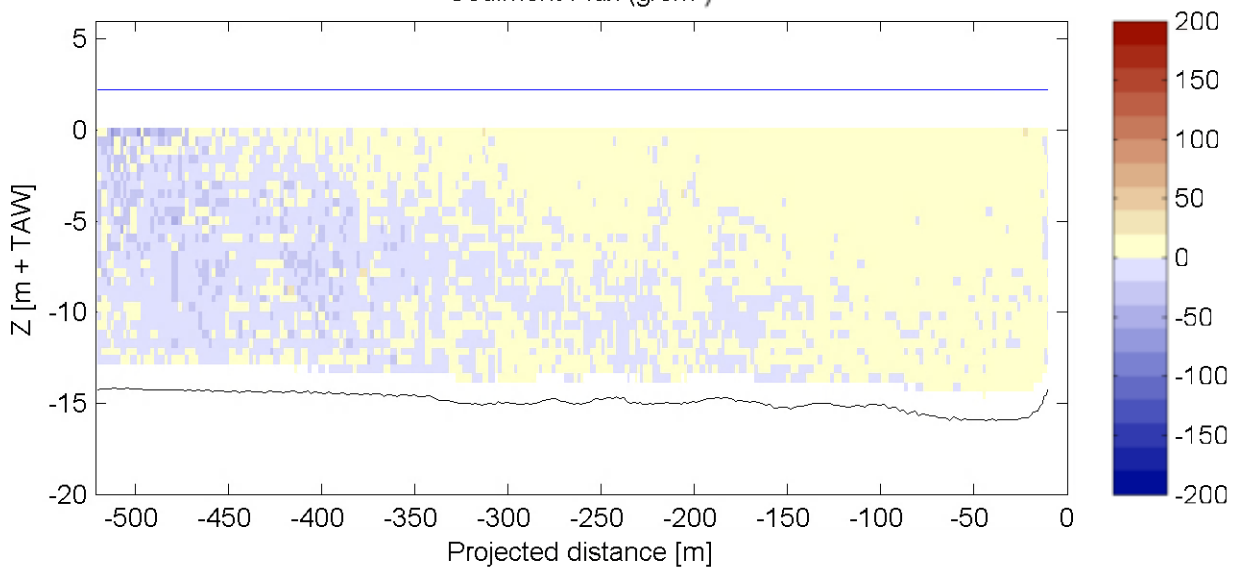
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3023DGDt_sub.csv	Location: Transect DGD

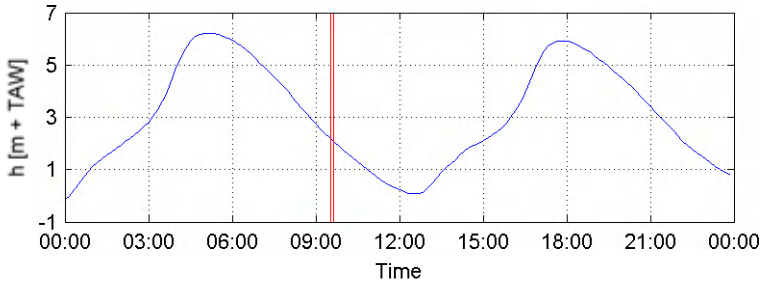
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
09:33 - 09:37

Time after HW [HH:MM]
4:35

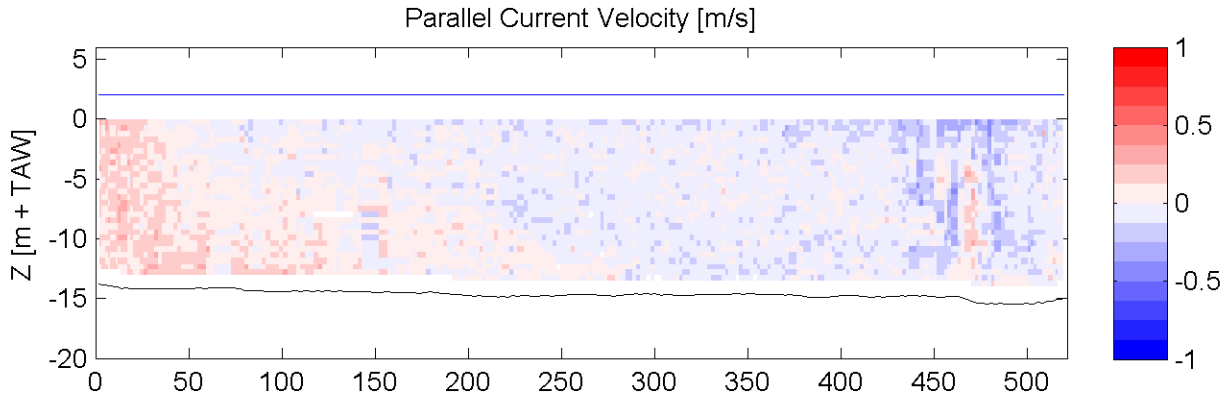
Data Processed by: IMDC

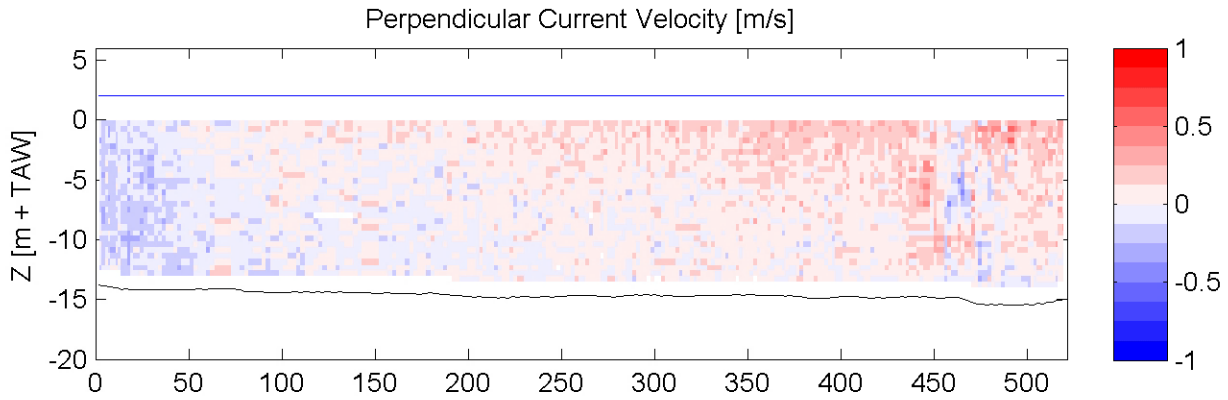
In association with :

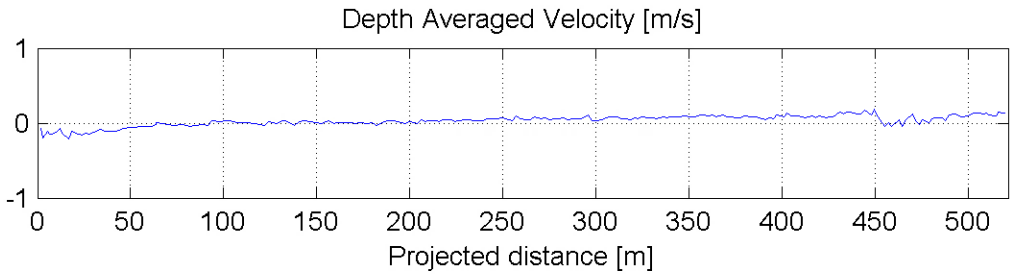
I/RA/11283/07.090/MSA

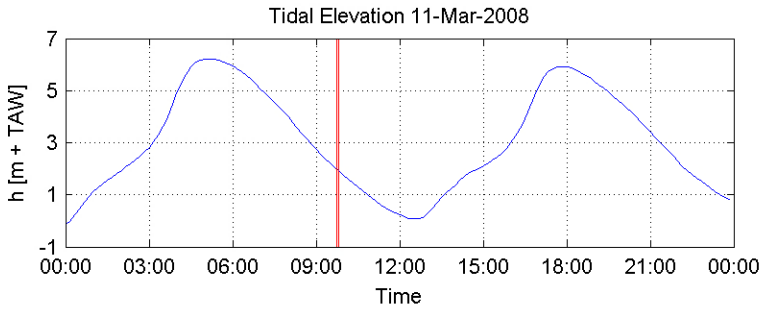
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3025DGDs_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

09:44 - 09:48

Time after HW [HH:MM]

4:46

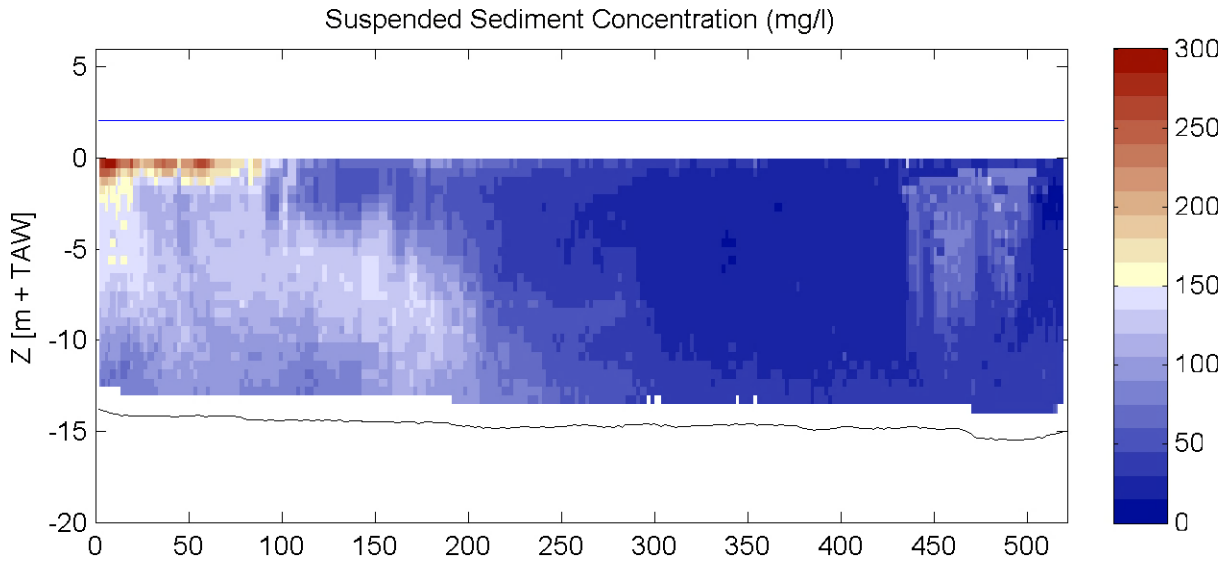
Data Processed by: IMDC

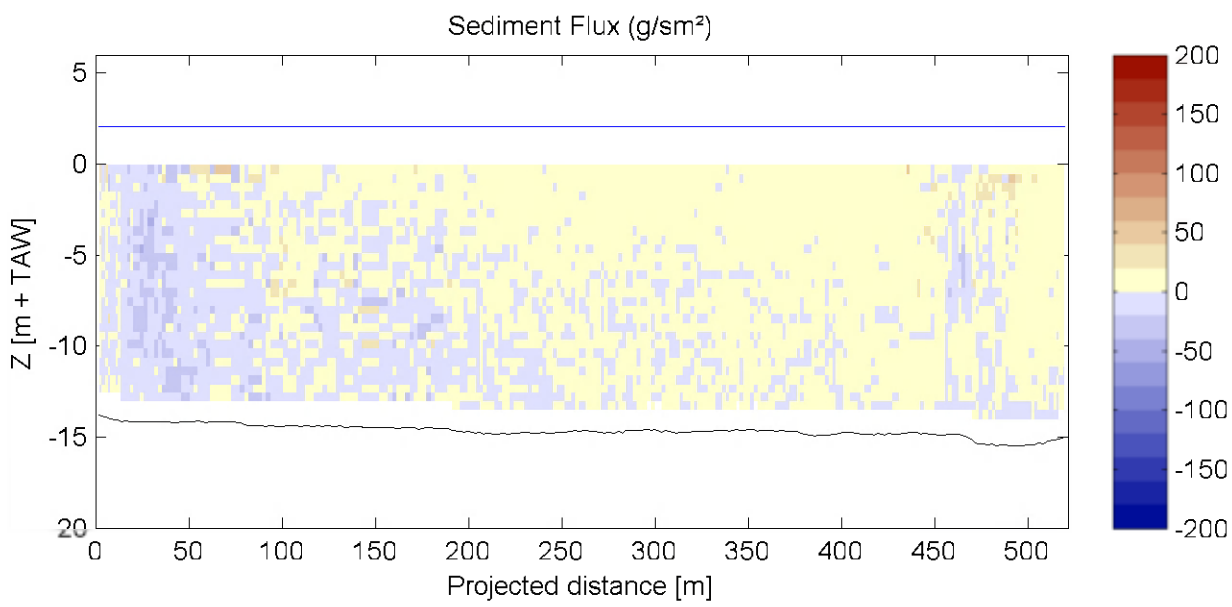
In association with : w.l | delft hydraulics, GEMS International

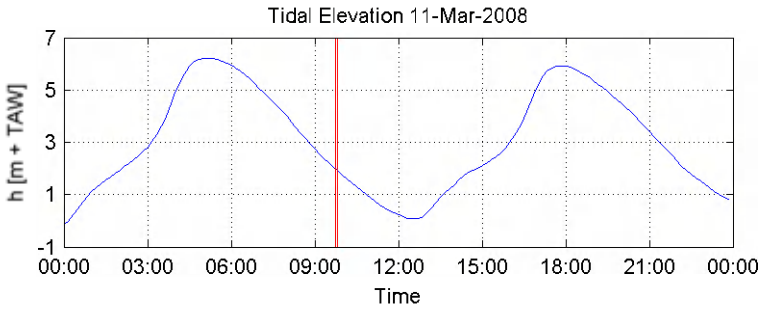
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3025DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
09:44 - 09:48

Time after HW [HH:MM]
4:46

Data Processed by: IMDC

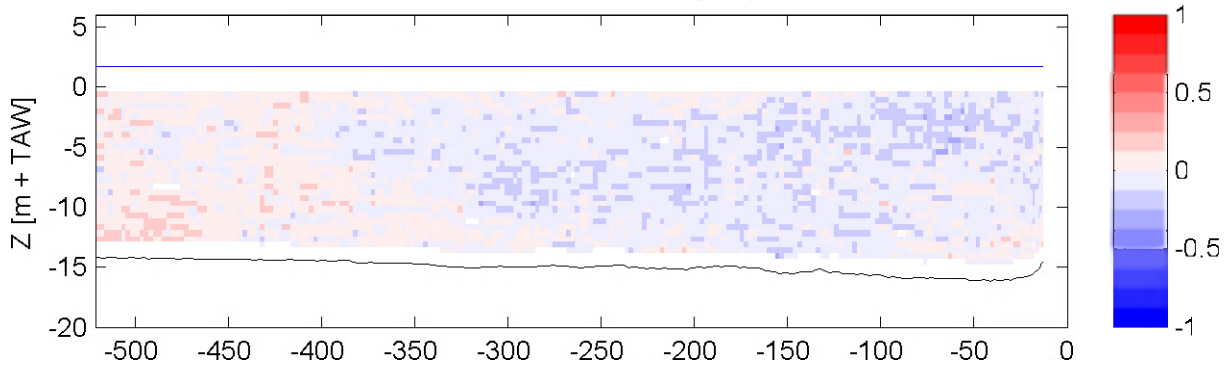
In association with :

I/RA/11283/07.090/MSA

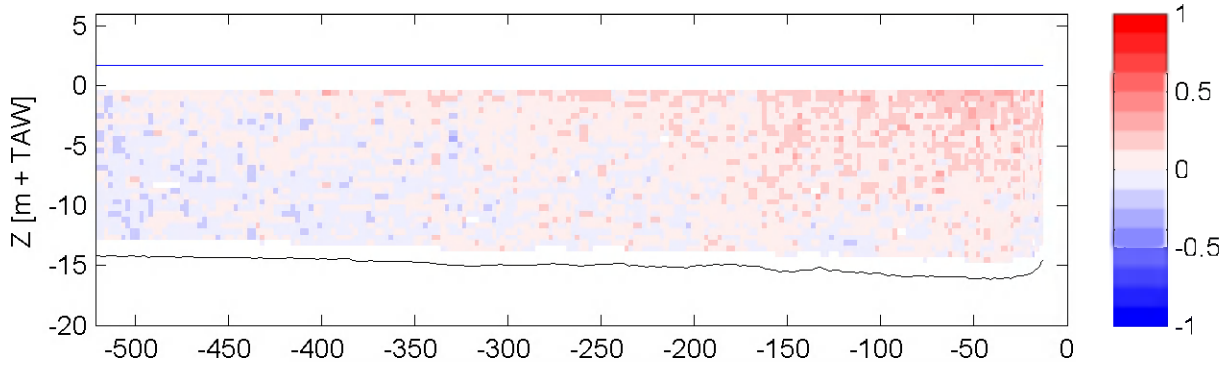
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3027DGDt_sub.csv	Location: Transect DGD

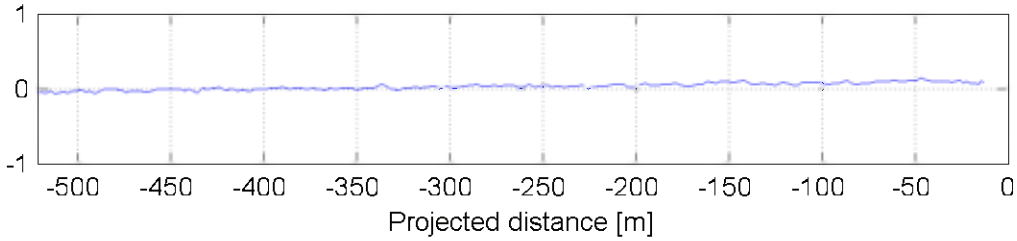
Parallel Current Velocity [m/s]



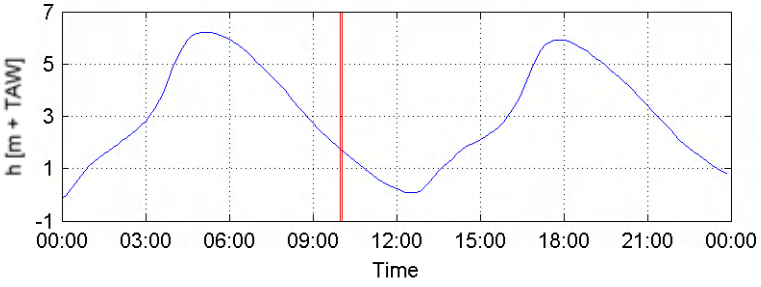
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
09:58 - 10:02

Time after HW [HH:MM]
5:00

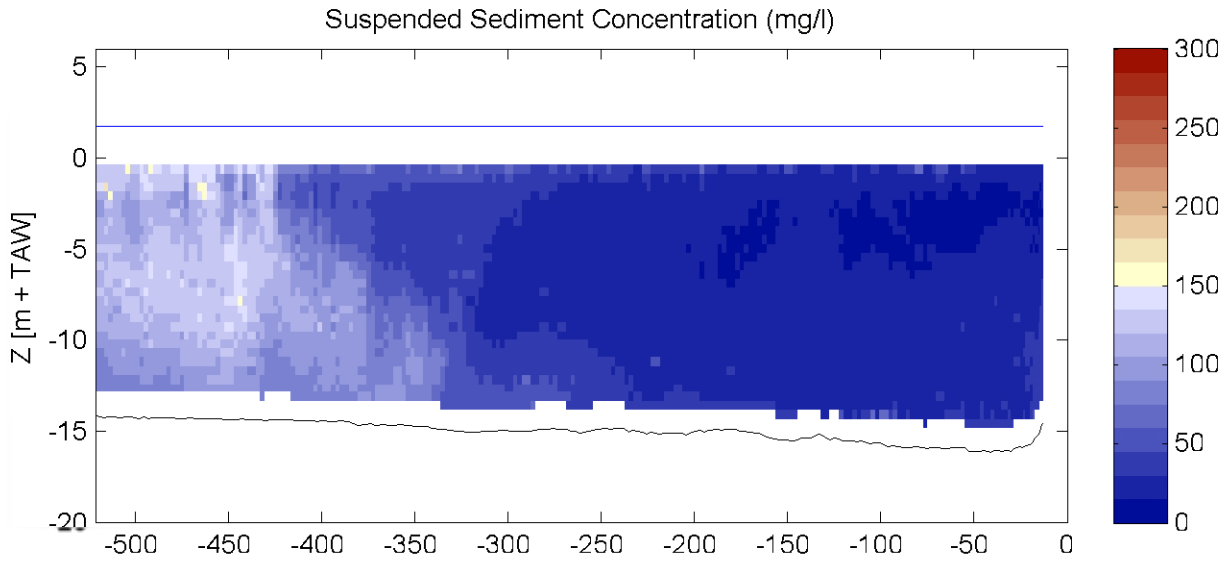
Data Processed by: IMDC

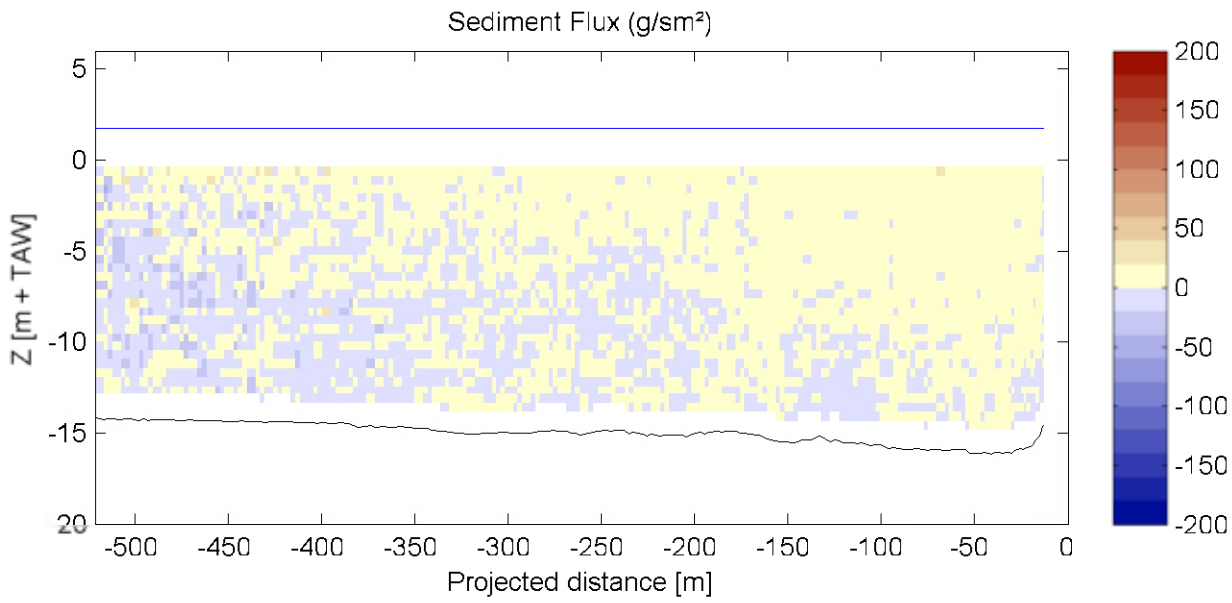
In association with :

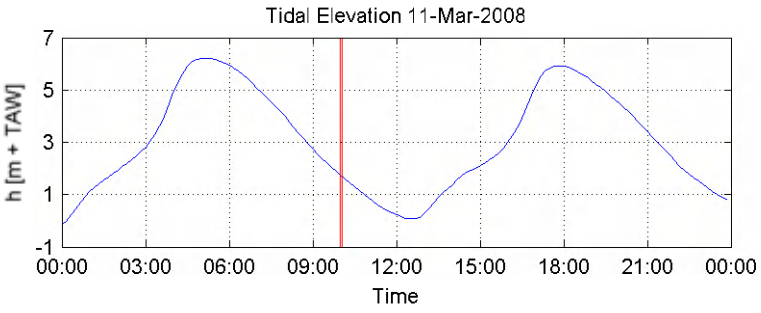
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3027DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
09:58 - 10:02

Time after HW [HH:MM]
5:00

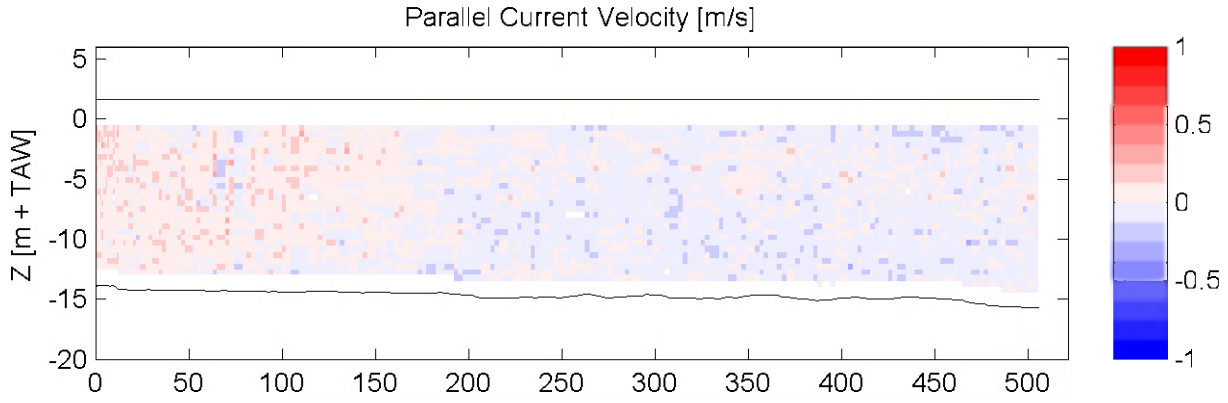
Data Processed by: IMDC

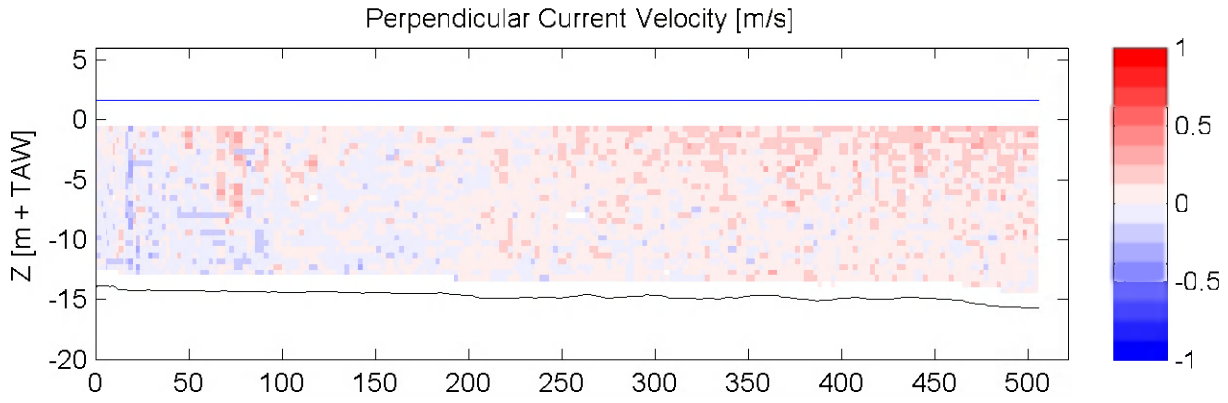
In association with :

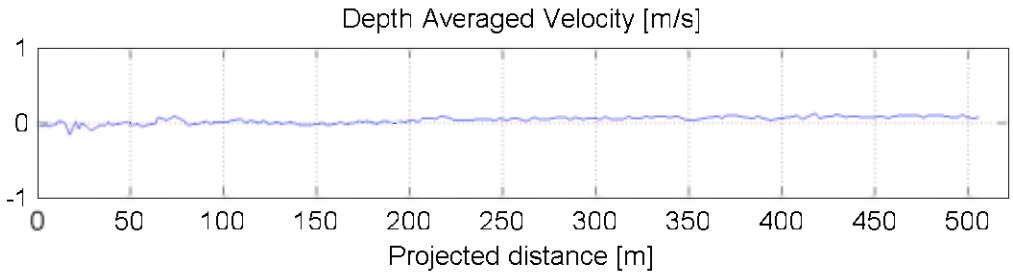
I/RA/11283/07.090/MSA

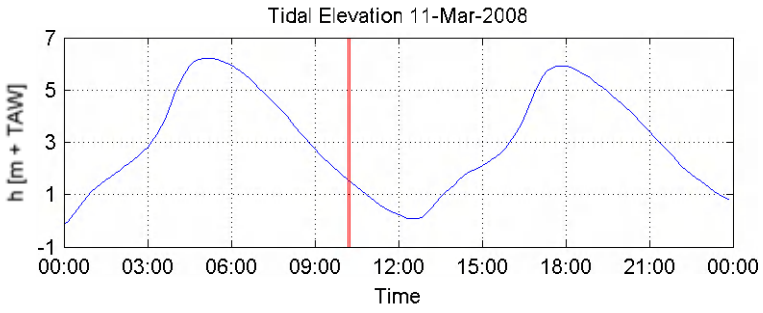
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3029DGDs_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

10:11 - 10:15

Time after HW [HH:MM]

5:13

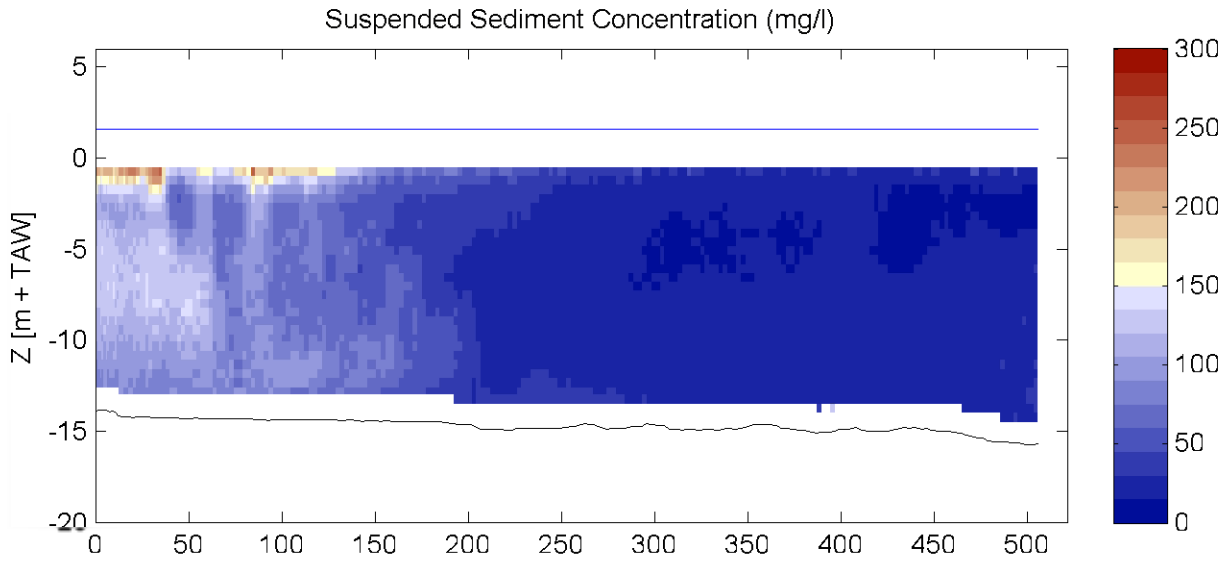
Data Processed by: IMDC

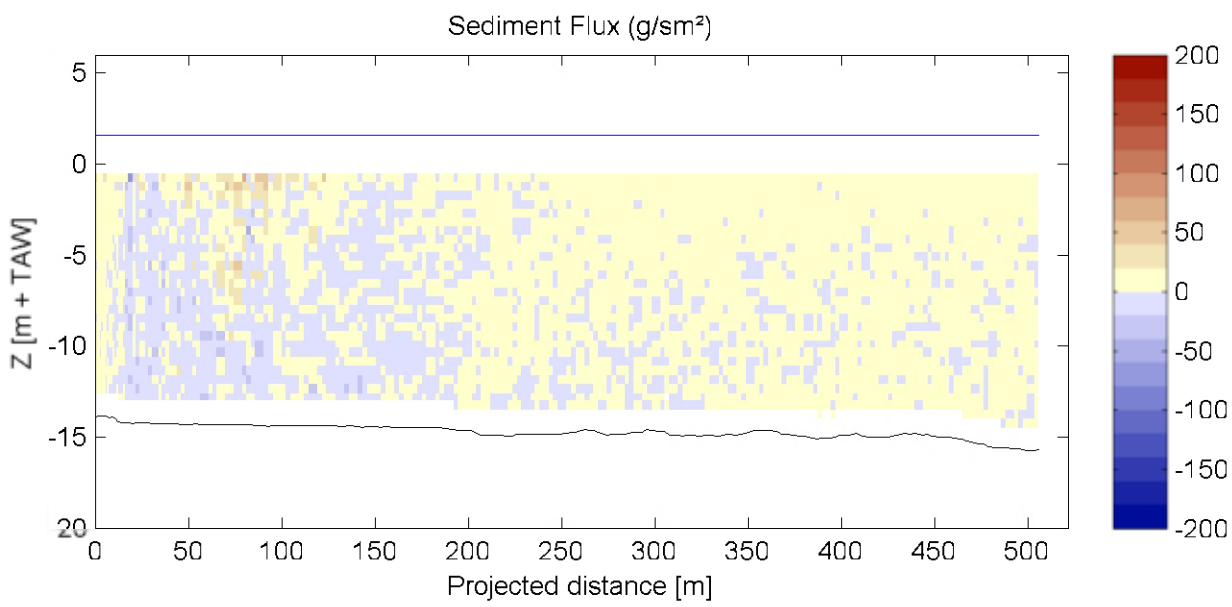
In association with :

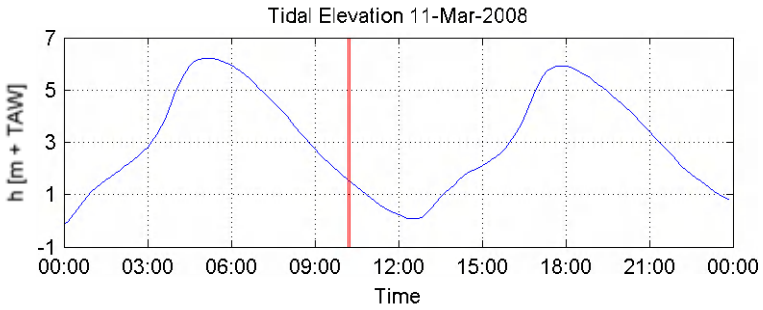
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3029DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

10:11 - 10:15

Time after HW [HH:MM]

5:13

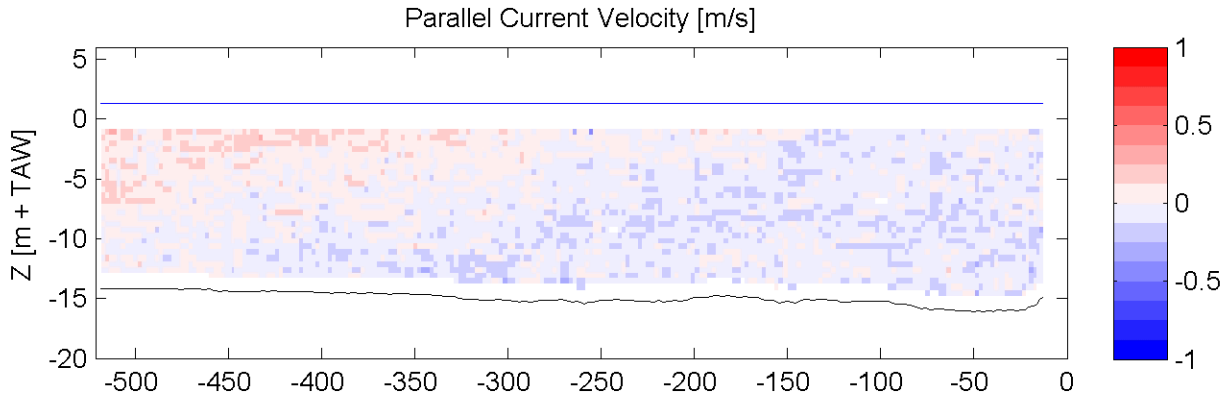
Data Processed by: IMDC

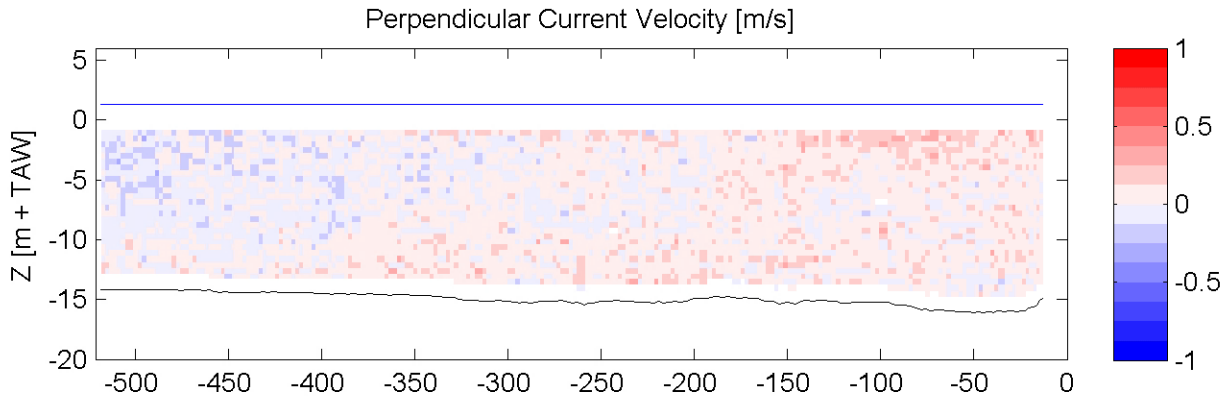
In association with :

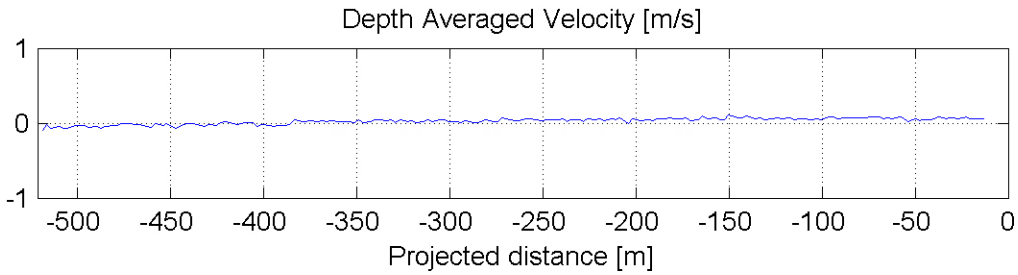
I/RA/11283/07.090/MSA

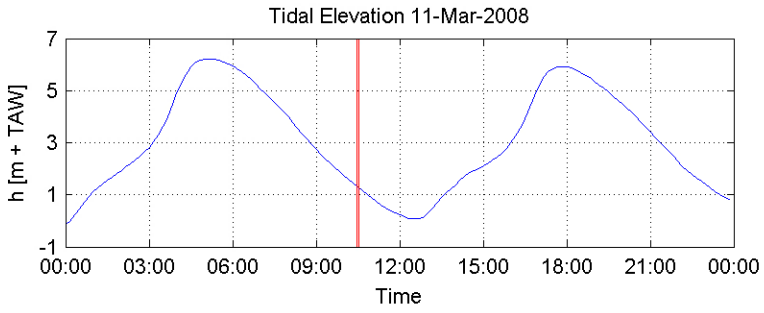
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3031DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

10:28 - 10:32

Time after HW [HH:MM]

5:30

Data Processed by: IMDC

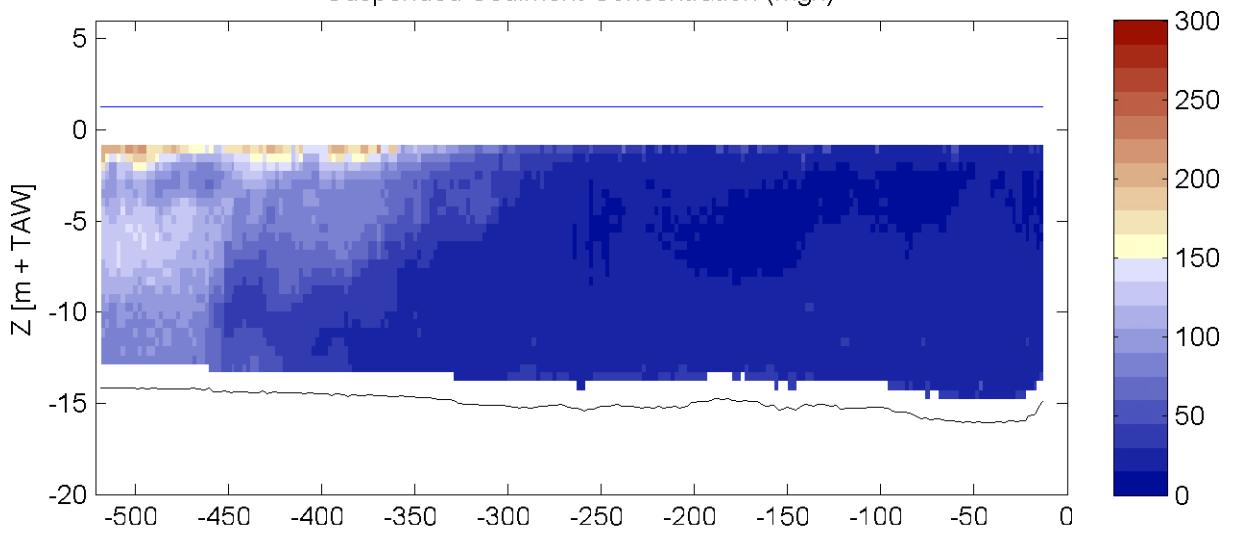
In association with : w.l | delft hydraulics, GEMS International

I/RA/11283/07.090/MSA

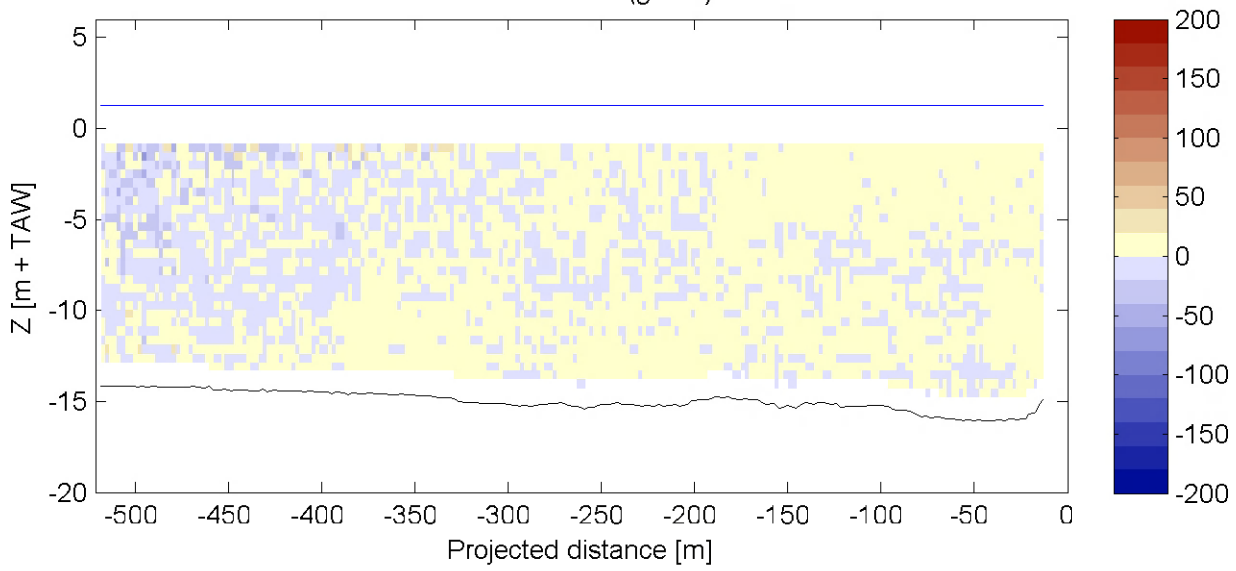
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3031DGDt_sub.csv	Location: Transect DGD

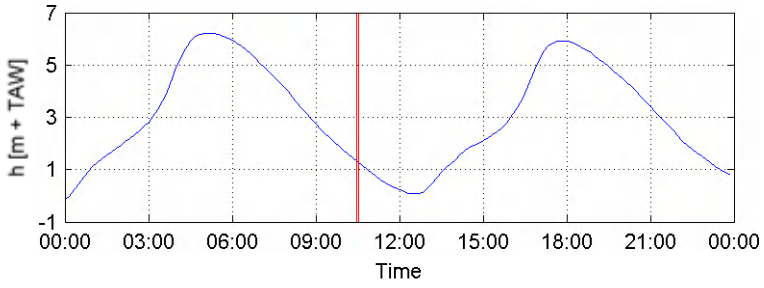
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
10:28 - 10:32

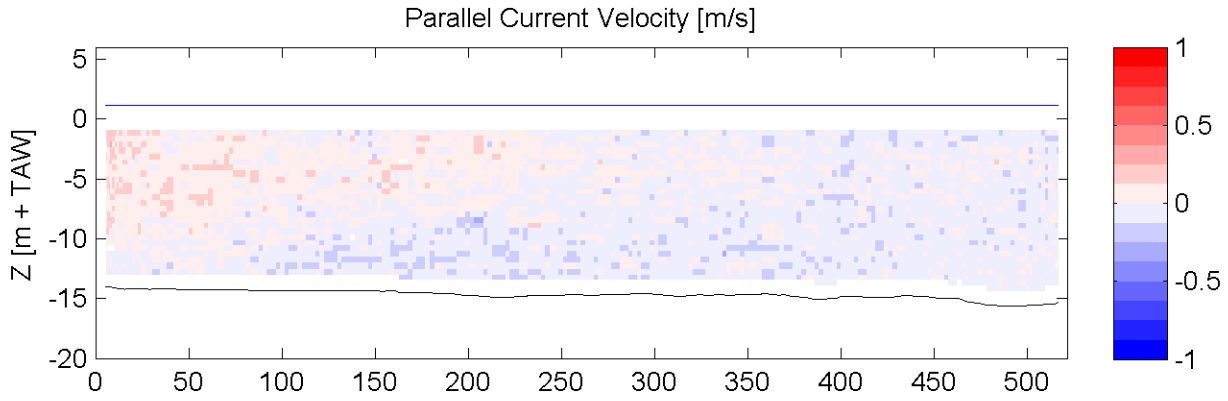
Time after HW [HH:MM]
5:30

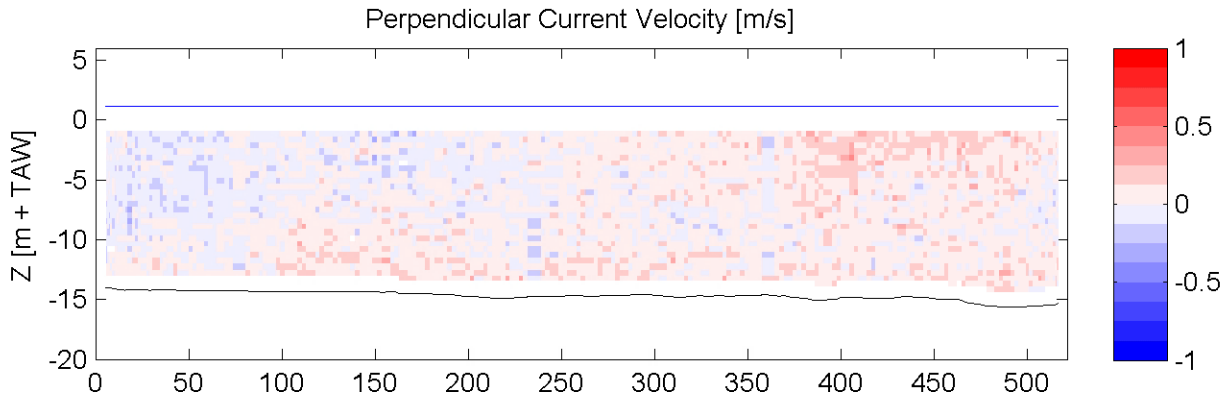
Data Processed by: IMDC
In association with :

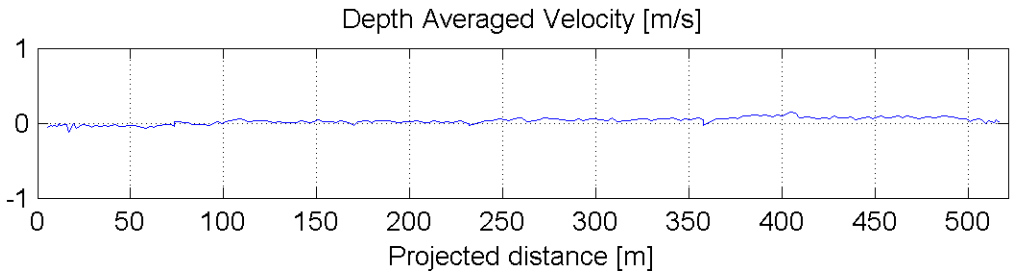
I/RA/11283/07.090/MSA

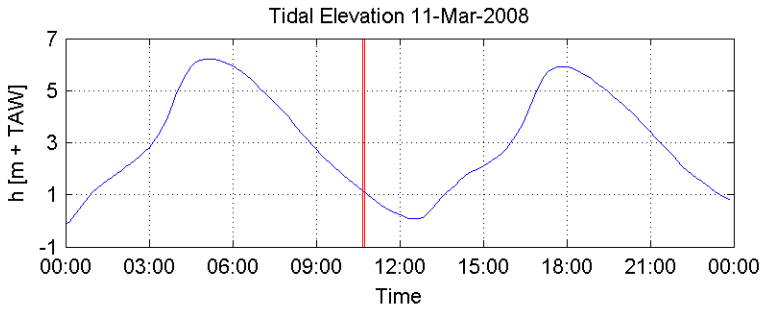
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3033DGDs_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

10:41 - 10:45

Time after HW [HH:MM]

5:43

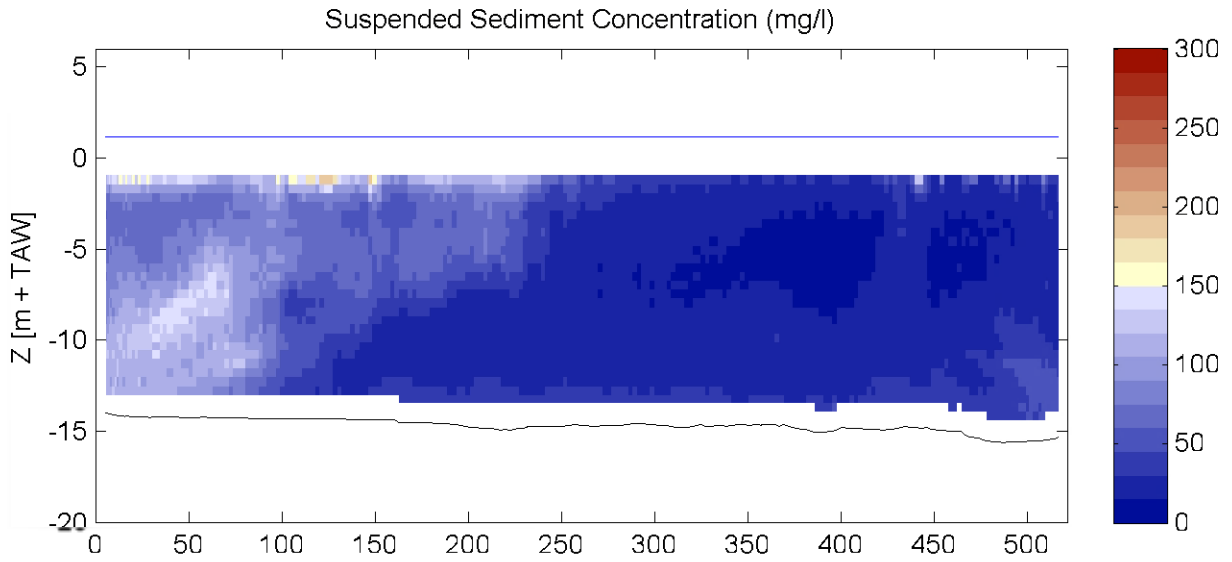
Data Processed by: IMDC

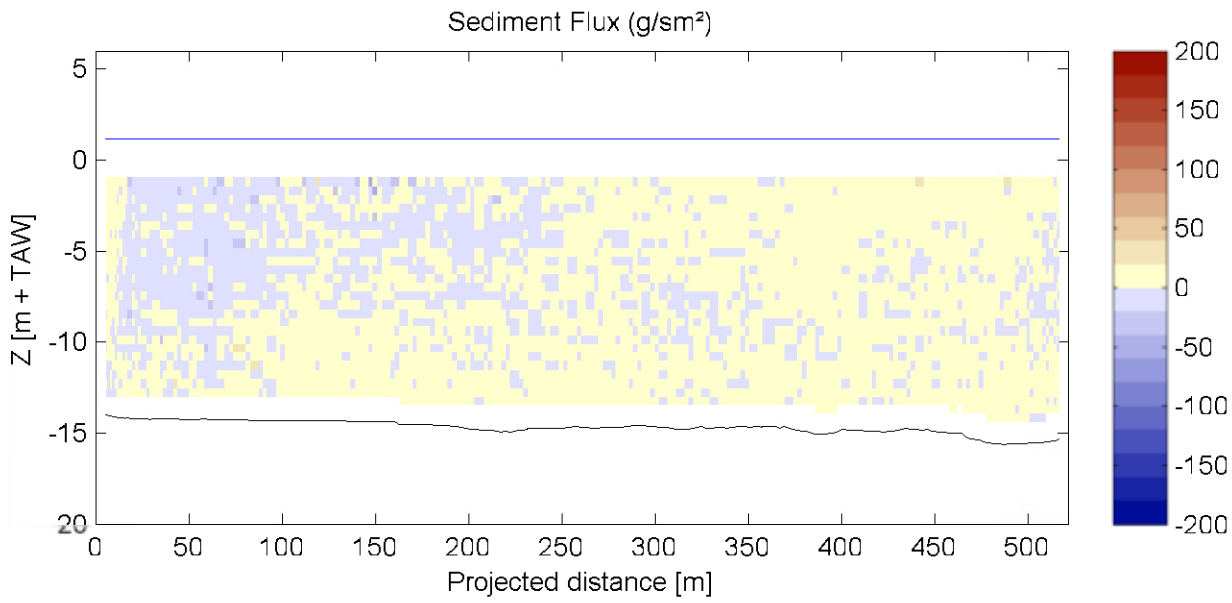
In association with : WL | delft hydraulics, GEMS International

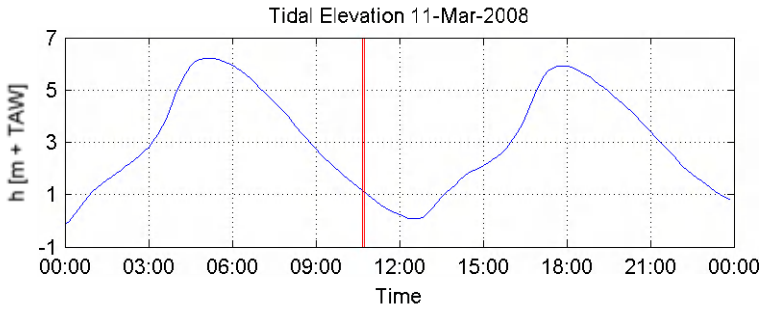
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3033DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

10:41 - 10:45

Time after HW [HH:MM]

5:43

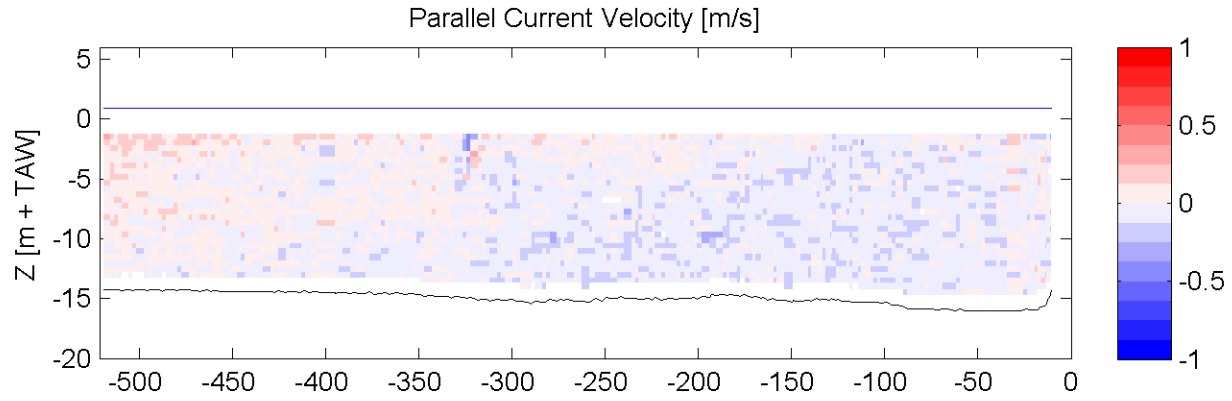
Data Processed by: IMDC

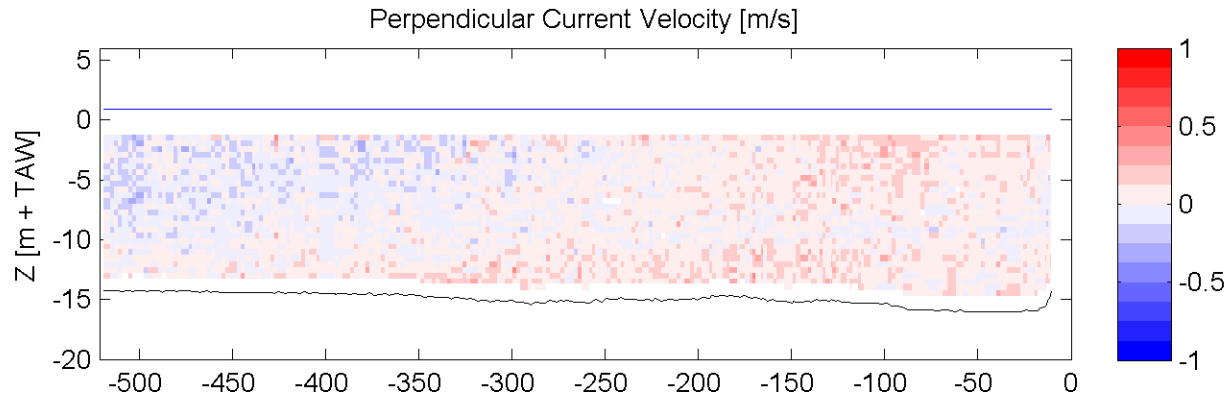
In association with :

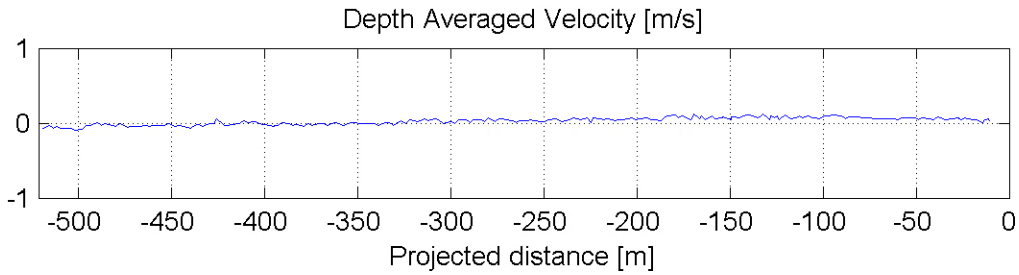
I/RA/11283/07.090/MSA

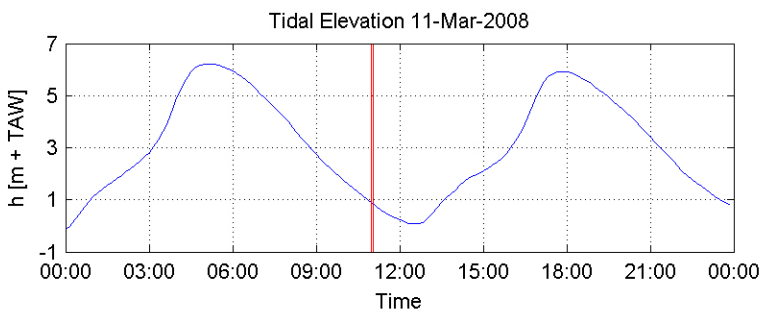
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3035DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

10:58 - 11:02

Time after HW [HH:MM]

6:00

Data Processed by: IMDC

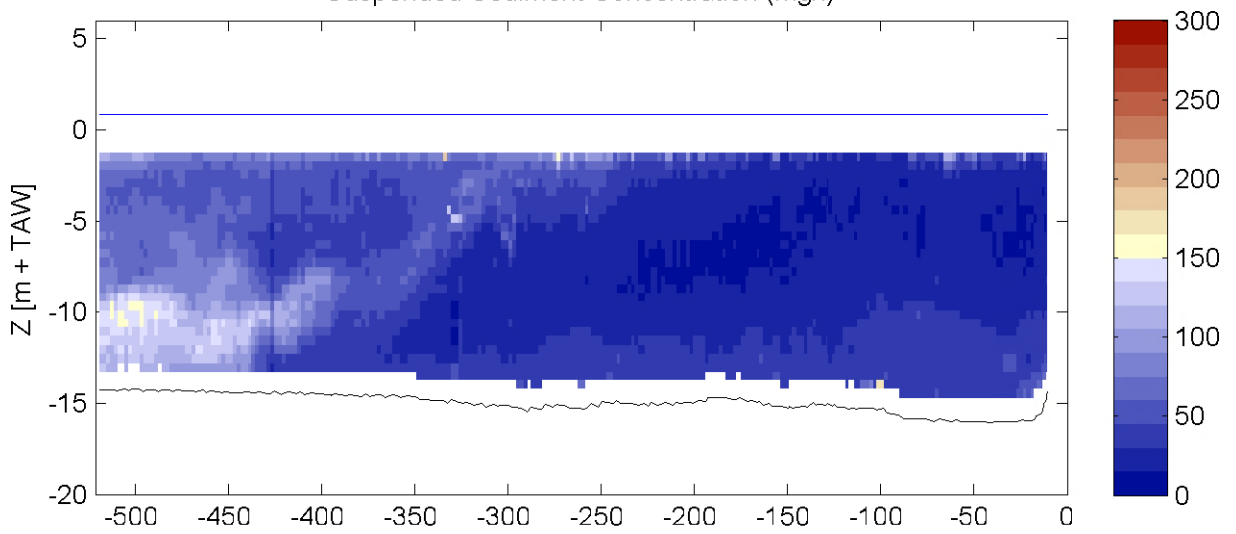
In association with : WL | delft hydraulics, GEMS International

I/RA/11283/07.090/MSA

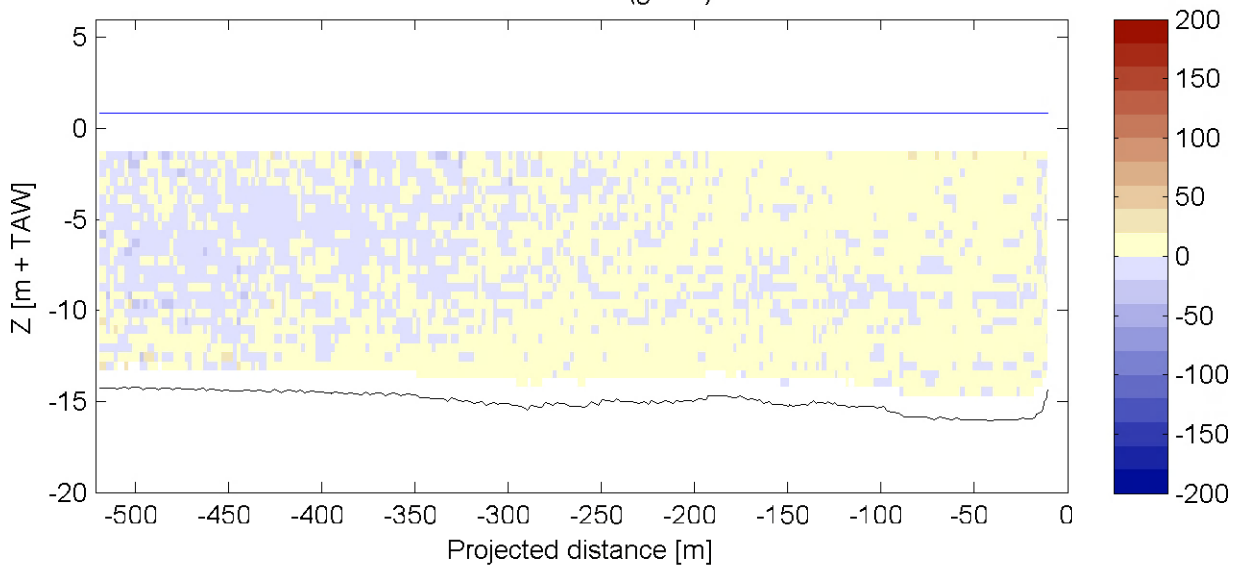
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3035DGDt_sub.csv	Location: Transect DGD

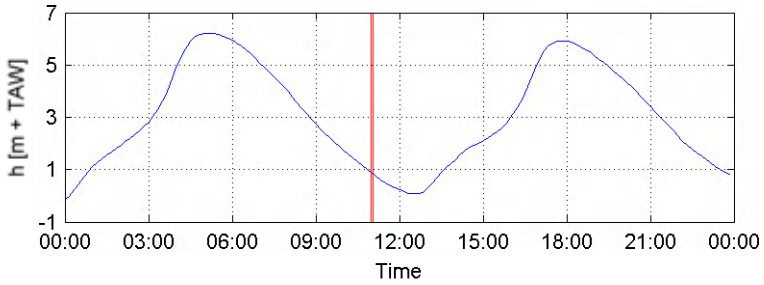
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
10:58 - 11:02

Time after HW [HH:MM]
6:00

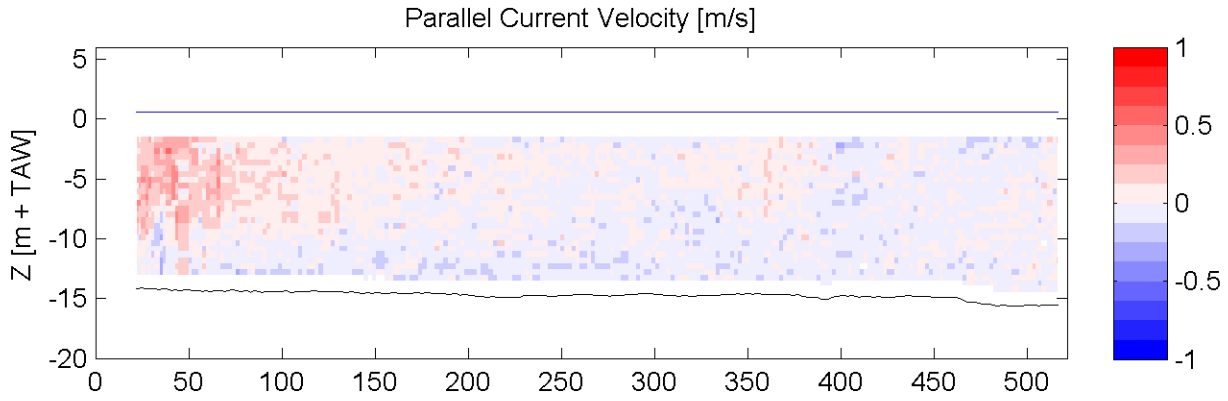
Data Processed by: IMDC

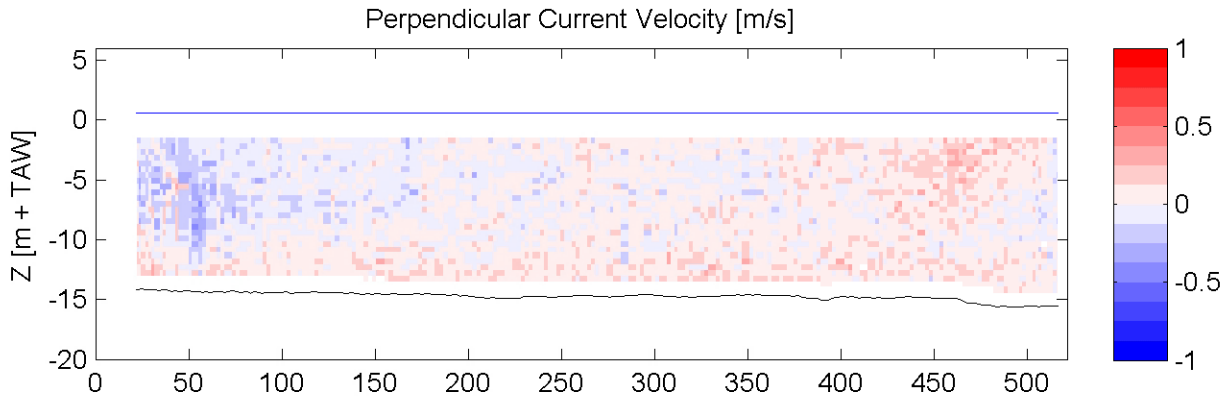
In association with :

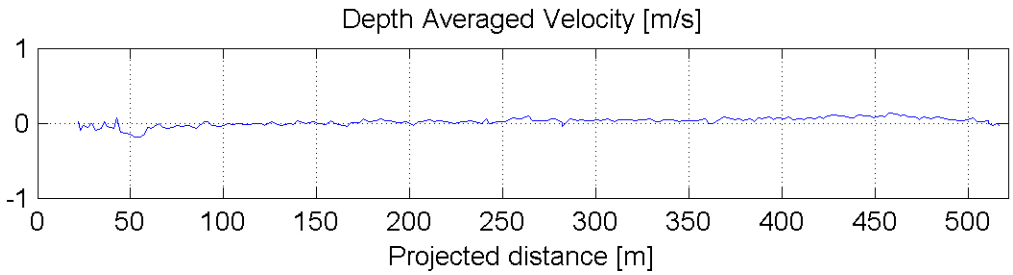
I/RA/11283/07.090/MSA

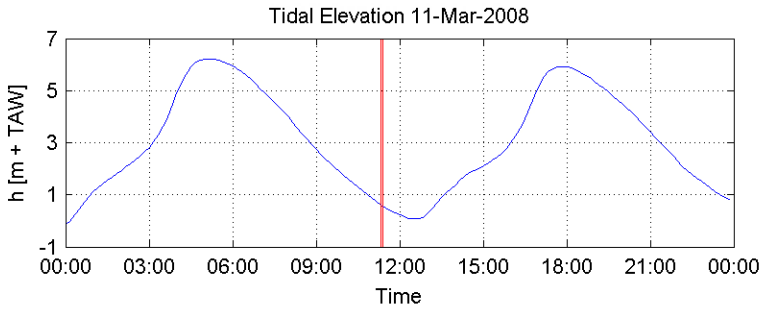
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3037DGDs_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

11:18 - 11:22

Time after HW [HH:MM]

6:20

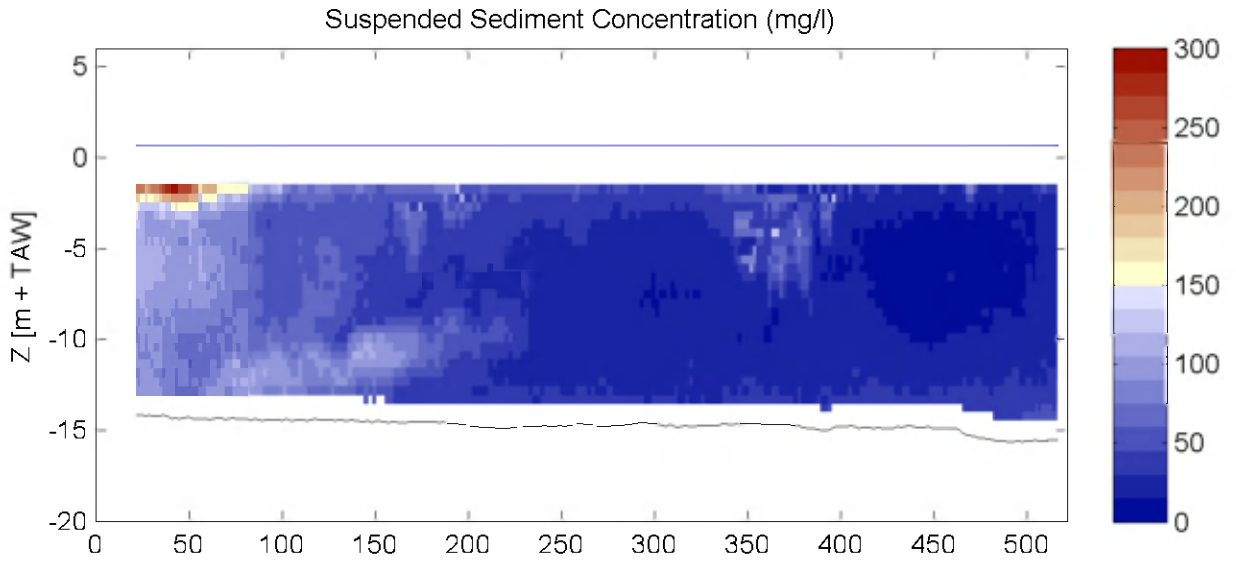
Data Processed by: IMDC

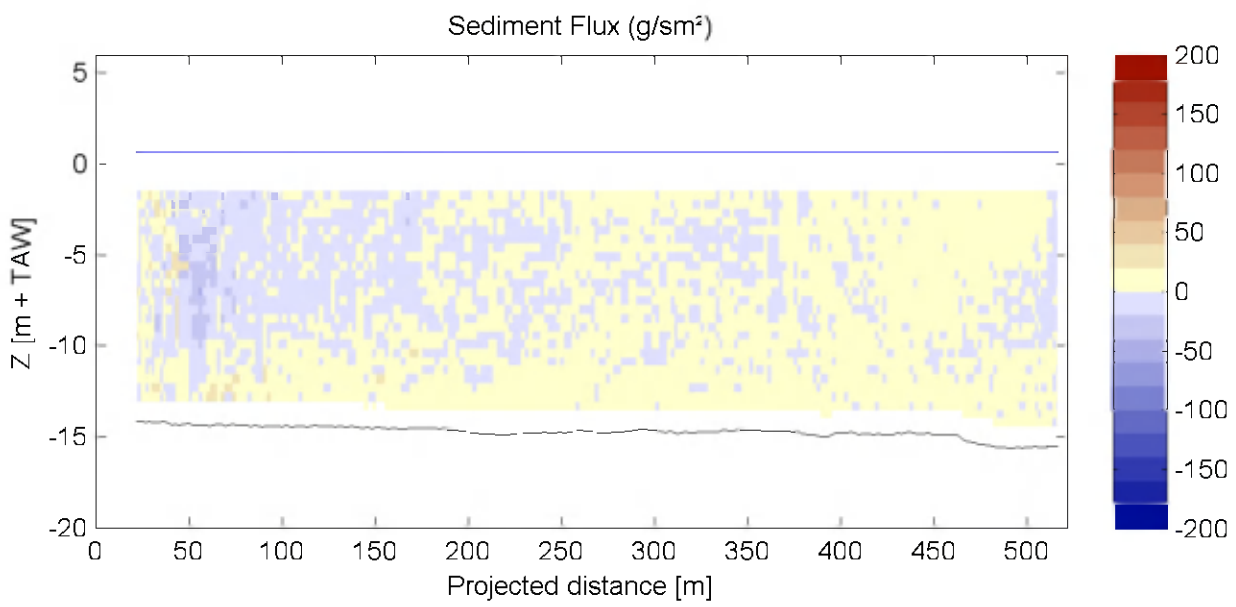
In association with : WL | delft hydraulics, GEMS International

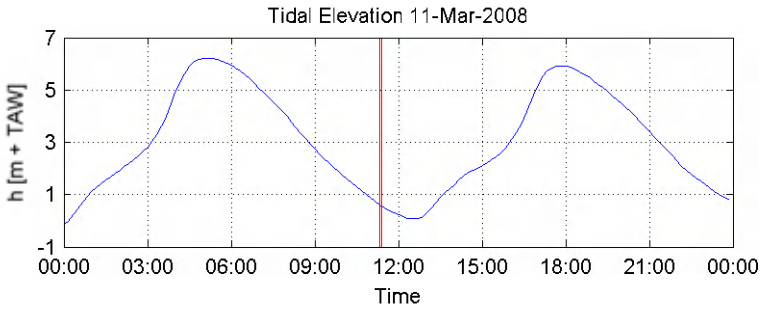
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3037DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

11:18 - 11:22

Time after HW [HH:MM]

6:20

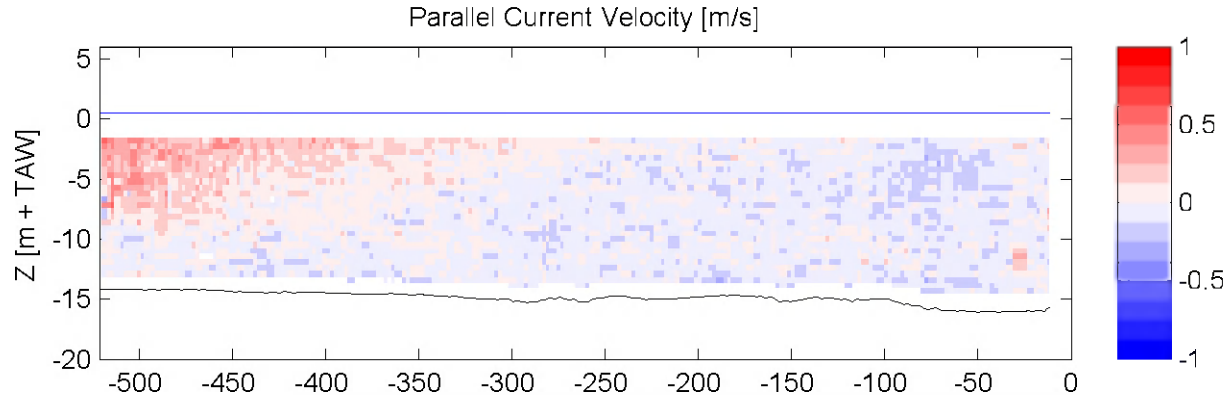
Data Processed by: IMDC

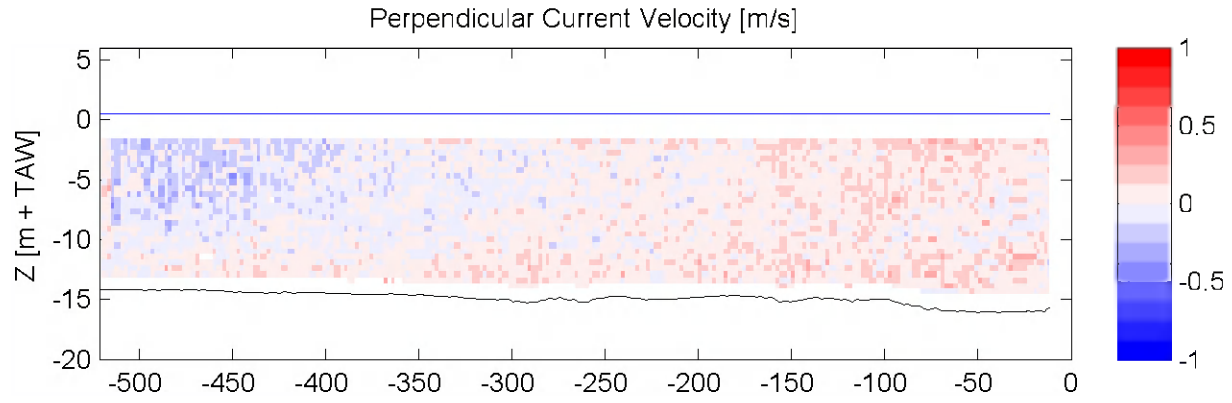
In association with :

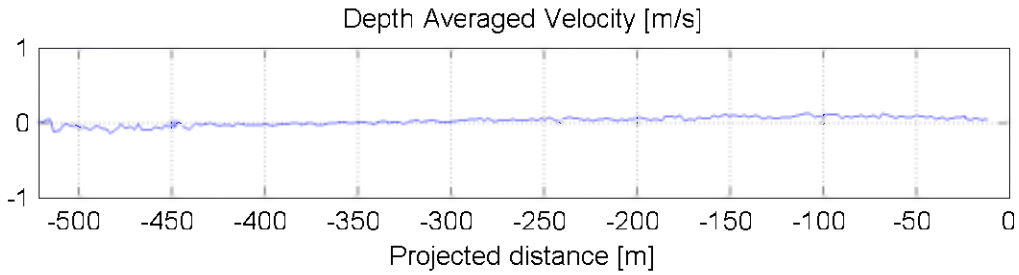
I/RA/11283/07.090/MSA

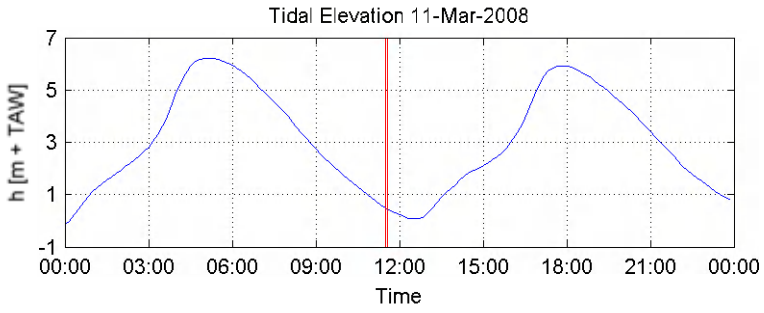
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3039DGDt_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

11:30 - 11:35

Time after HW [HH:MM]

6:32

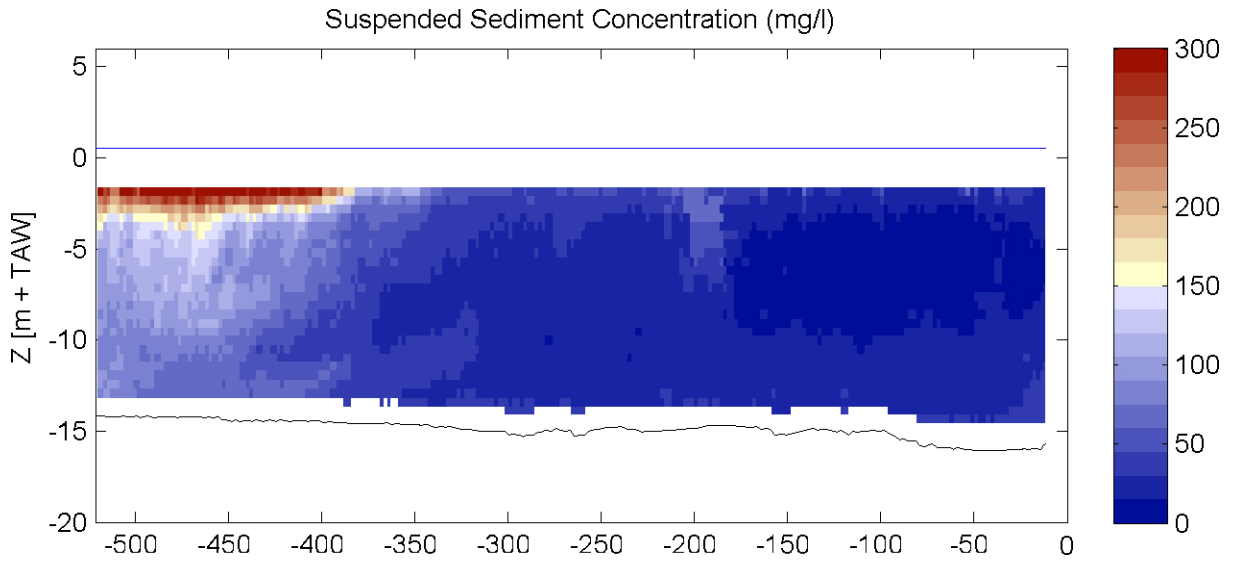
Data Processed by: IMDC

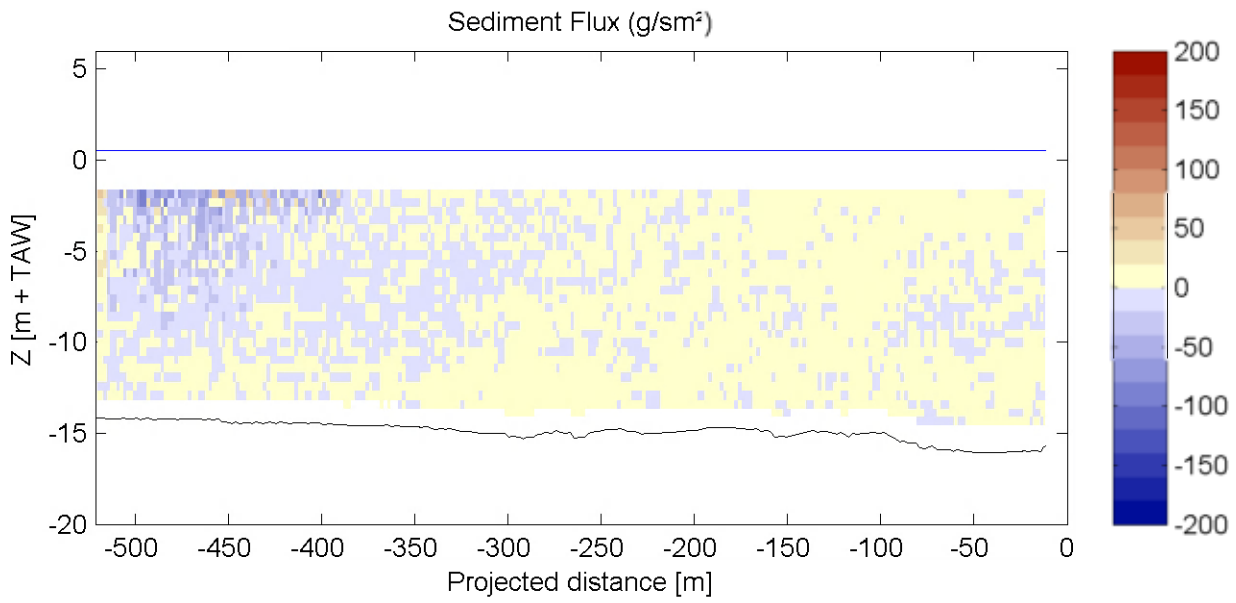
In association with :

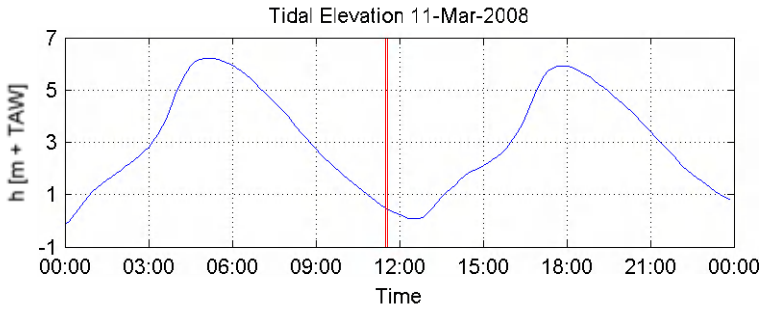
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3039DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

11:30 - 11:35

Time after HW [HH:MM]

6:32

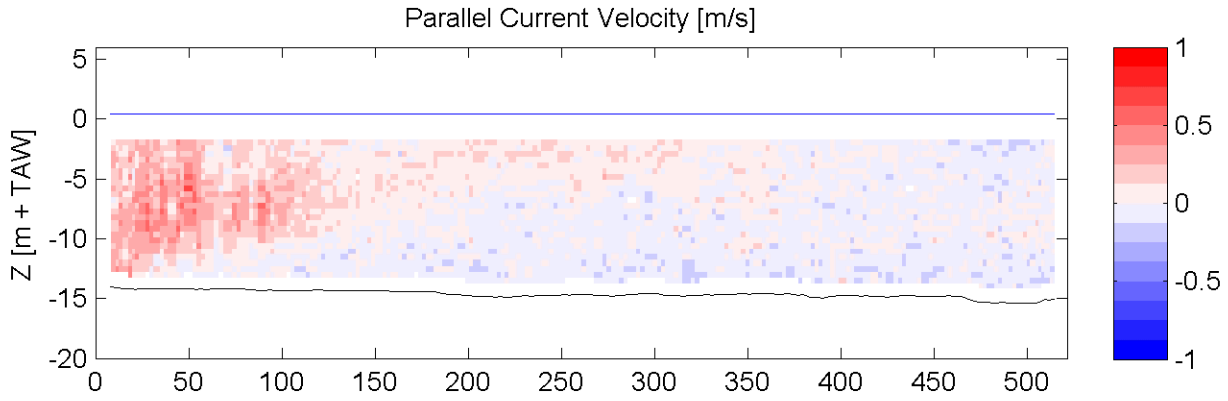
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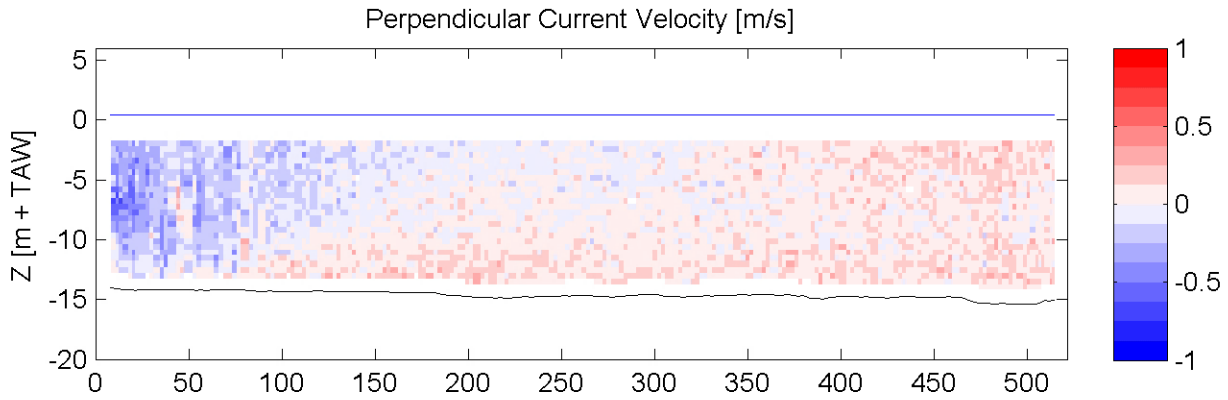
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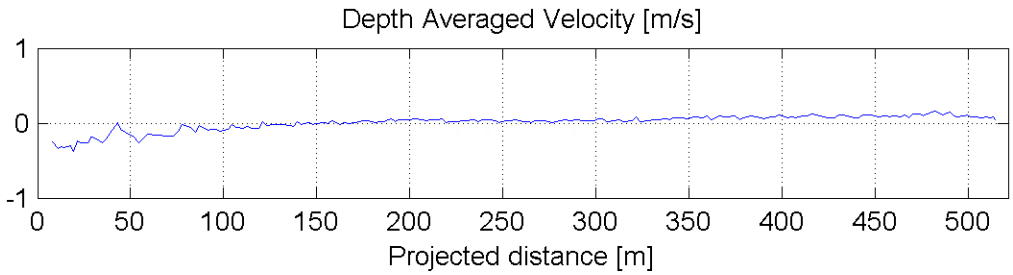
I/RA/11283/07.090/MSA

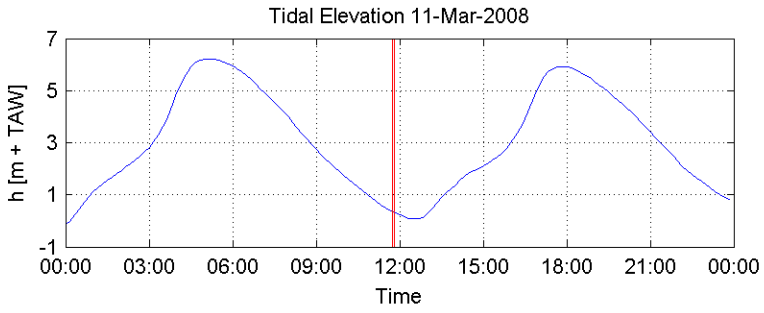
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3041DGDs_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

11:44 - 11:48

Time after HW [HH:MM]

6:46

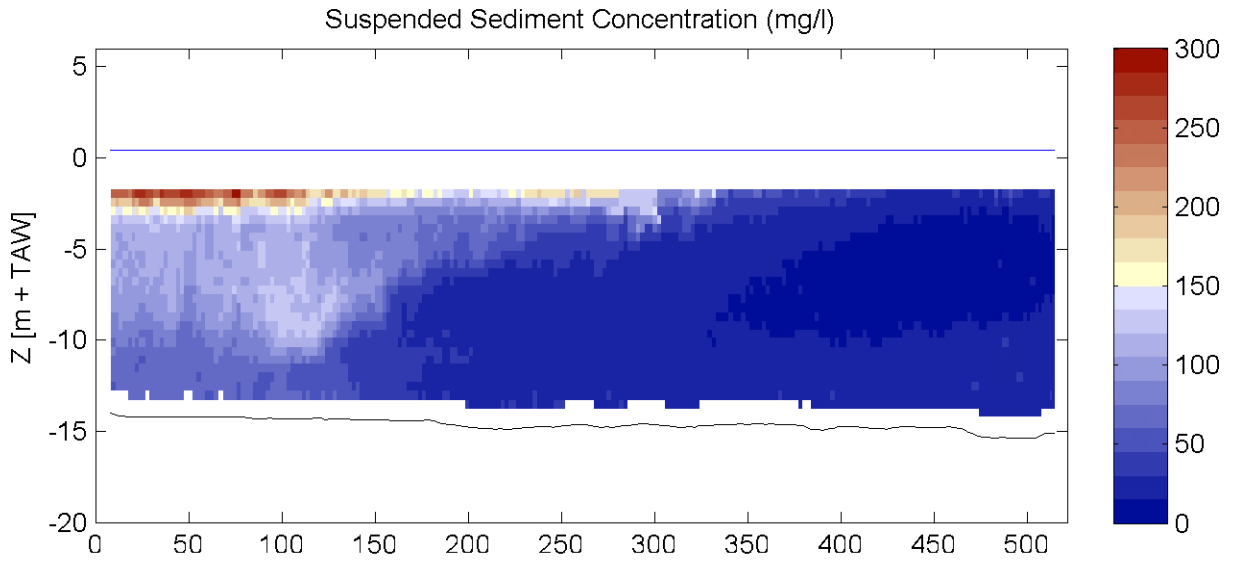
Data Processed by: IMDC

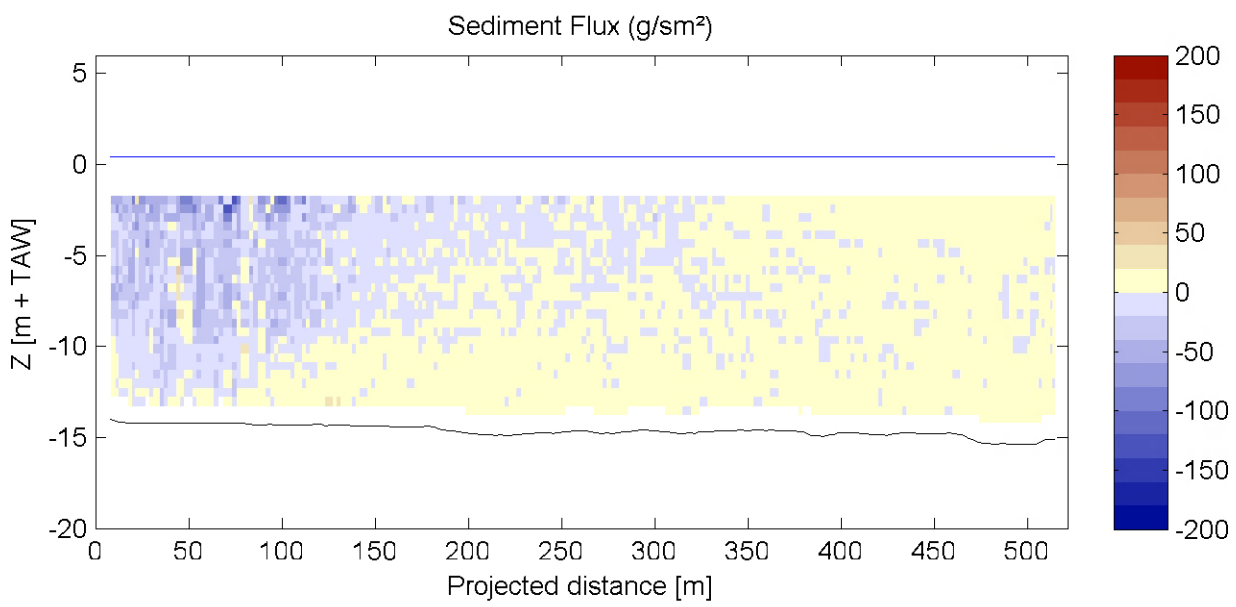
In association with : w.l | delft hydraulics, GEMS International

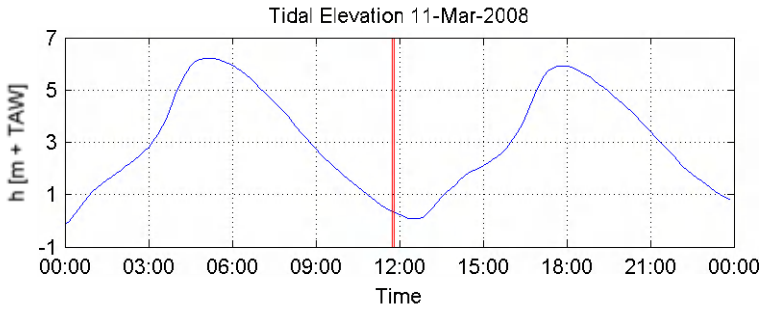
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3041DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

11:44 - 11:48

Time after HW [HH:MM]

6:46

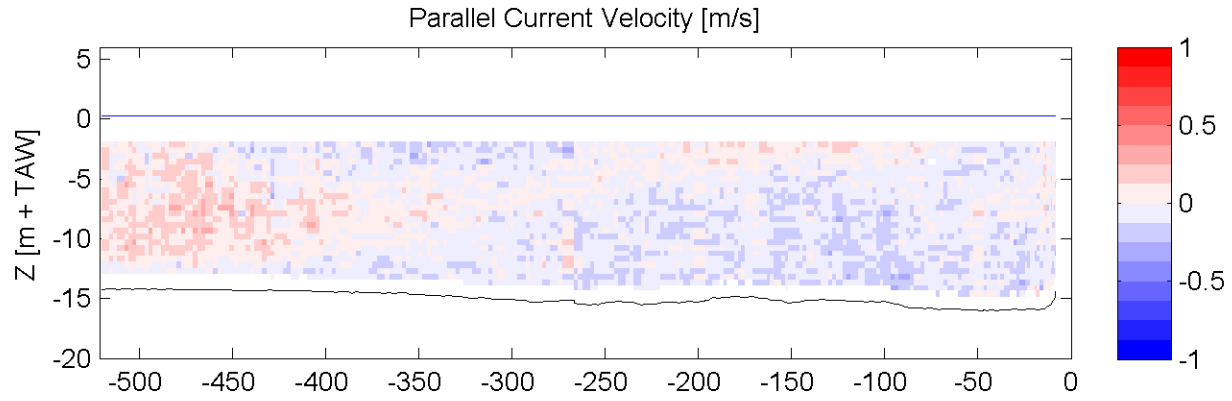
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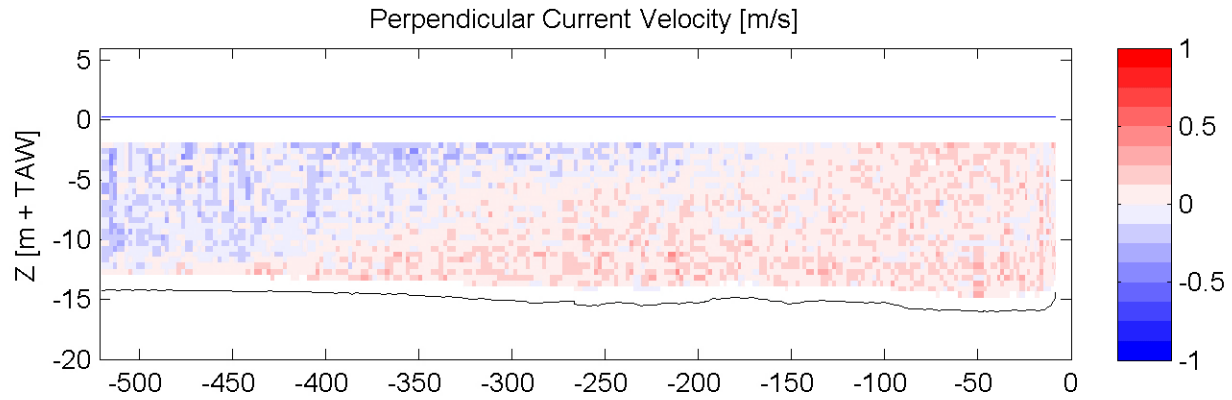
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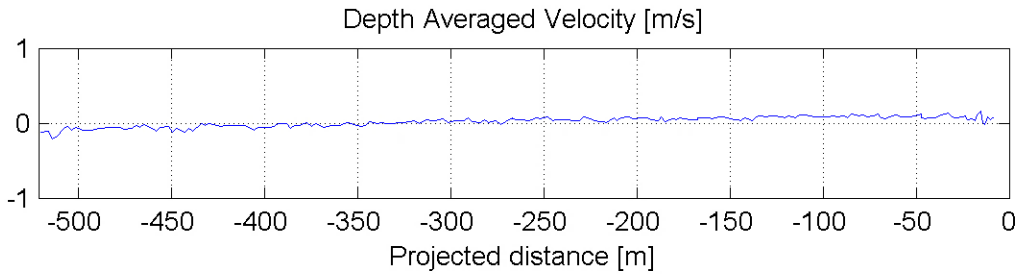
I/RA/11283/07.090/MSA

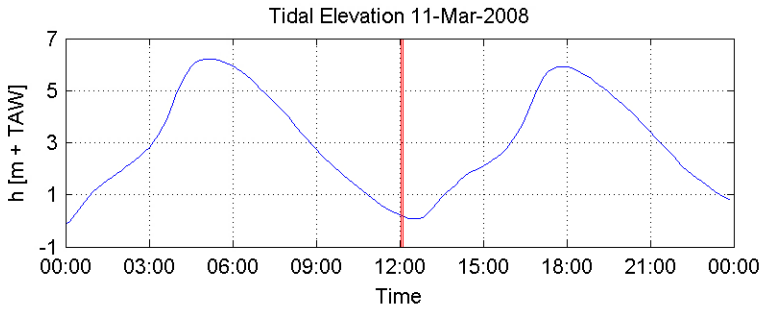
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3043DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

12:02 - 12:06

Time after HW [HH:MM]

7:04

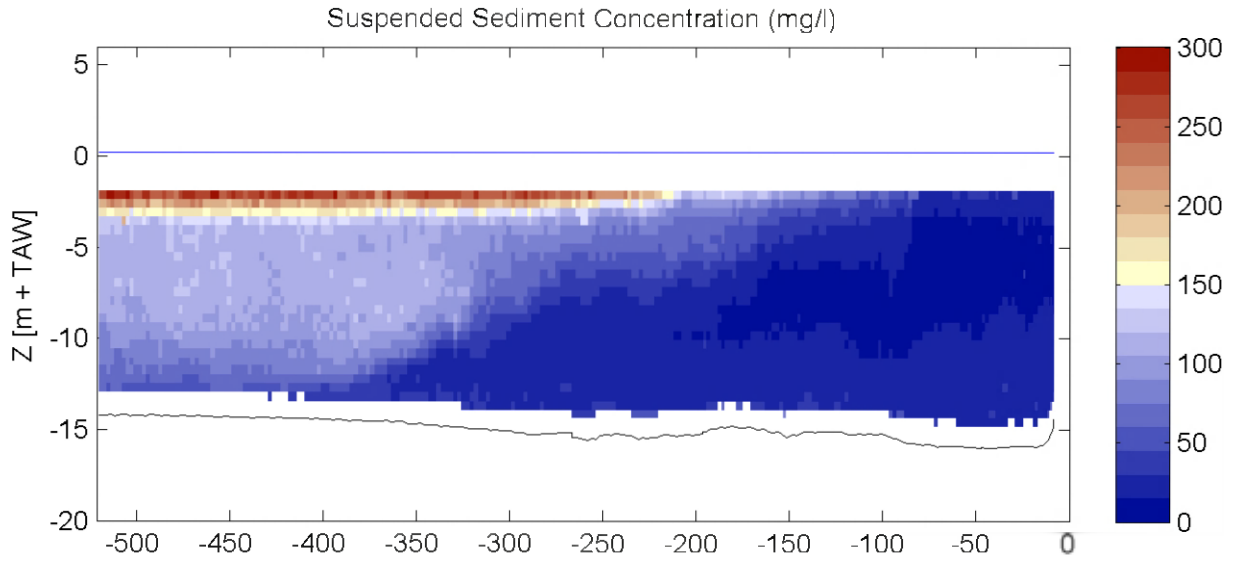
Data Processed by: IMDC

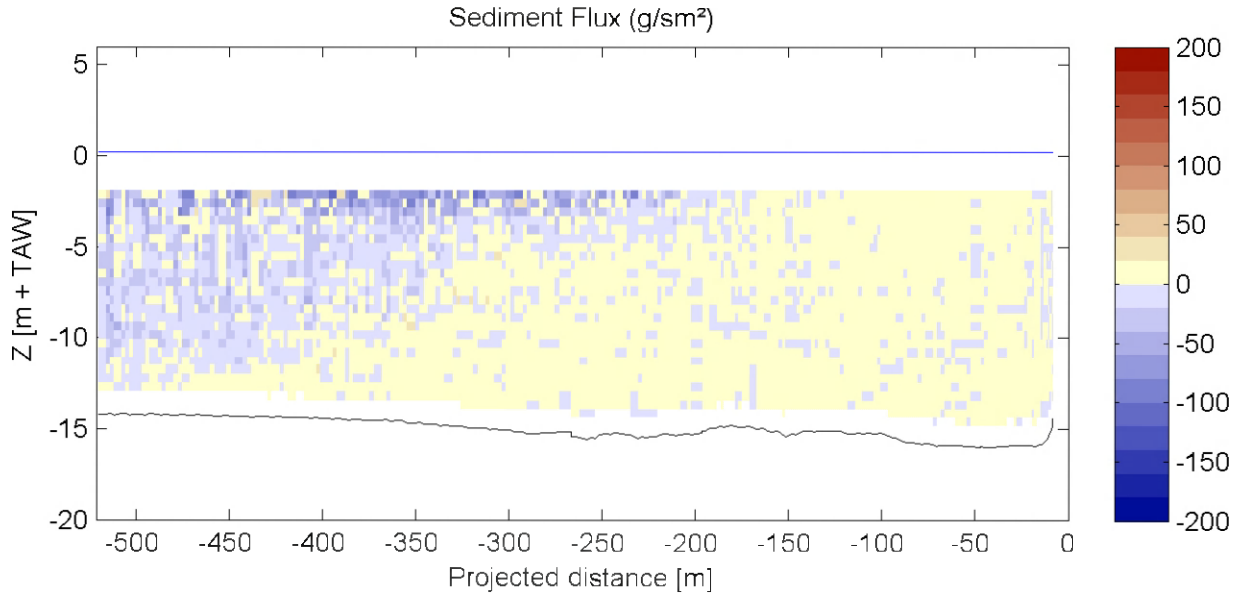
In association with : w.l | delft hydraulics, GEMS International

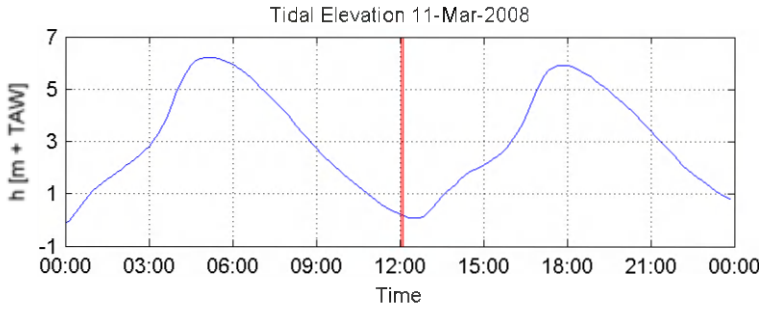
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3043DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

12:02 - 12:06

Time after HW [HH:MM]

7:04

Data Processed by: IMDC

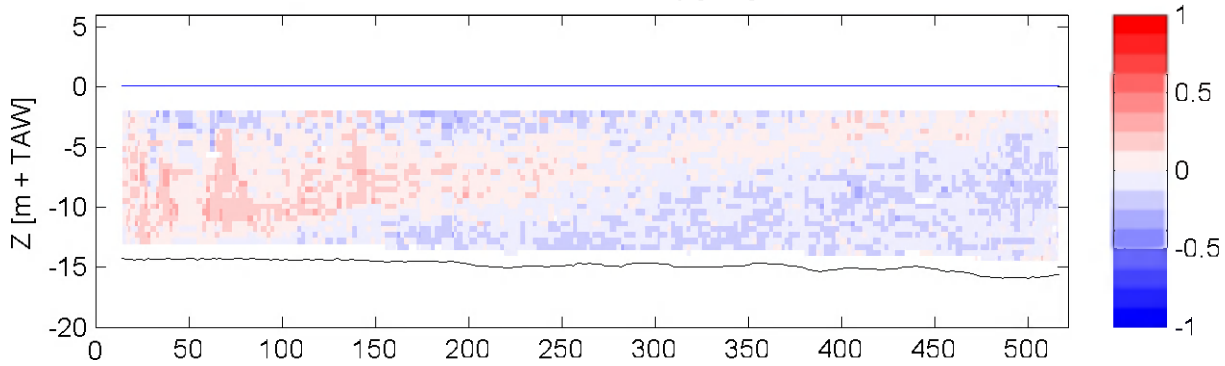
In association with :

I/RA/11283/07.090/MSA

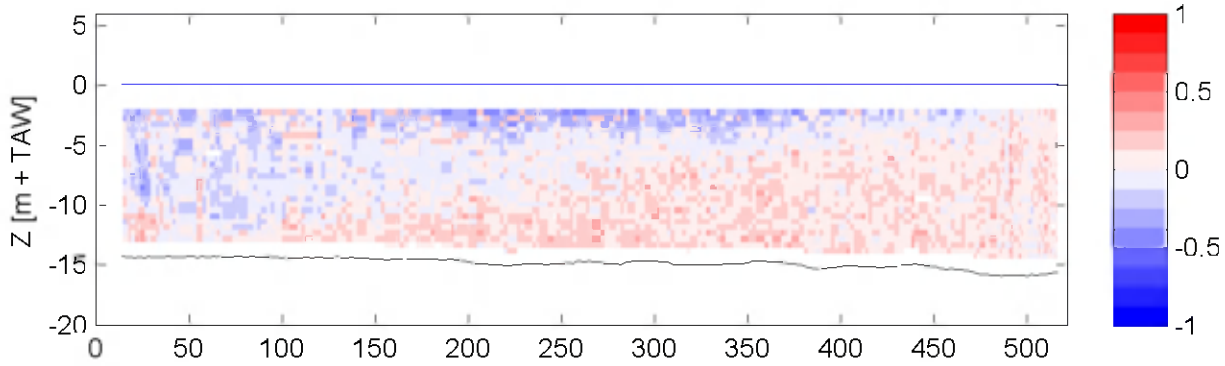
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3045DGDs_sub.csv	Location: Transect DGD

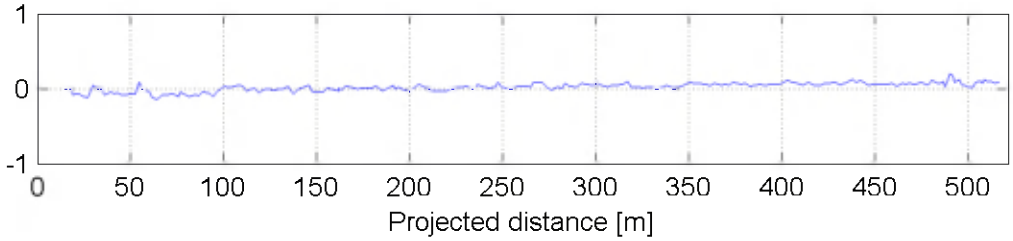
Parallel Current Velocity [m/s]



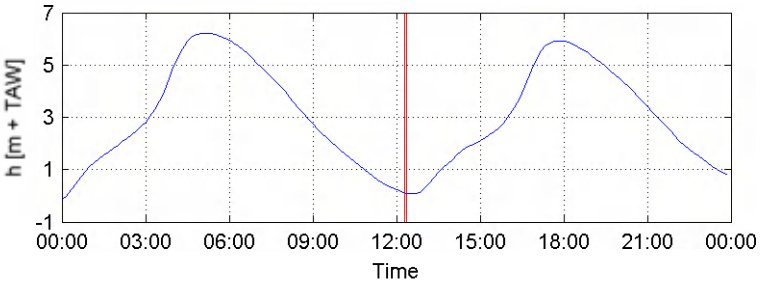
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
12:18 - 12:22

Time after HW [HH:MM]
7:20

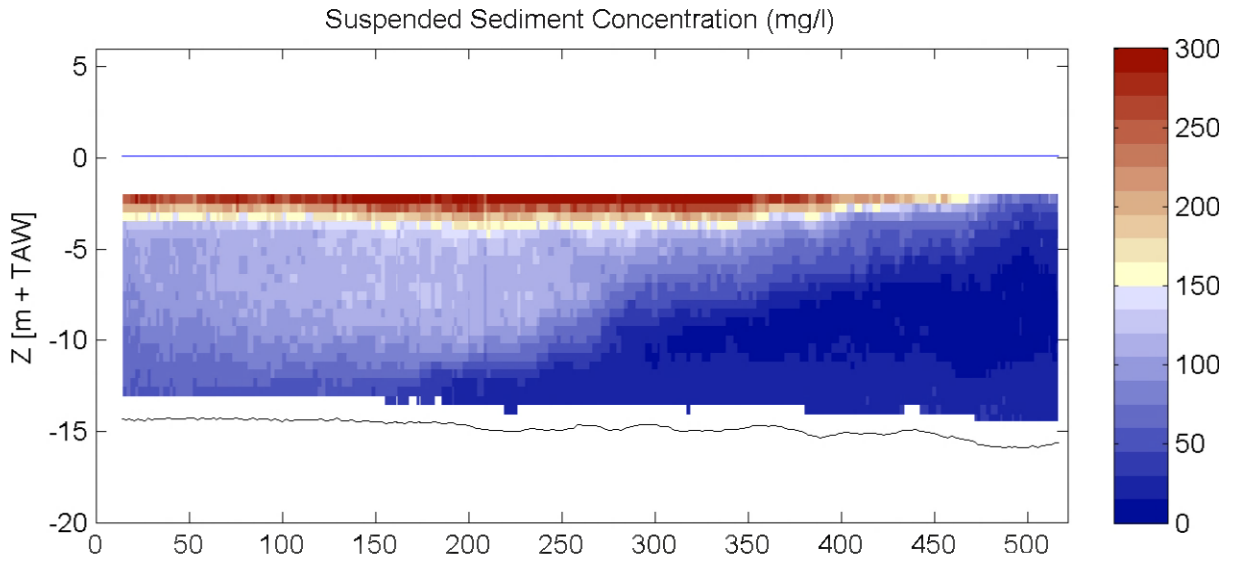
Data Processed by: IMDC

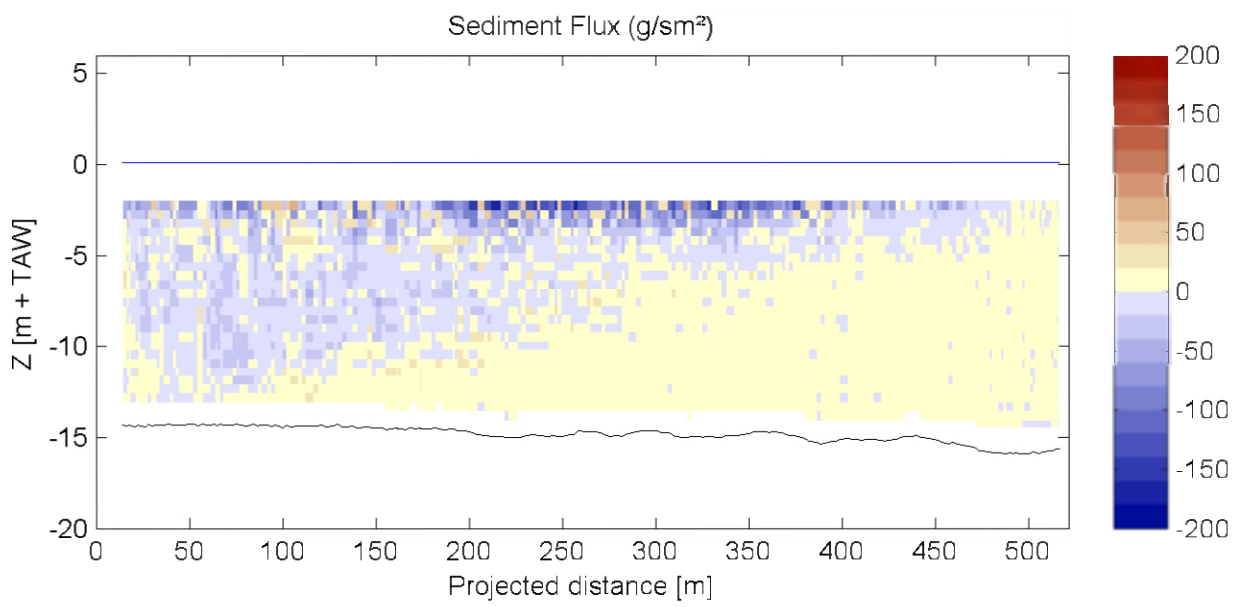
In association with :

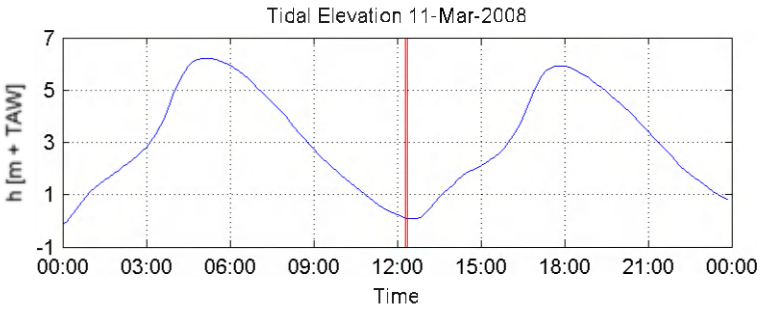
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3045DGDs_sub.csv	Location: Transect DGD







HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

12:18 - 12:22

Time after HW [HH:MM]

7:20

Data Processed by: IMDC

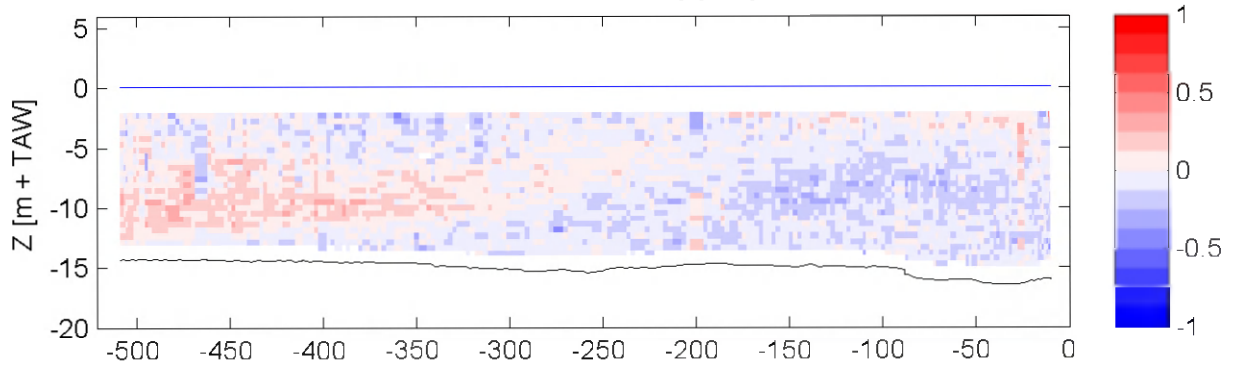
In association with :

I/RA/11283/07.090/MSA

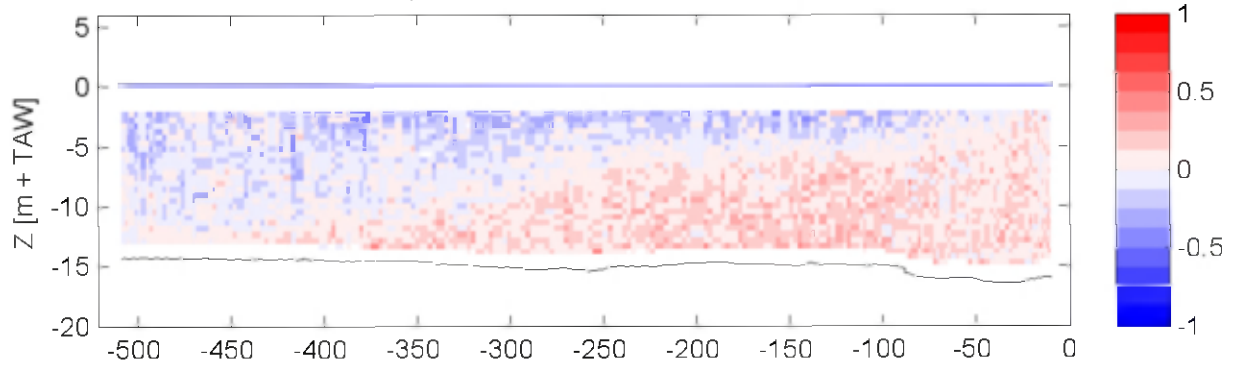
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3047DGDt_sub.csv	Location: Transect DGD

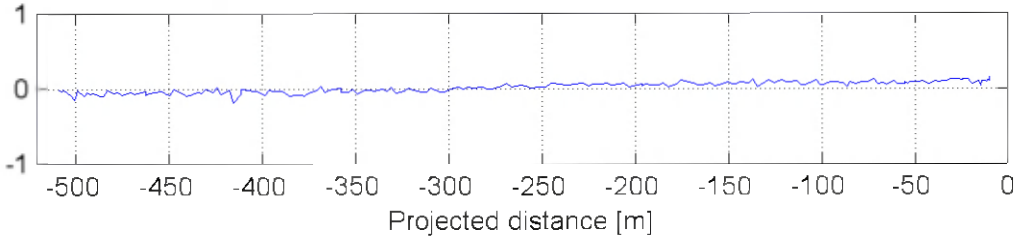
Parallel Current Velocity [m/s]



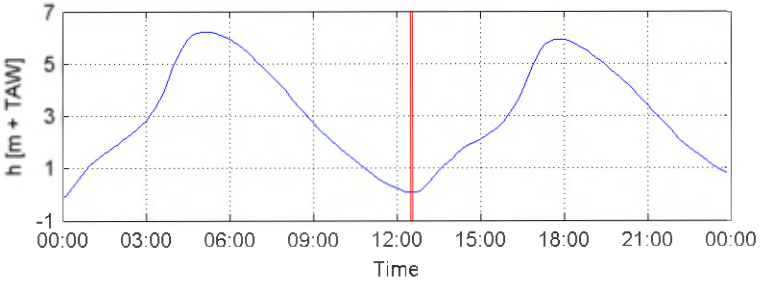
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00; h = 6.22 m+TAW
12:30; h = 0.08 m+TAW
17:50; h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

12:29 - 12:34

Time after HW [HH:MM]

-5:18

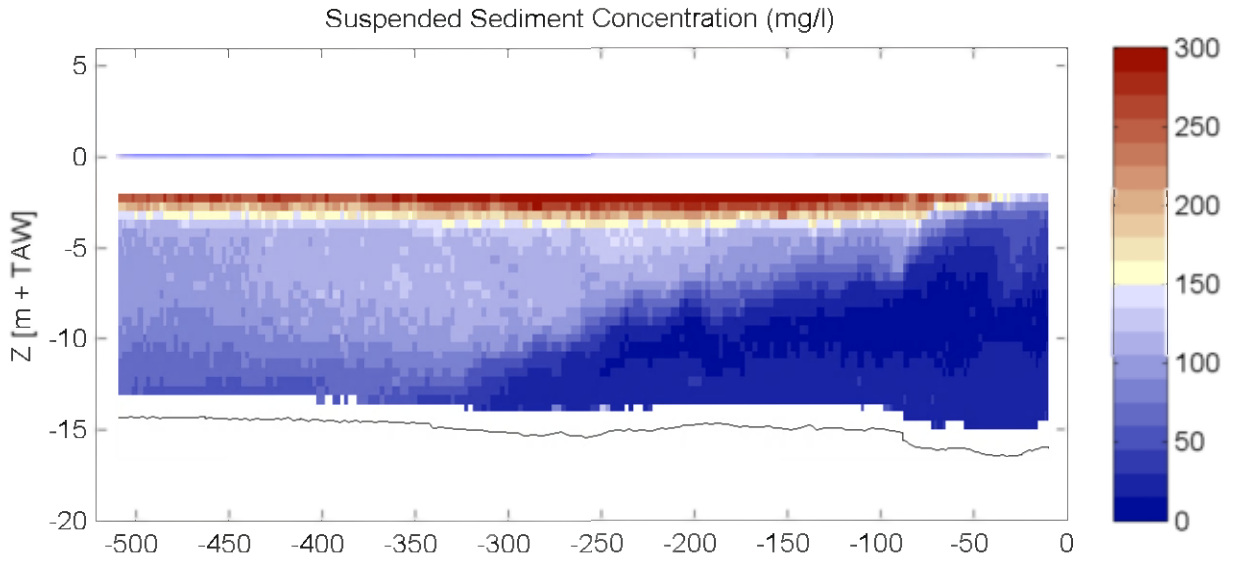
Data Processed by: IMDC

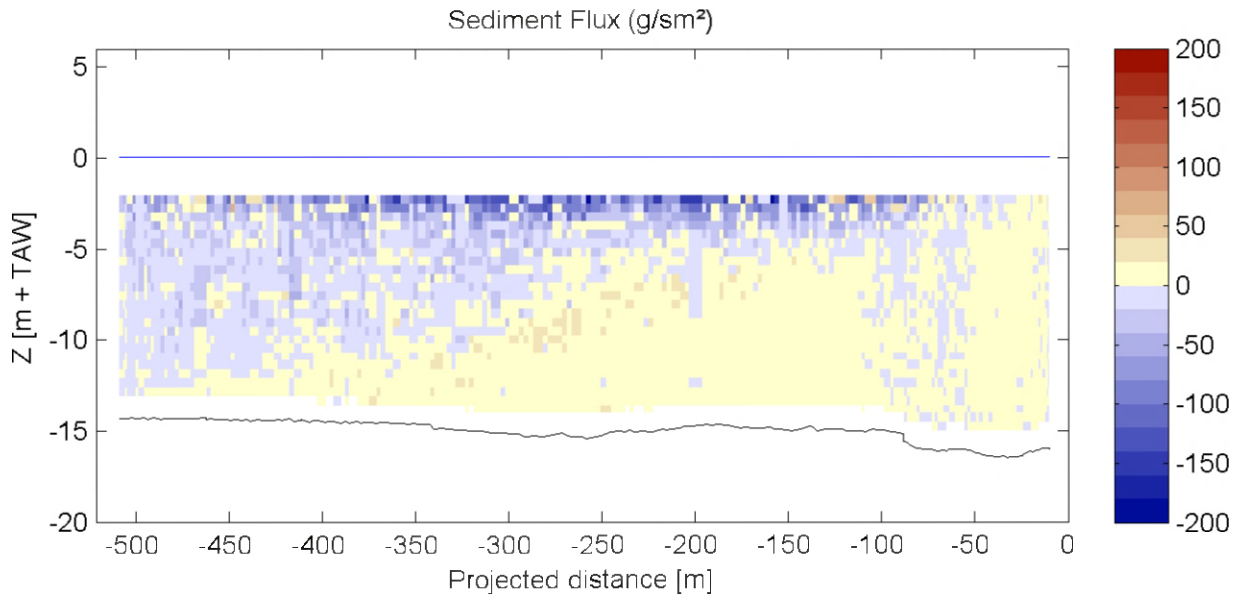
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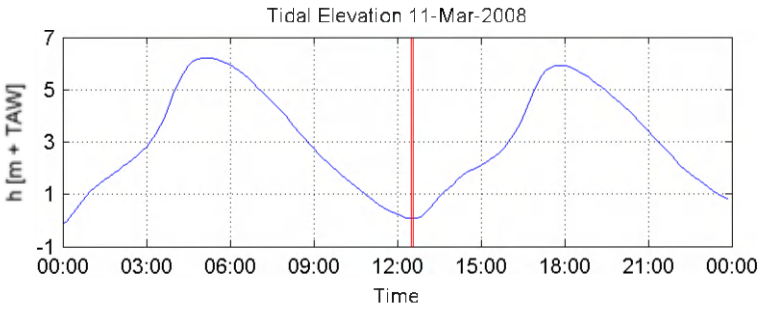
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3047DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

12:29 - 12:34

Time after HW [HH:MM]

-5:18

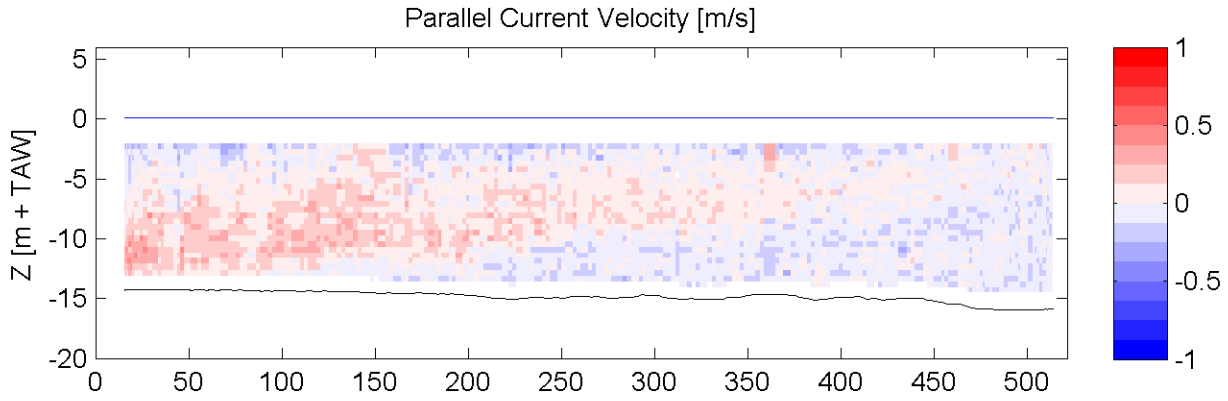
Data Processed by: IMDC

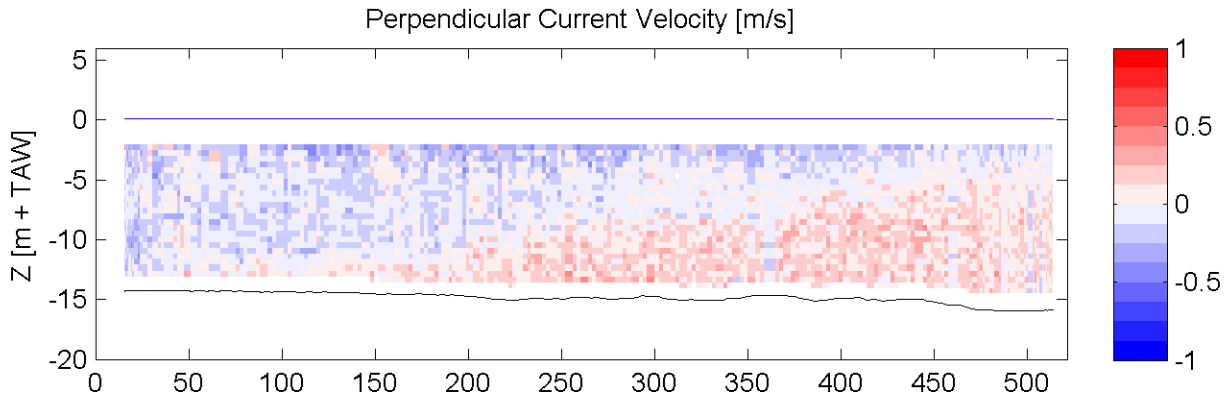
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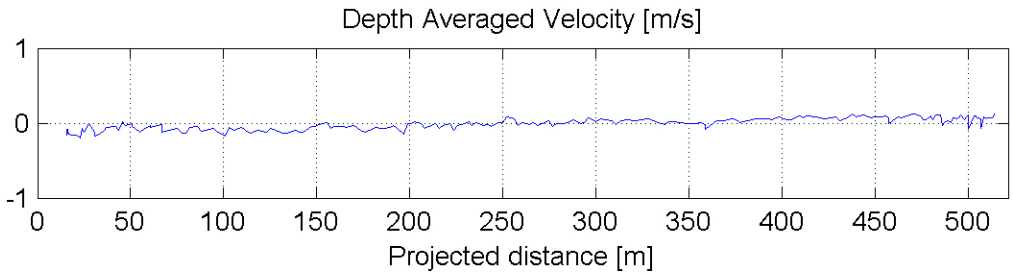
I/RA/11283/07.090/MSA

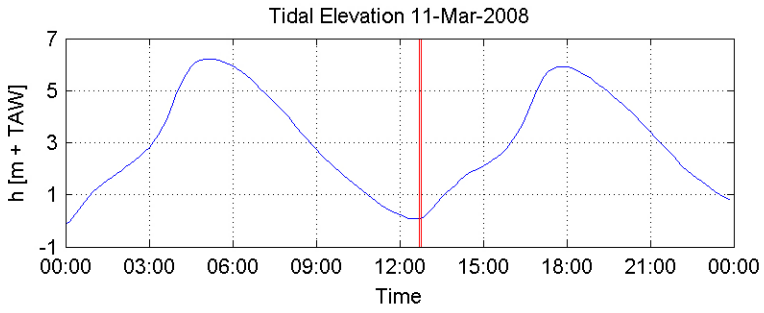
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3049DGDs_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

12:42 - 12:47

Time after HW [HH:MM]

-5:05

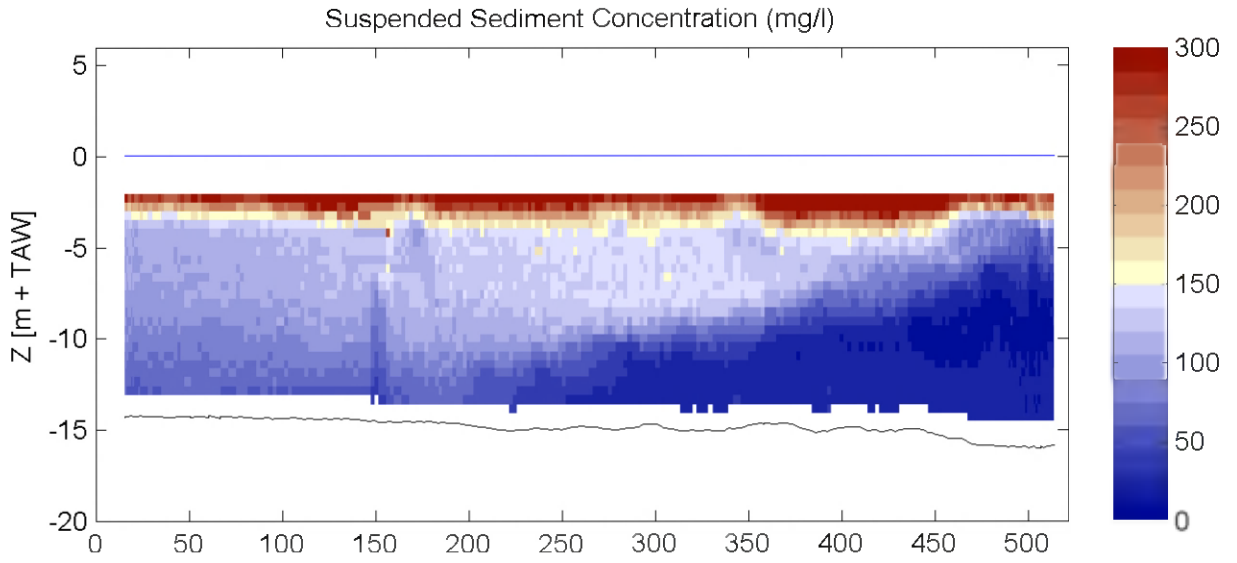
Data Processed by: IMDC

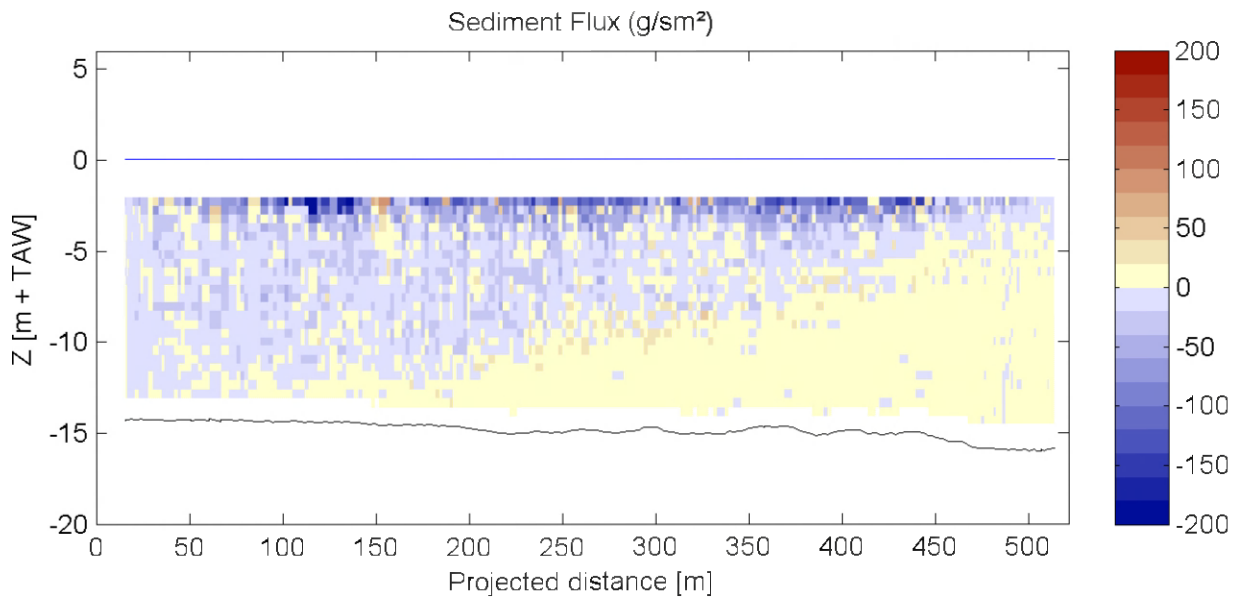
In association with : WL | delft hydraulics, GEMS International

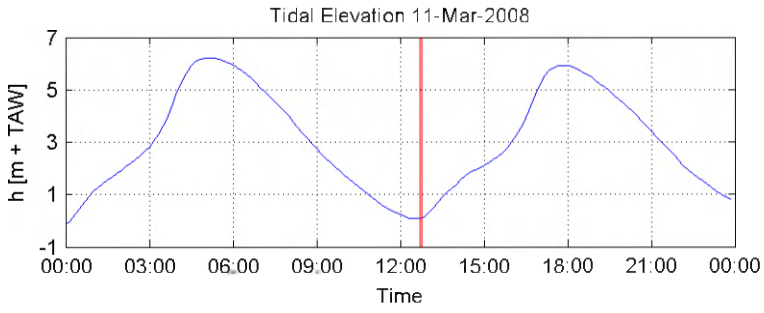
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3049DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

12:42 - 12:47

Time after HW [HH:MM]

-5:05

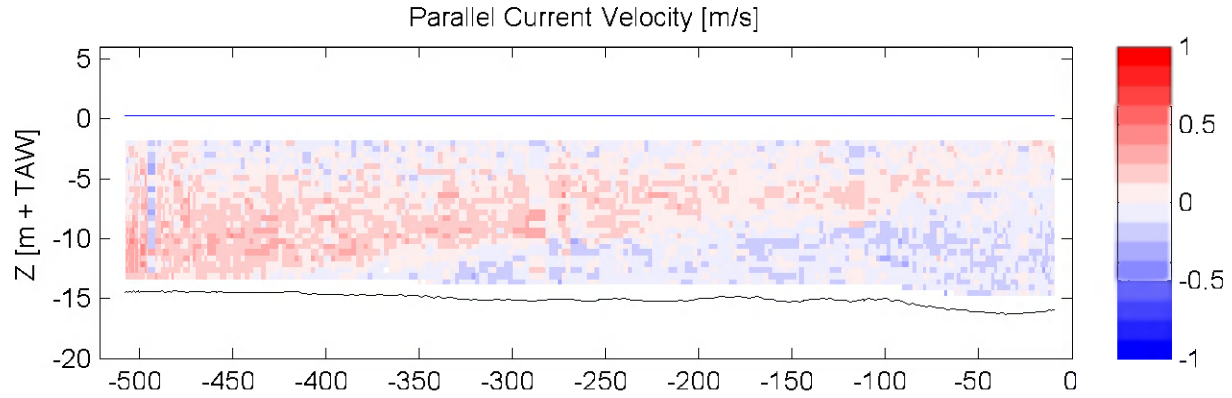
Data Processed by: IMDC

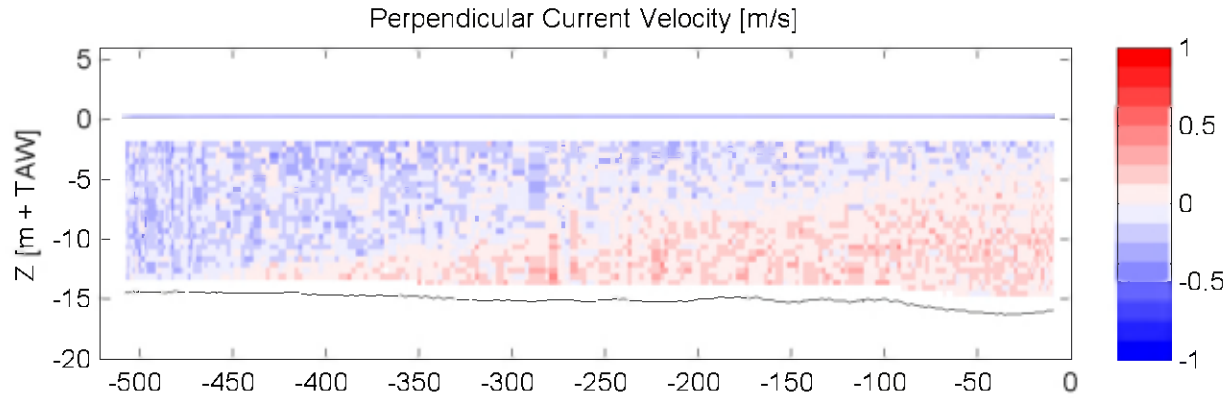
In association with :

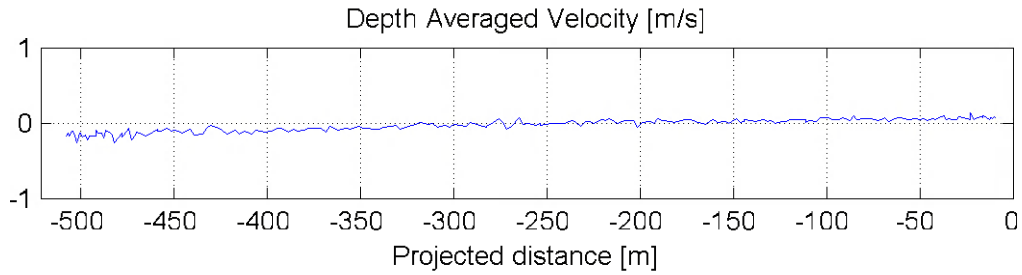
I/RA/11283/07.090/MSA

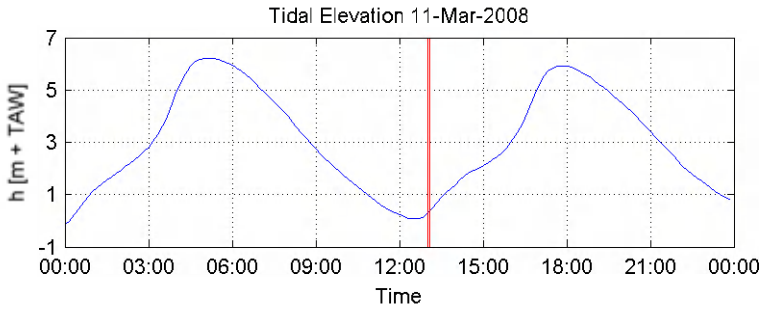
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3051DGDt_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
13:01 - 13:05

Time after HW [HH:MM]
-4:46

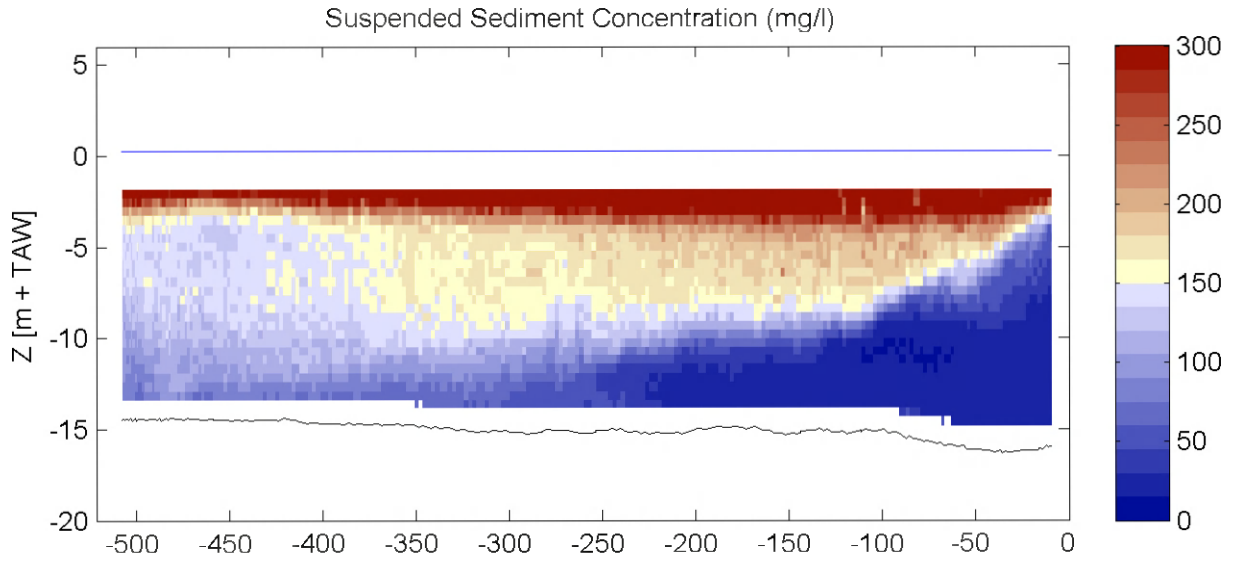
Data Processed by: IMDC

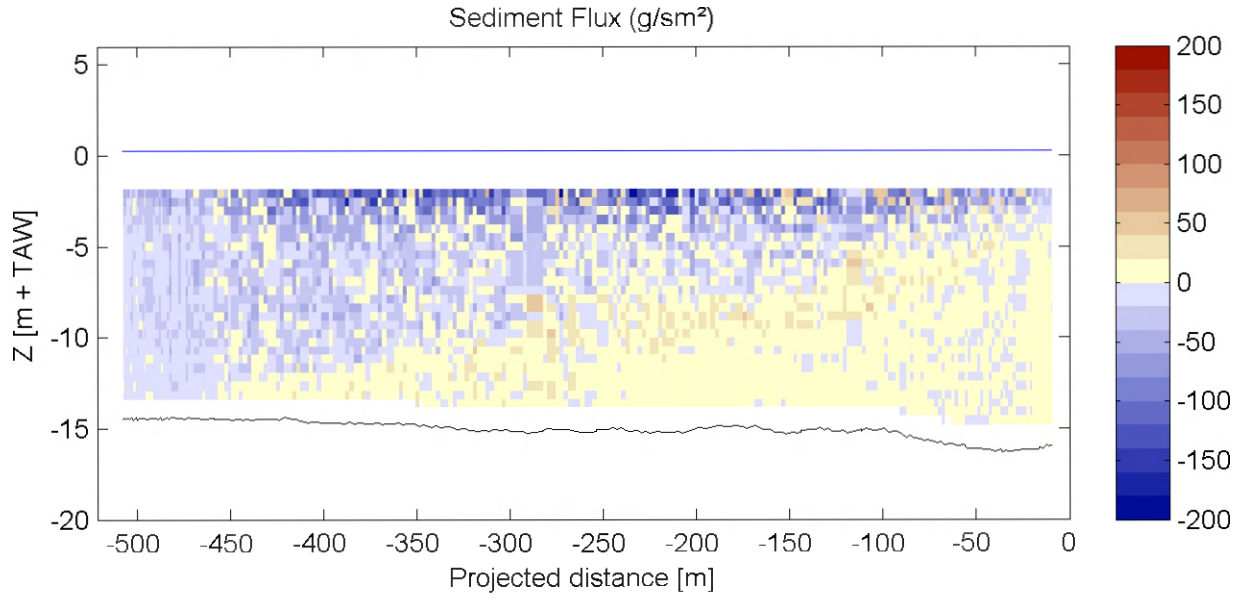
In association with :

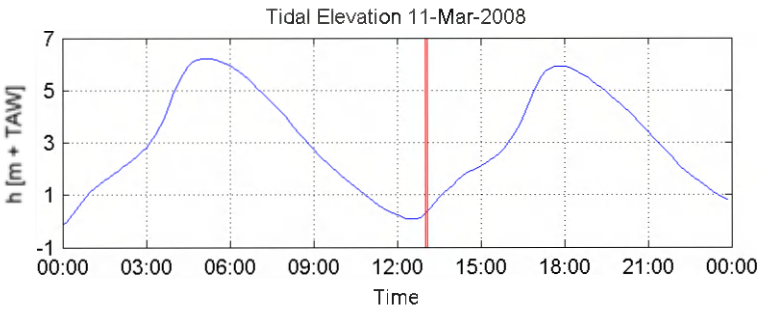
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3051DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

13:01 - 13:05

Time after HW [HH:MM]

-4:46

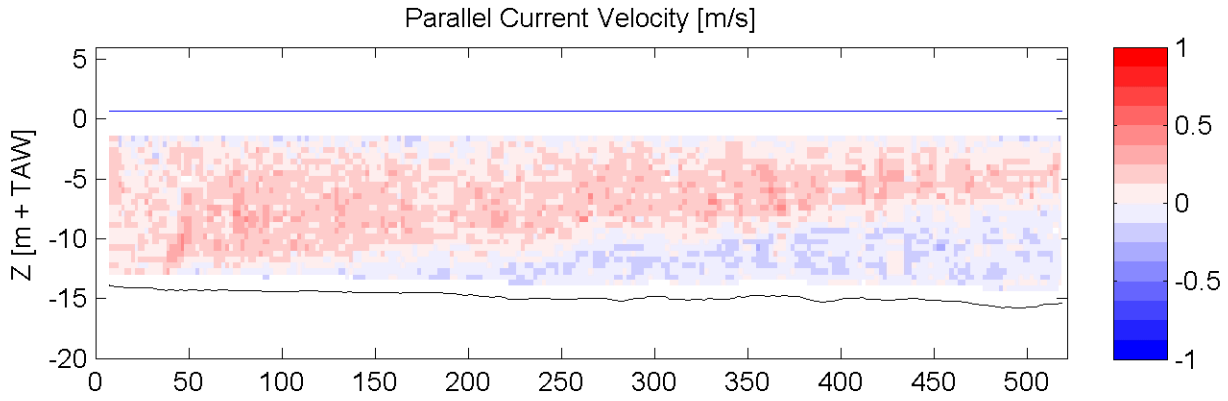
Data Processed by: IMDC

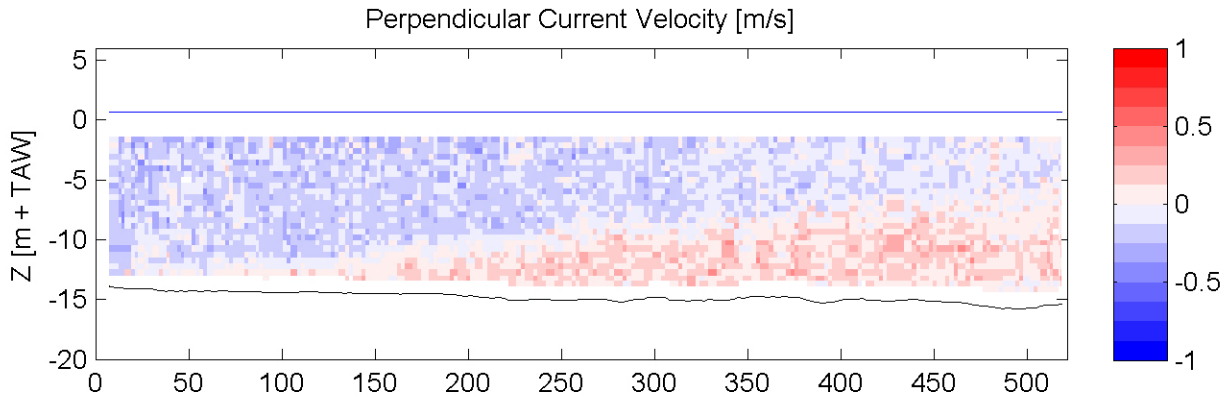
In association with :

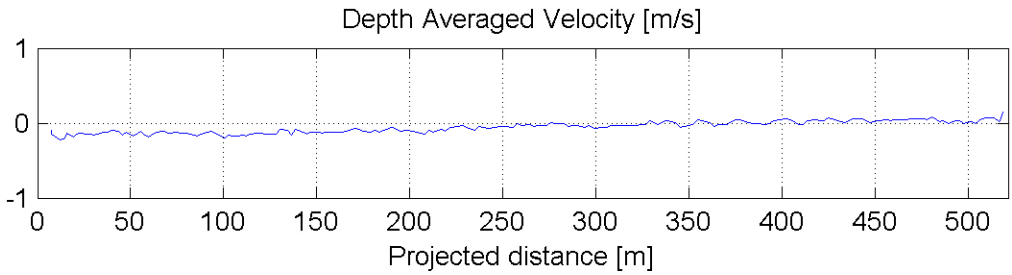
I/RA/11283/07.090/MSA

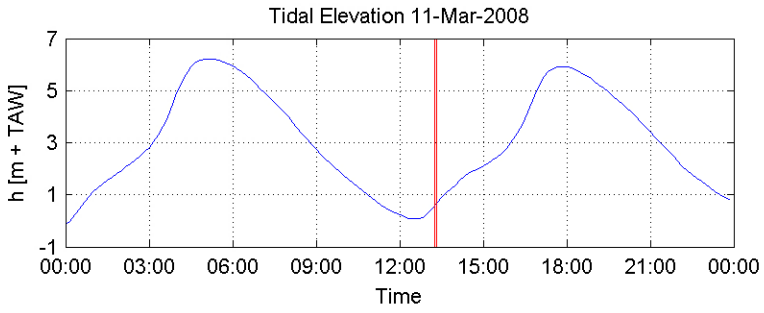
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3053DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

13:16 - 13:20

Time after HW [HH:MM]

-4:31

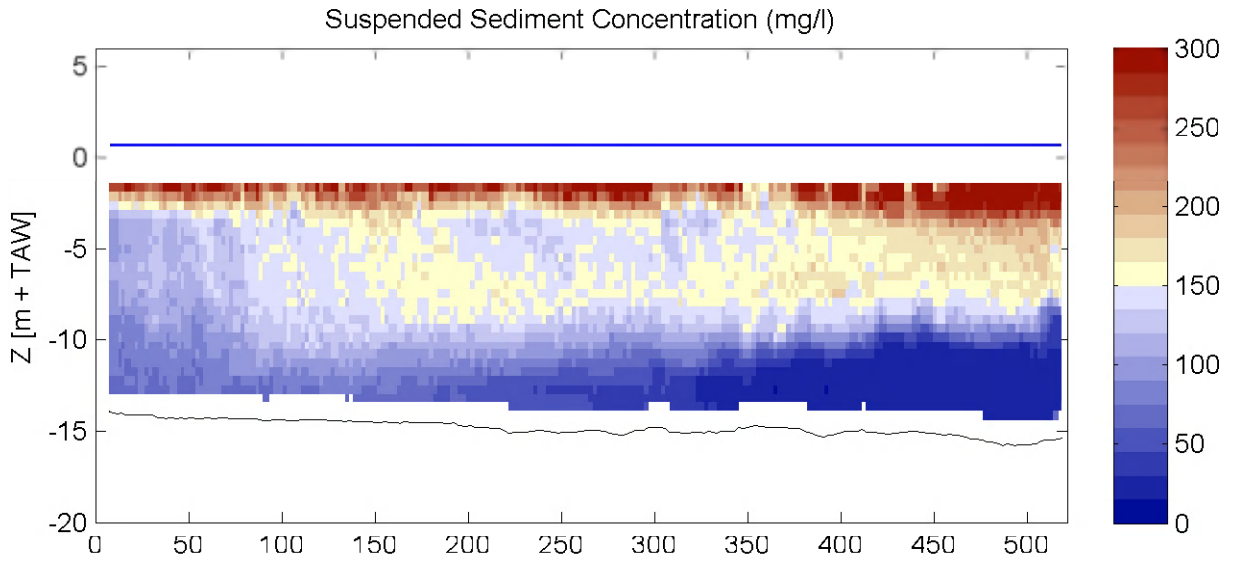
Data Processed by: IMDC

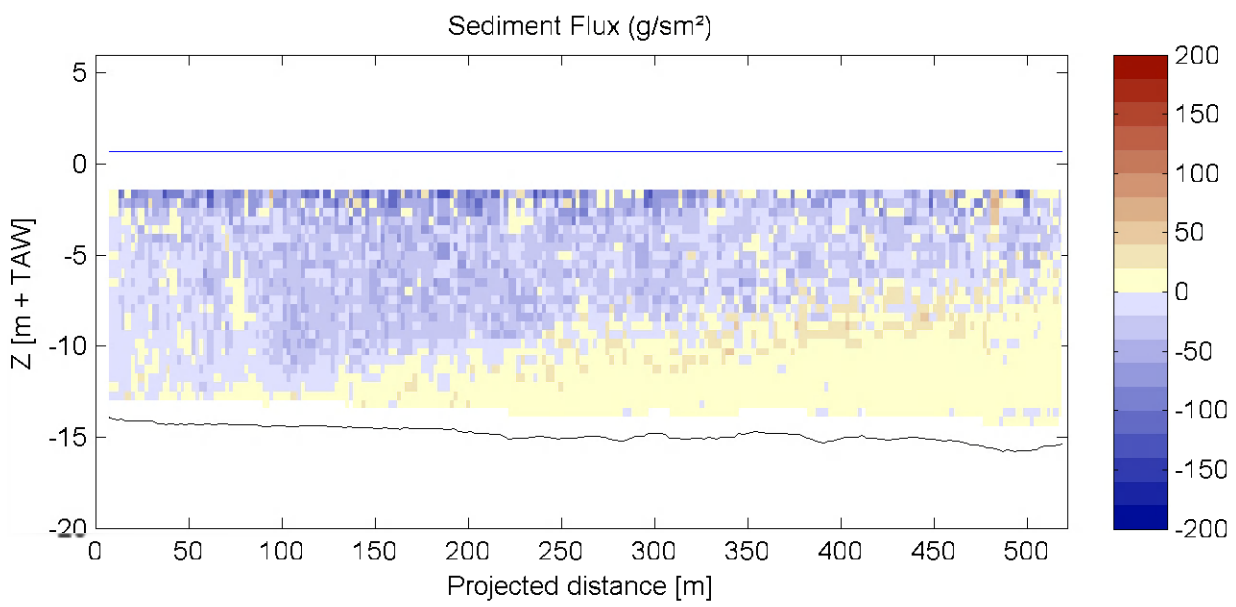
In association with : w.l | delft hydraulics, GEMS International

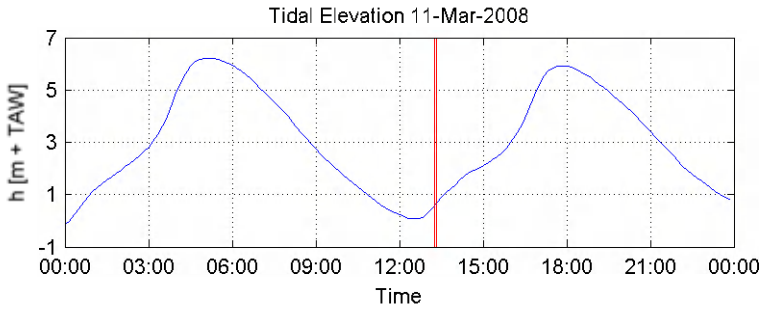
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3053DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

13:16 - 13:20

Time after HW [HH:MM]

-4:31

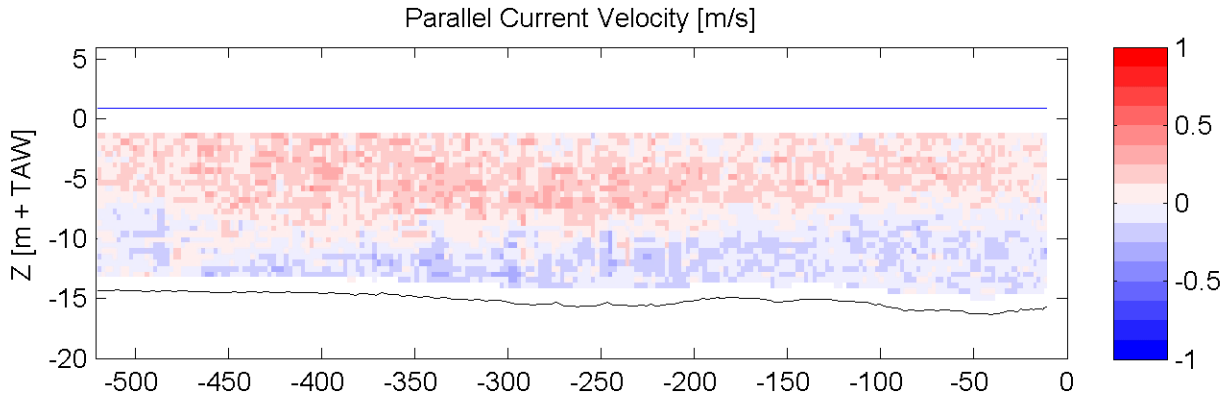
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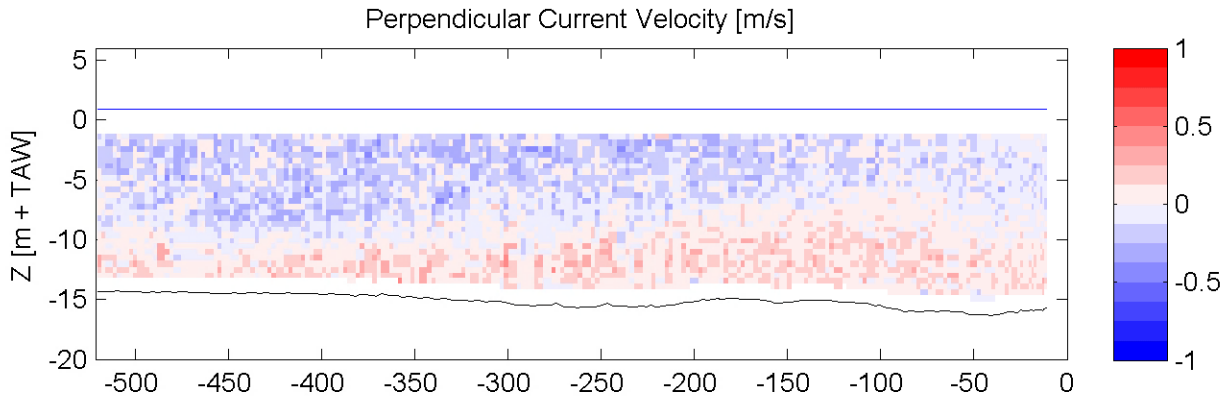
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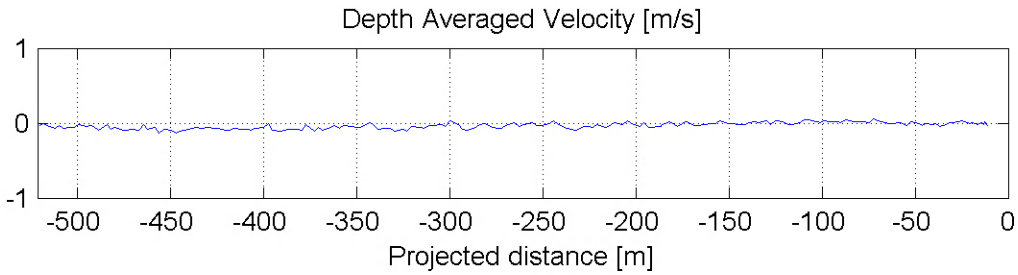
I/RA/11283/07.090/MSA

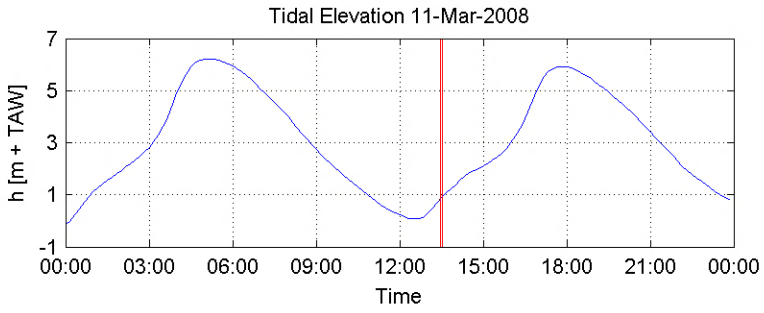
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3055DGDt_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

13:27 - 13:31

Time after HW [HH:MM]

-4:20

Data Processed by: IMDC

In association with : WL | delft hydraulics, GEMS International

I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok

Equipment(s):

ADCP

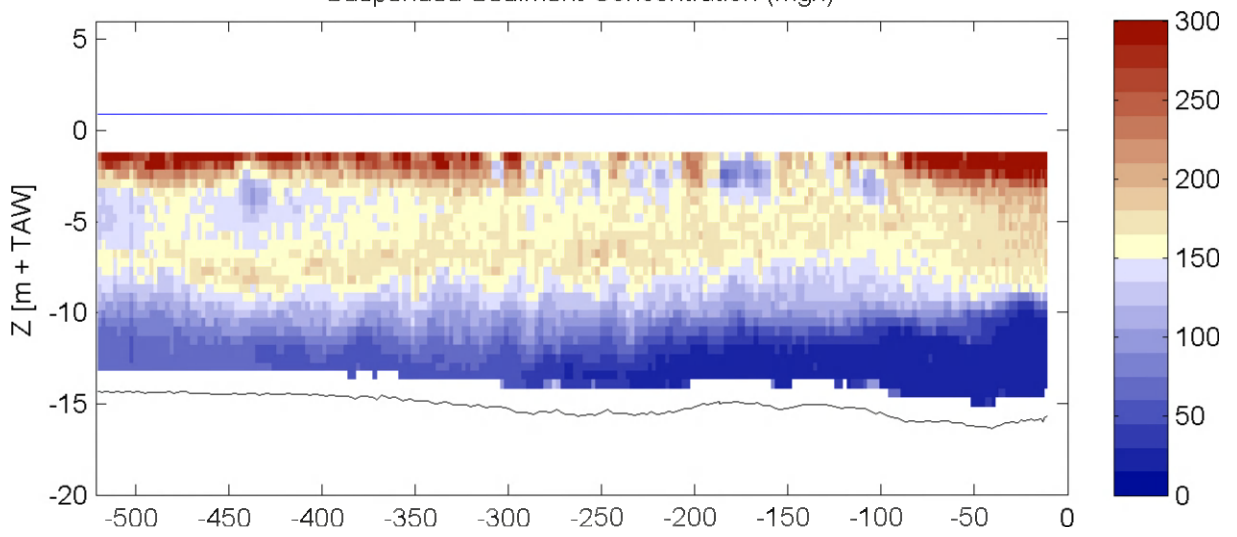
Sourcefile:

3055DGDt_sub.csv

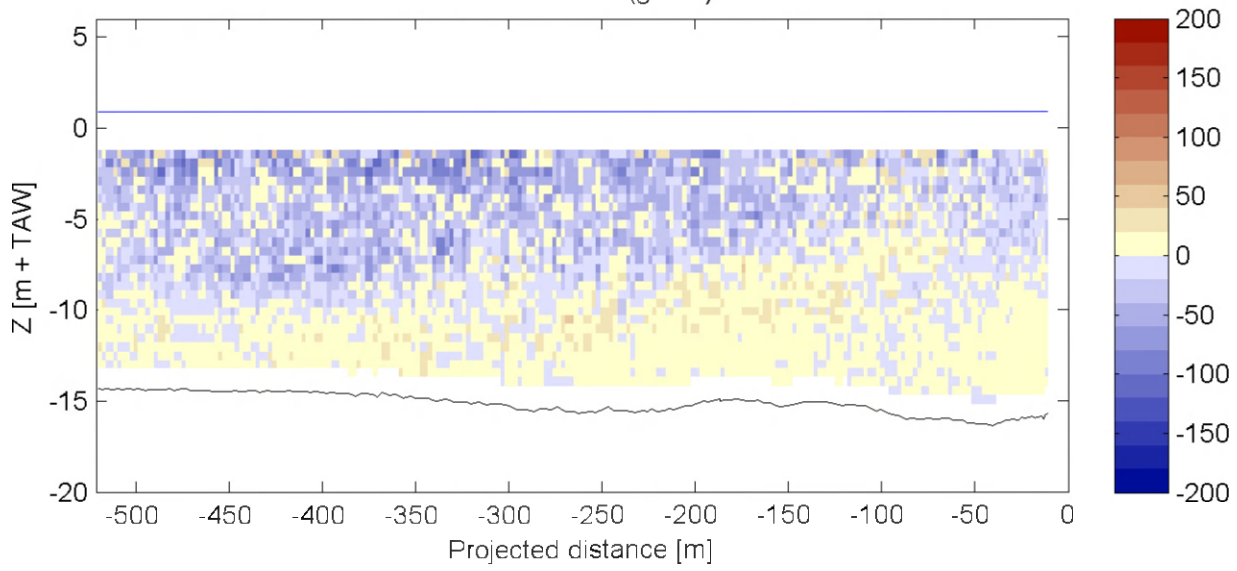
Location:

Transect DGD

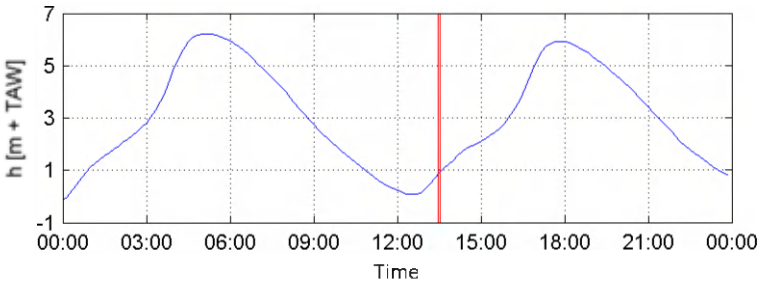
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

13:27 - 13:31

Time after HW [HH:MM]

-4:20

Data Processed by: IMDC

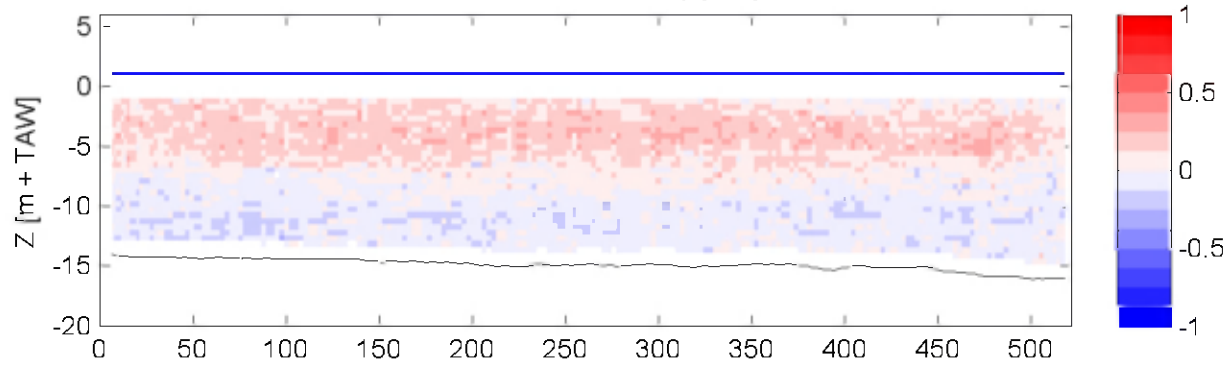
In association with :

I/RA/11283/07.090/MSA

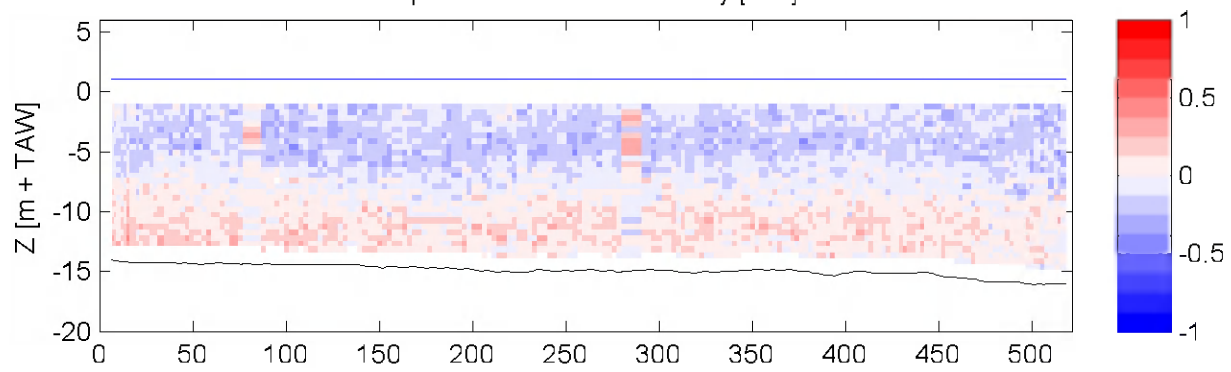
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3057DGDs_sub.csv	Location: Transect DGD

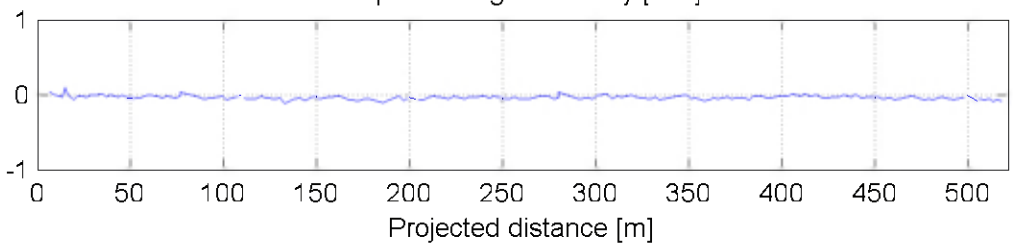
Parallel Current Velocity [m/s]



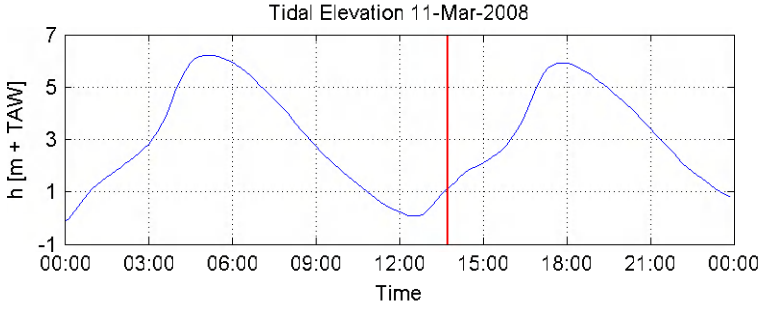
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
13:41 - 13:45

Time after HW [HH:MM]
-4:06

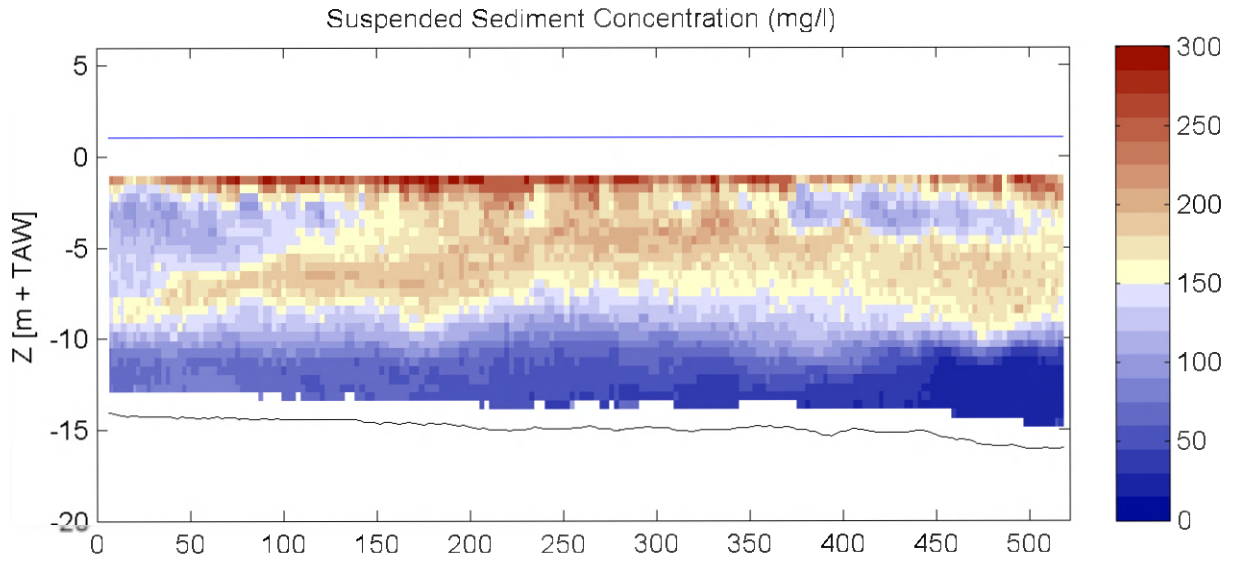
Data Processed by:

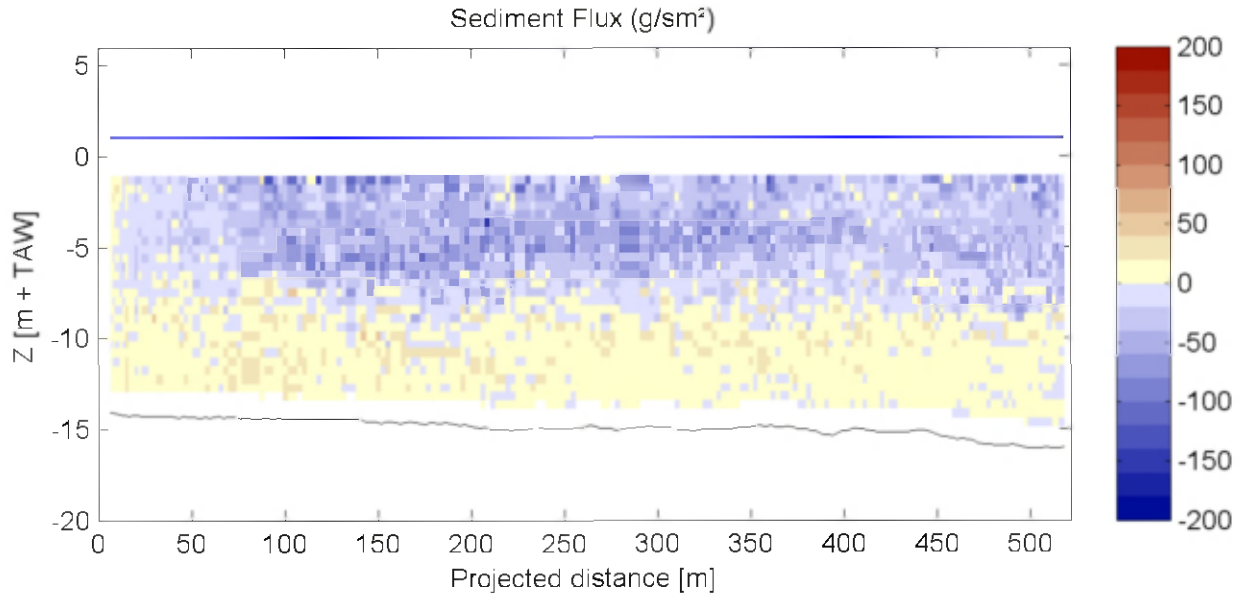
In association with :

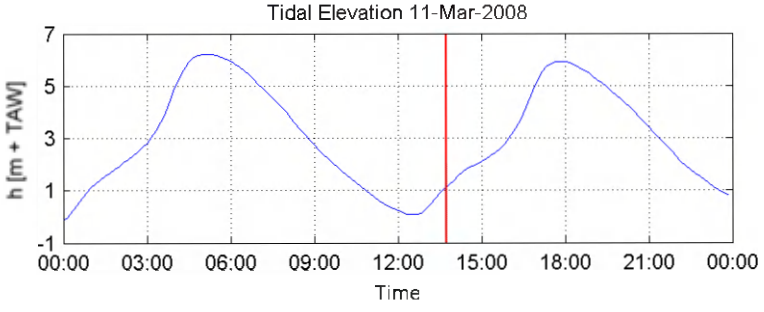
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3057DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00; h = 6.22 m+TAW
12:30; h = 0.08 m+TAW
17:50; h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

13:41 - 13:45

Time after HW [HH:MM]

-4:06

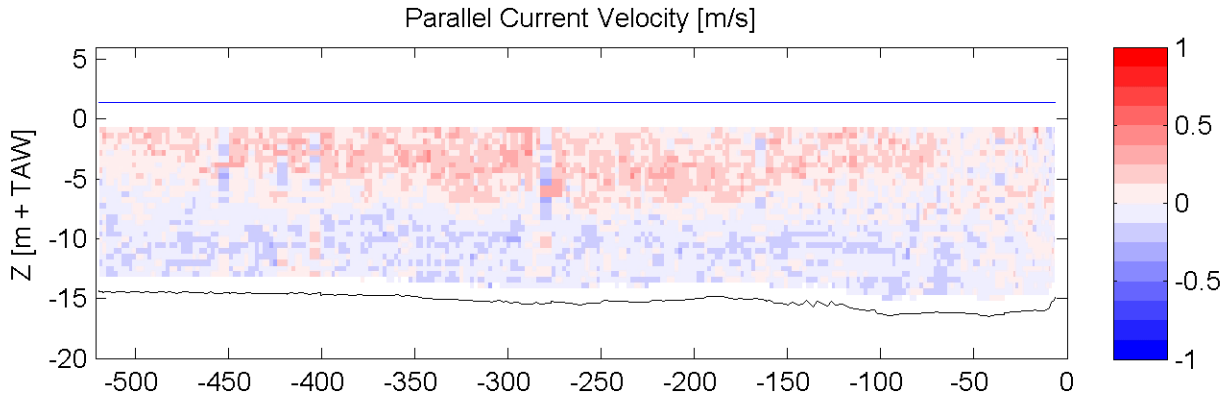
Data Processed by:

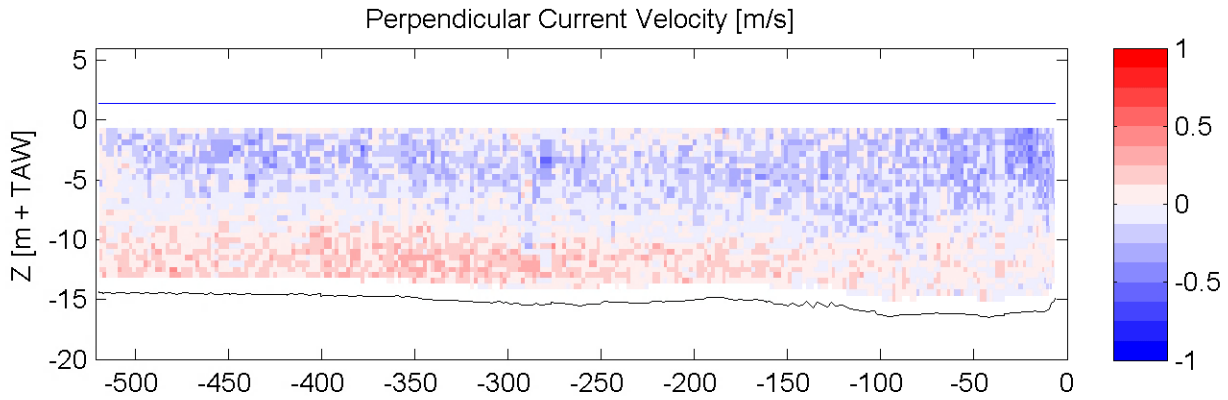
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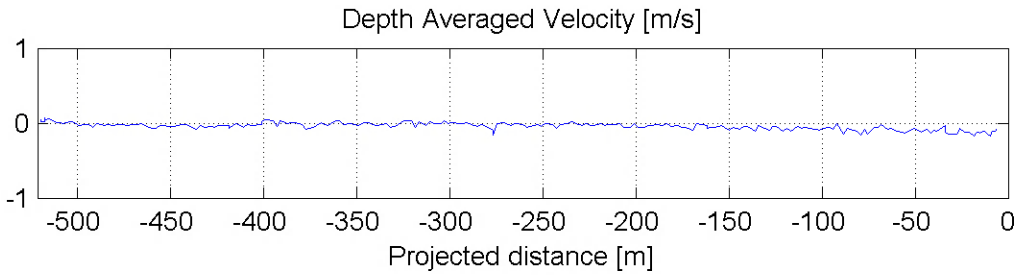
I/RA/11283/07.090/MSA

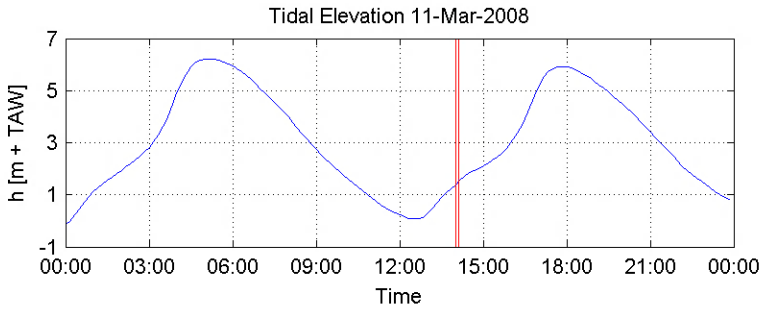
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3059DGDt_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

14:01 - 14:06

Time after HW [HH:MM]

-3:45

Data Processed by: IMDC

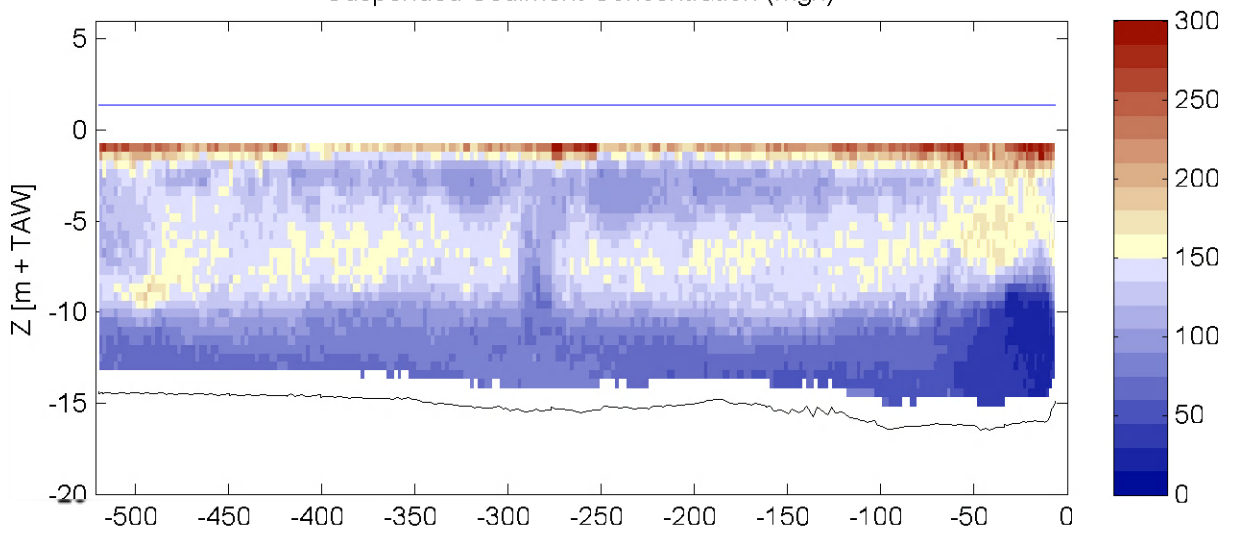
In association with : w.l | delft hydraulics, GEMS International

I/RA/11283/07.090/MSA

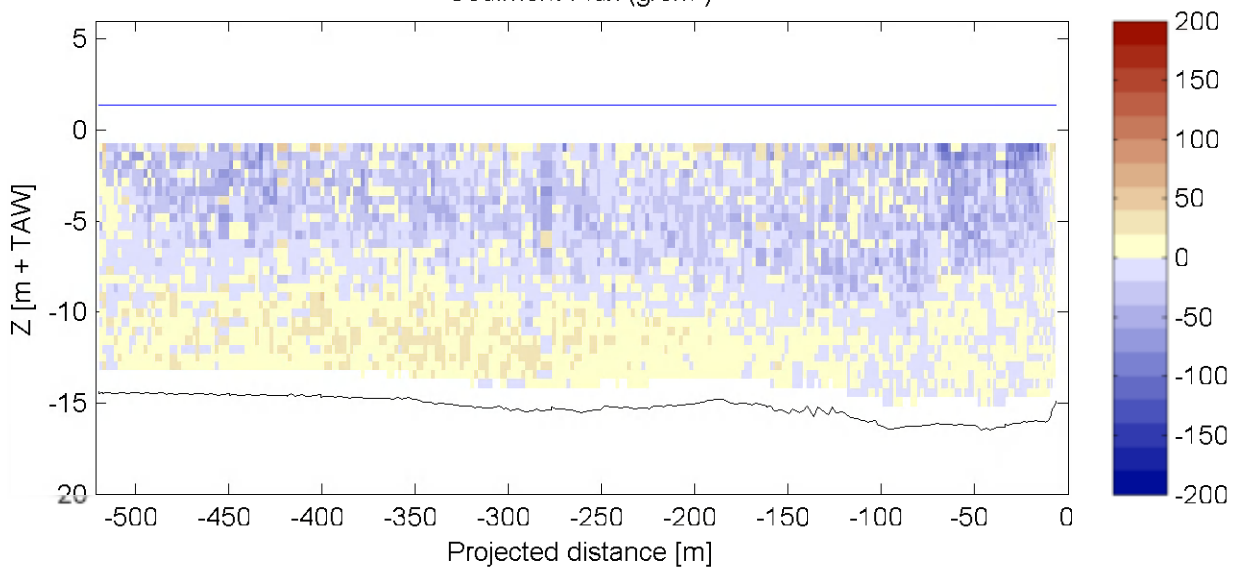
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3059DGDt_sub.csv	Location: Transect DGD

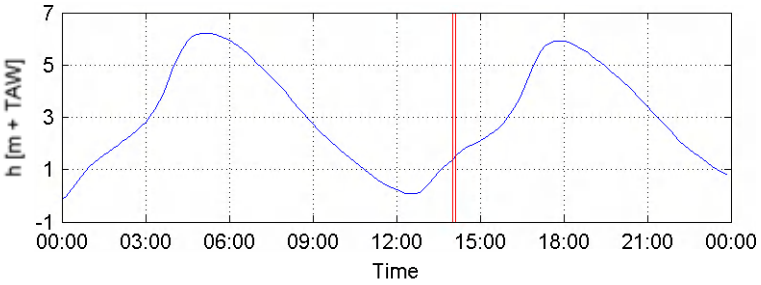
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
14:01 - 14:06

Time after HW [HH:MM]
-3:45

Data Processed by: IMDC

In association with :

I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

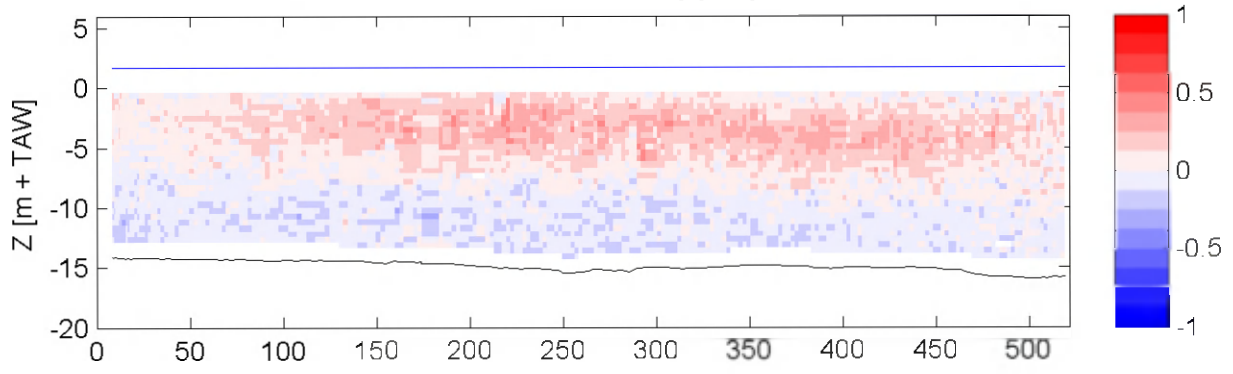
11283 - Aanslibbing Deurganckdok

Equipment(s):
ADCP

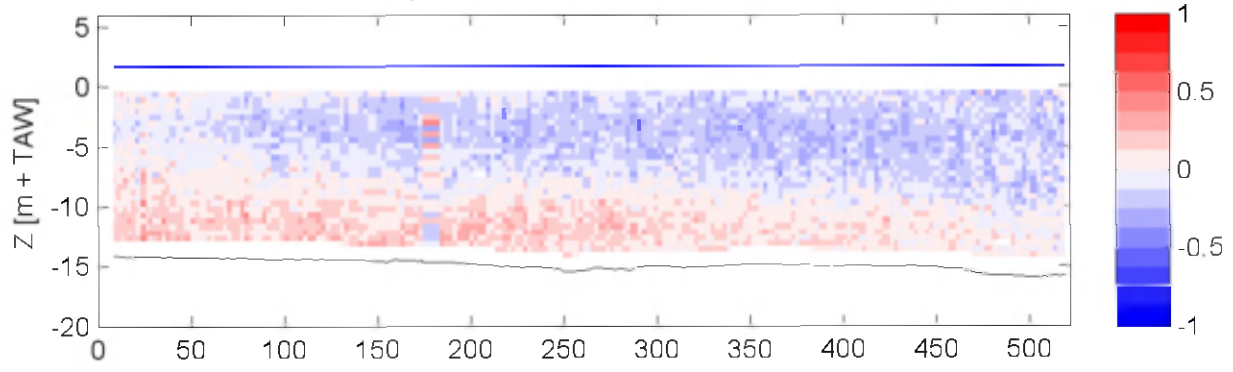
Sourcefile:
3061DGDs_sub.csv

Location:
Transect DGD

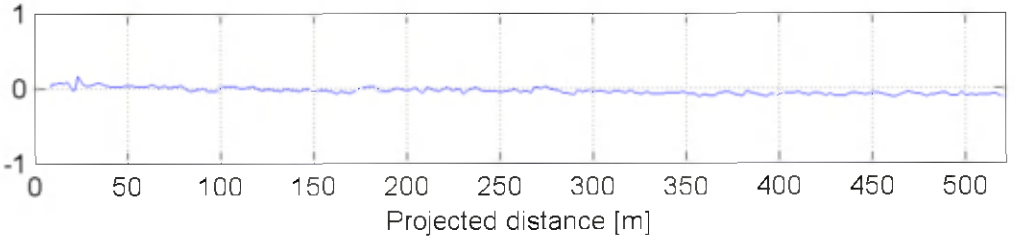
Parallel Current Velocity [m/s]



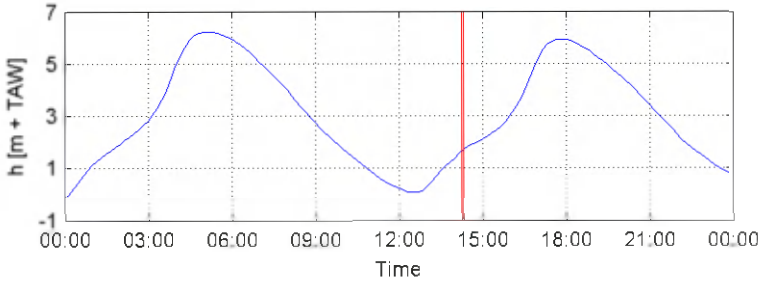
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
14:15 - 14:19

Time after HW [HH:MM]
-3:32

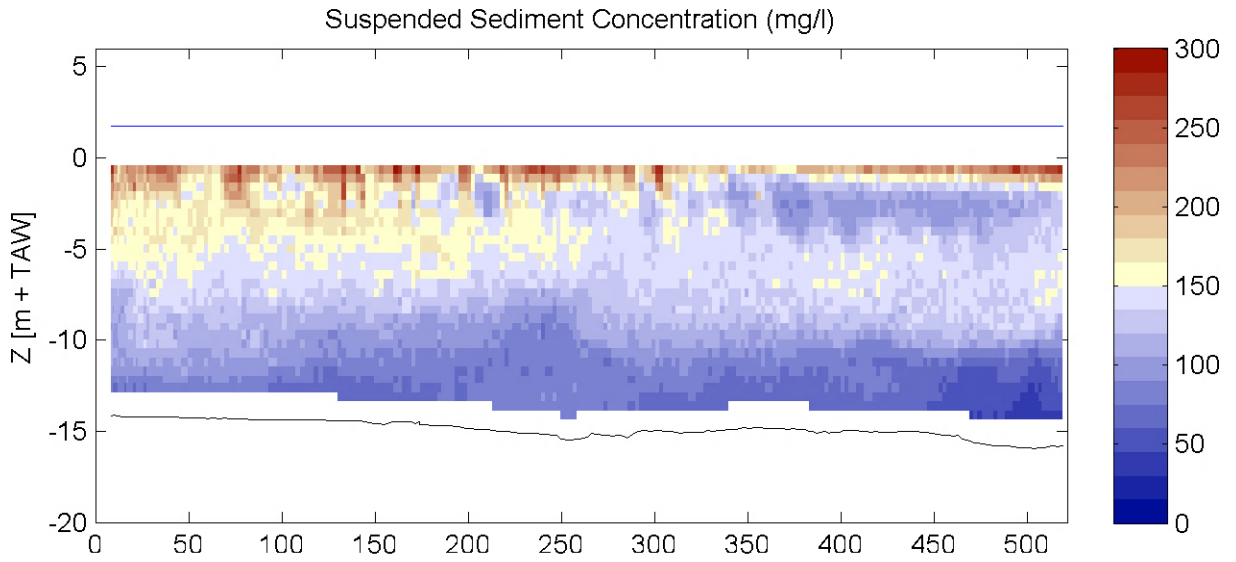
Data Processed by:
IMDC

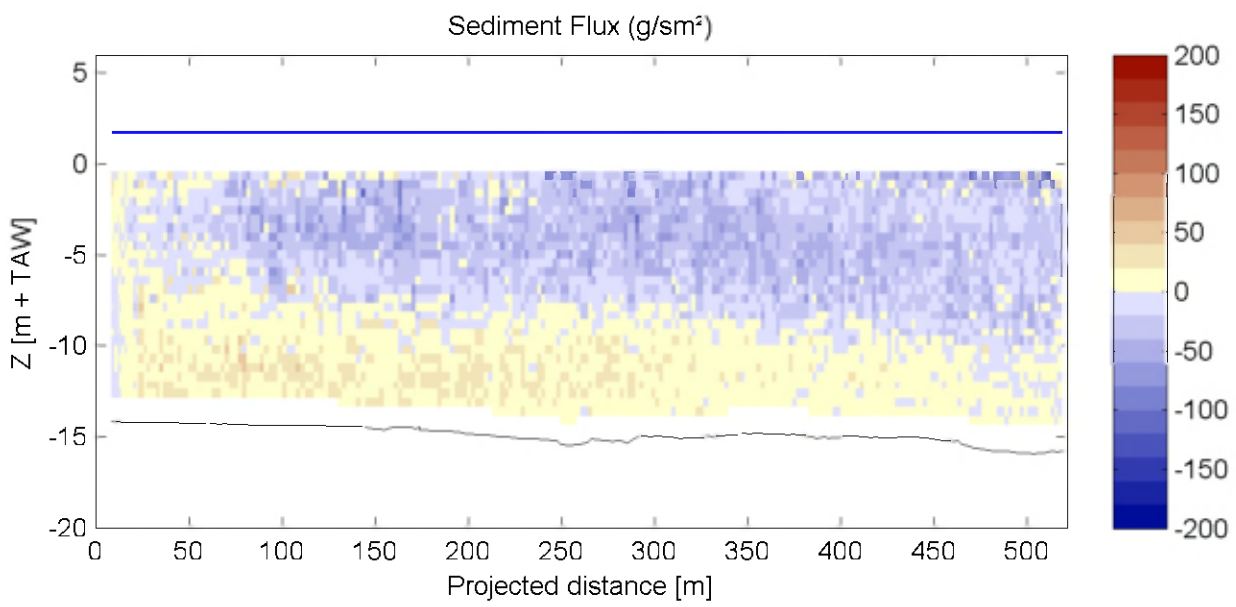
In association with :

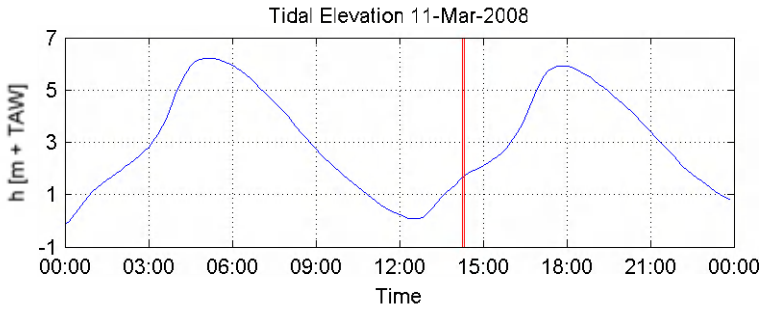
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3061DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

14:15 - 14:19

Time after HW [HH:MM]

-3:32

Data Processed by: IMDC

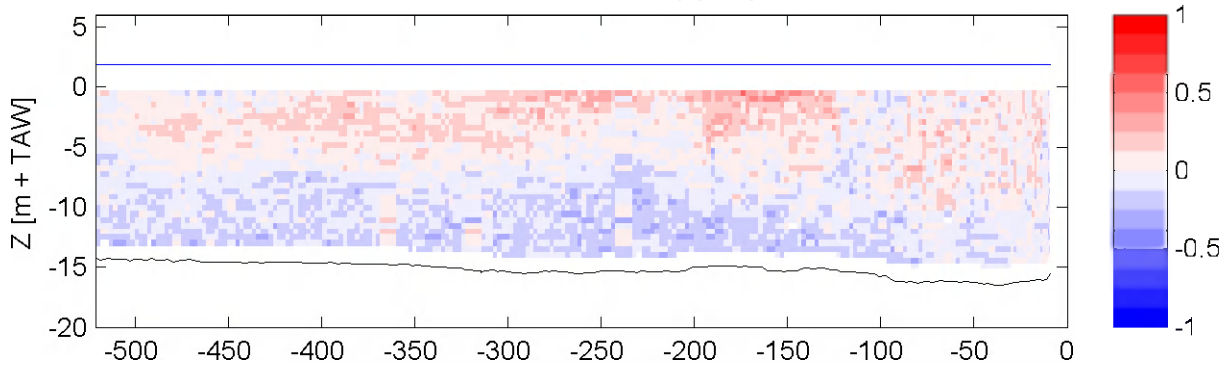
In association with :

I/RA/11283/07.090/MSA

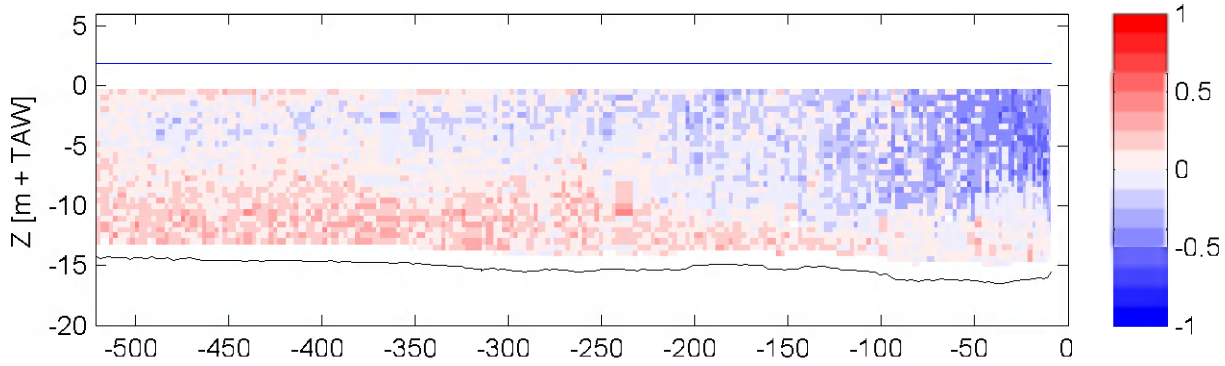
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3063DGDt_sub.csv	Location: Transect DGD

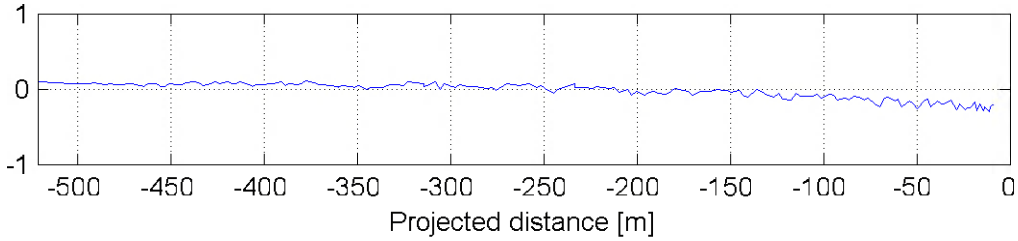
Parallel Current Velocity [m/s]



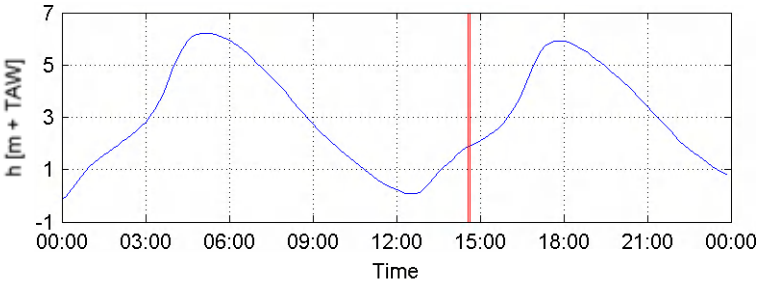
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
14:33 - 14:37

Time after HW [HH:MM]
-3:14

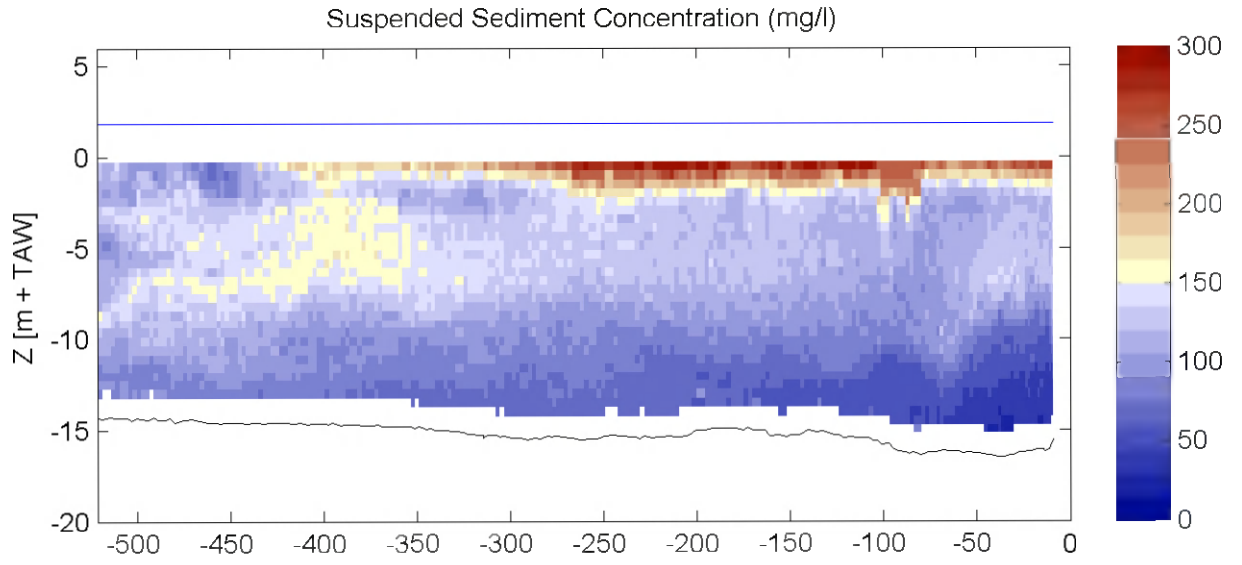
Data Processed by: IMDC

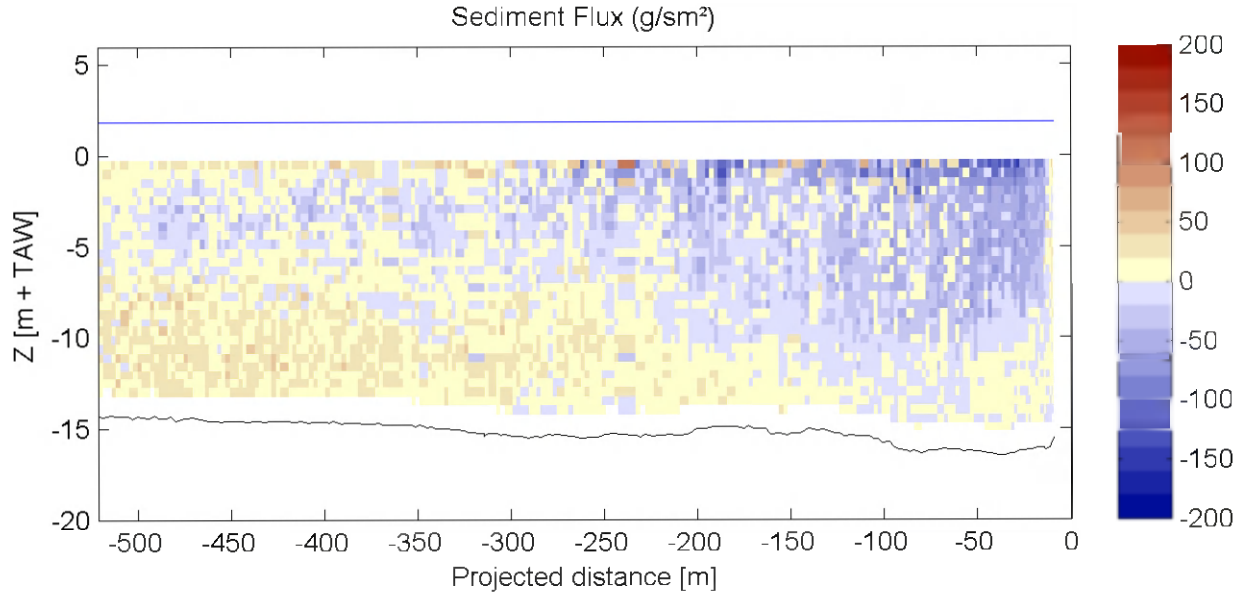
In association with :

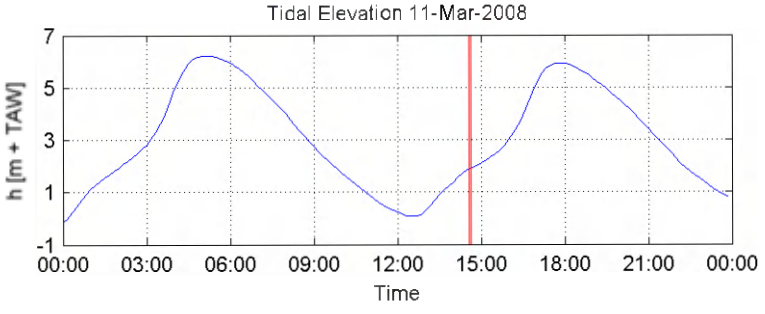
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3063DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

14:33 - 14:37

Time after HW [HH:MM]

-3:14

Data Processed by: IMDC

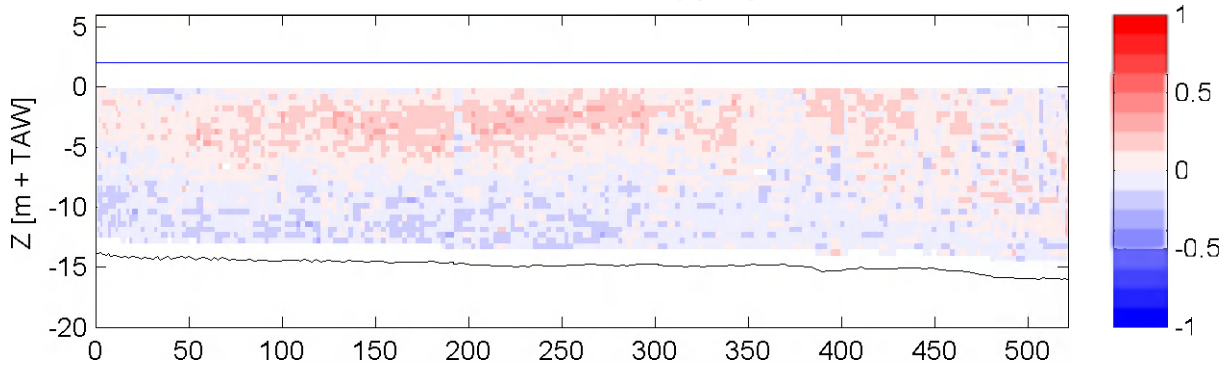
In association with :

I/RA/11283/07.090/MSA

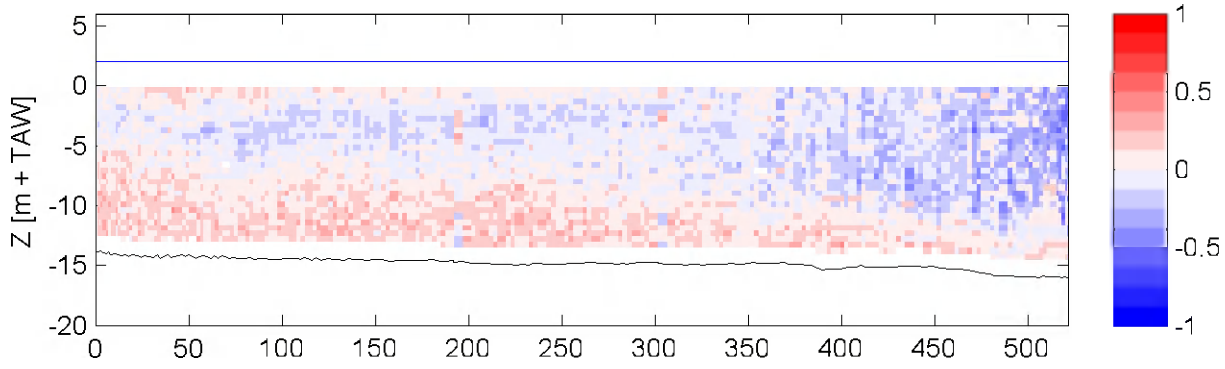
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3065DGDt_sub.csv	Location: Transect DGD

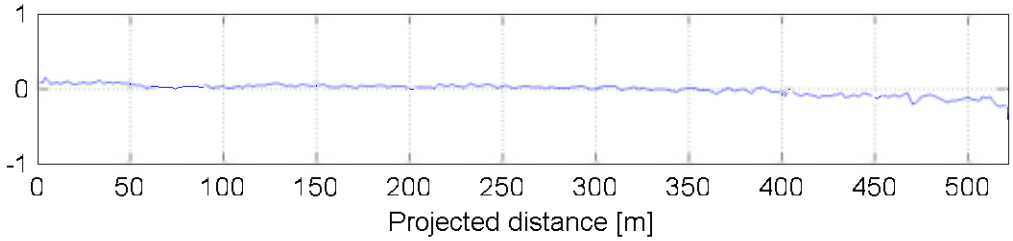
Parallel Current Velocity [m/s]



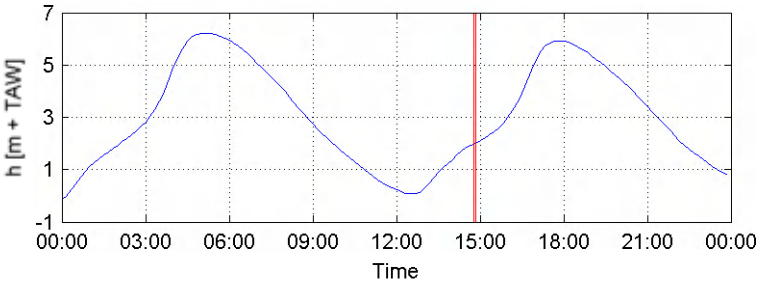
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
14:46 - 14:50

Time after HW [HH:MM]
-3:01

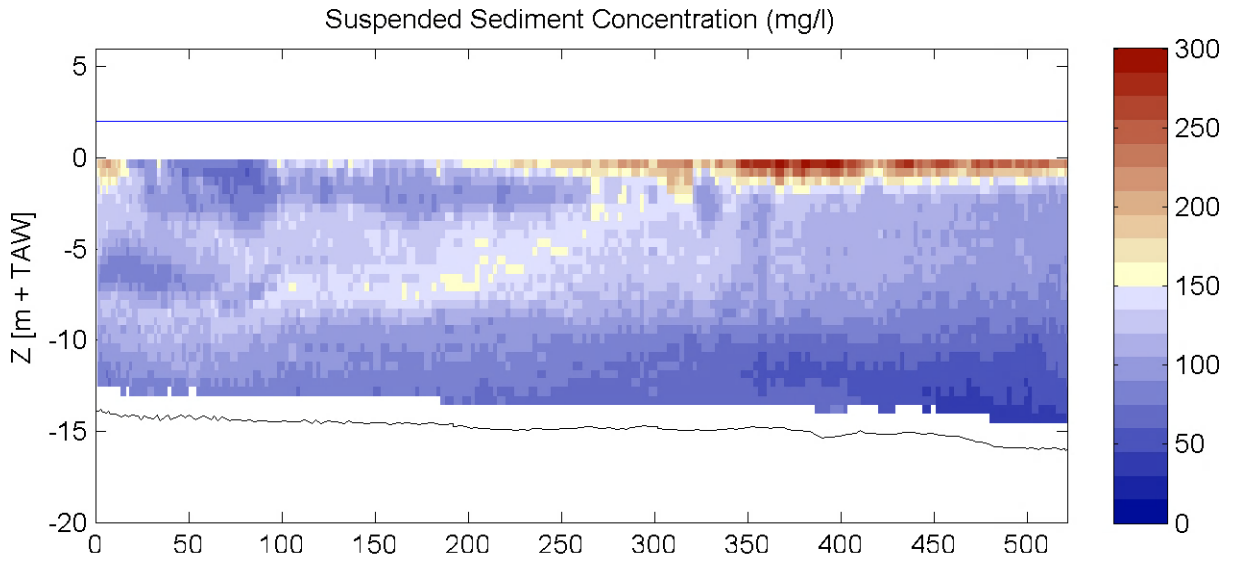
Data Processed by: IMDC

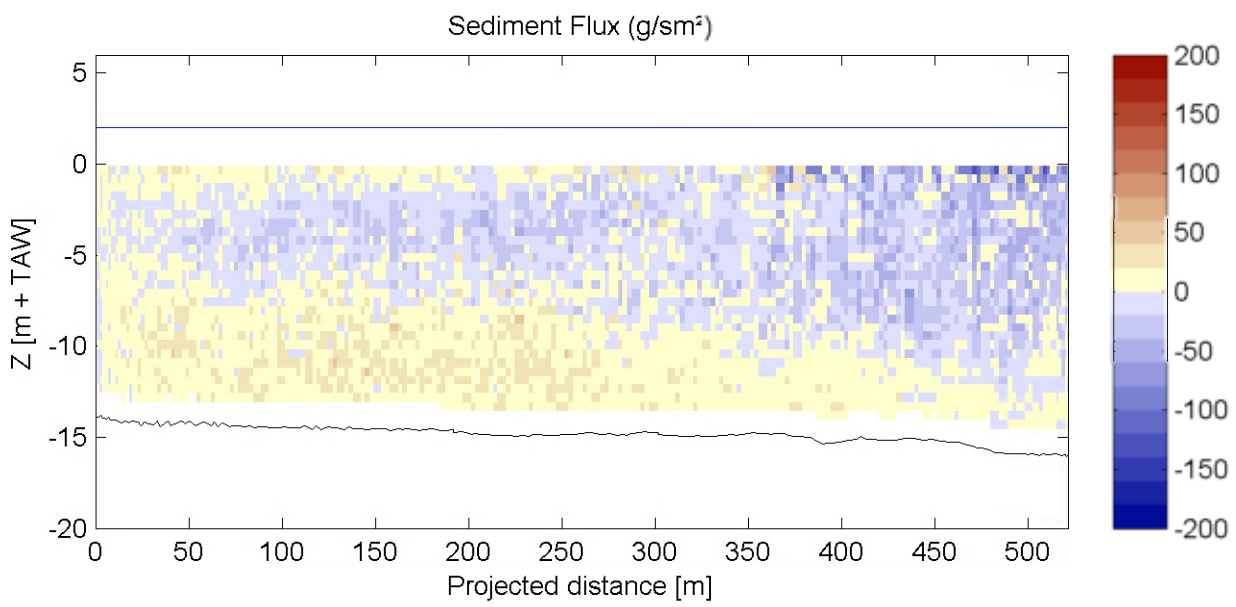
In association with :

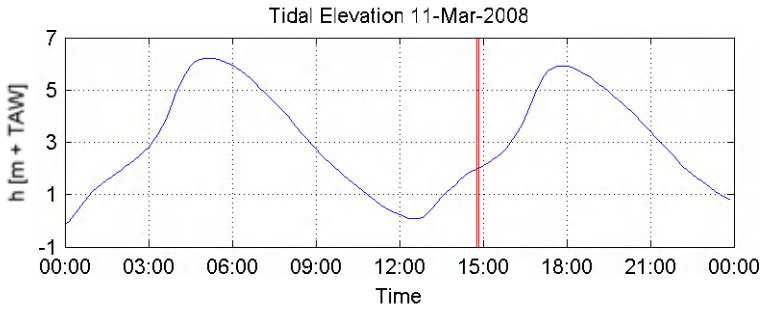
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3065DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
14:46 - 14:50

Time after HW [HH:MM]
-3:01

Data Processed by: IMDC

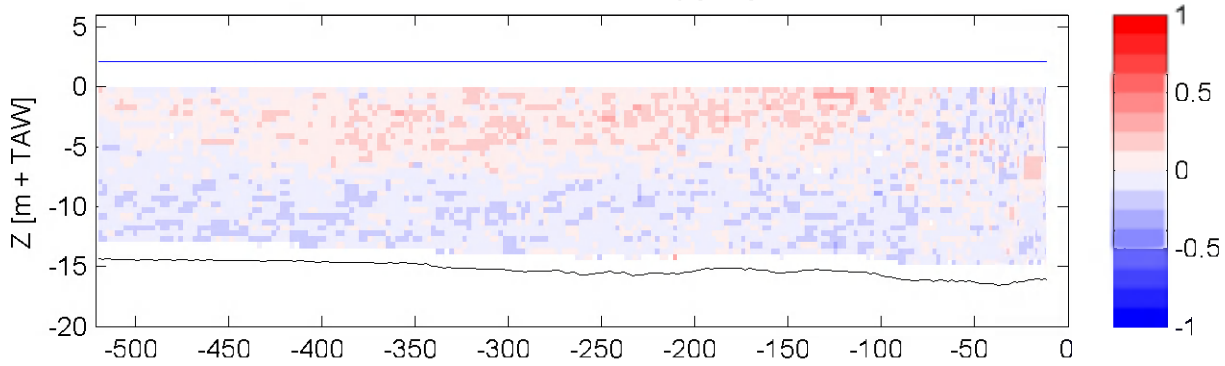
In association with :

I/RA/11283/07.090/MSA

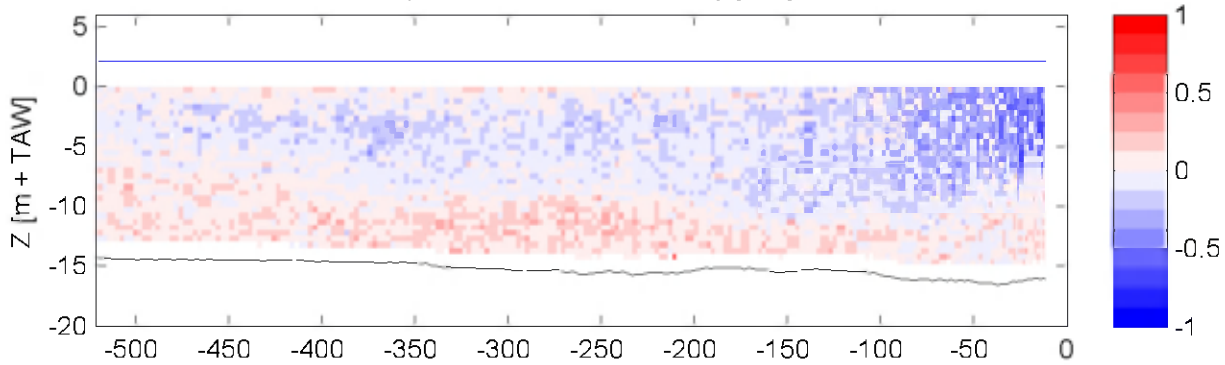
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3067DGDt_sub.csv	Location: Transect DGD

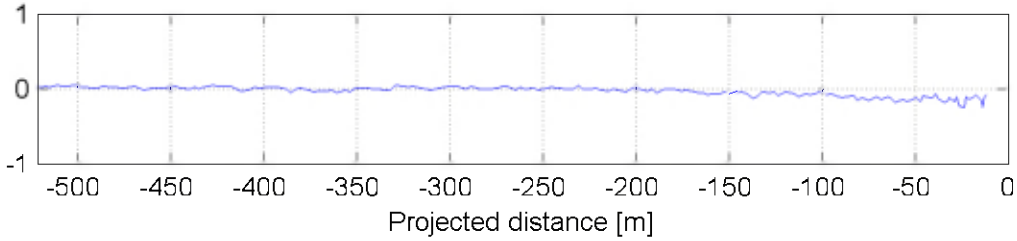
Parallel Current Velocity [m/s]



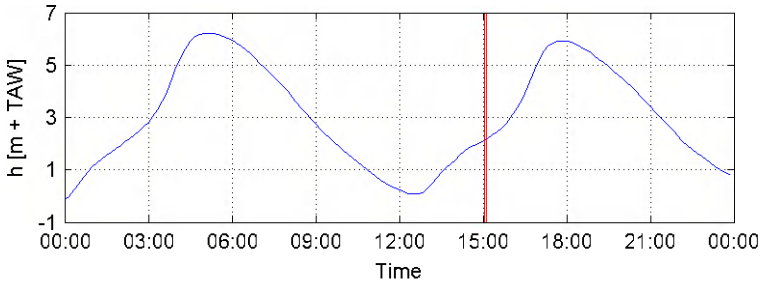
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
15:02 - 15:06

Time after HW [HH:MM]
-2:45

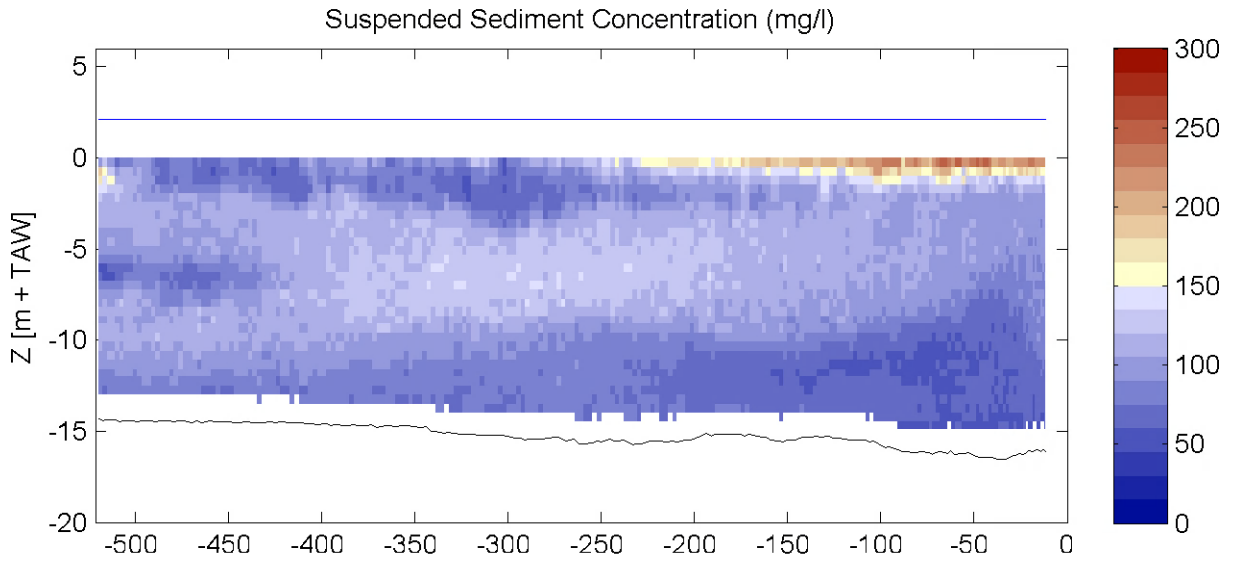
Data Processed by: IMDC

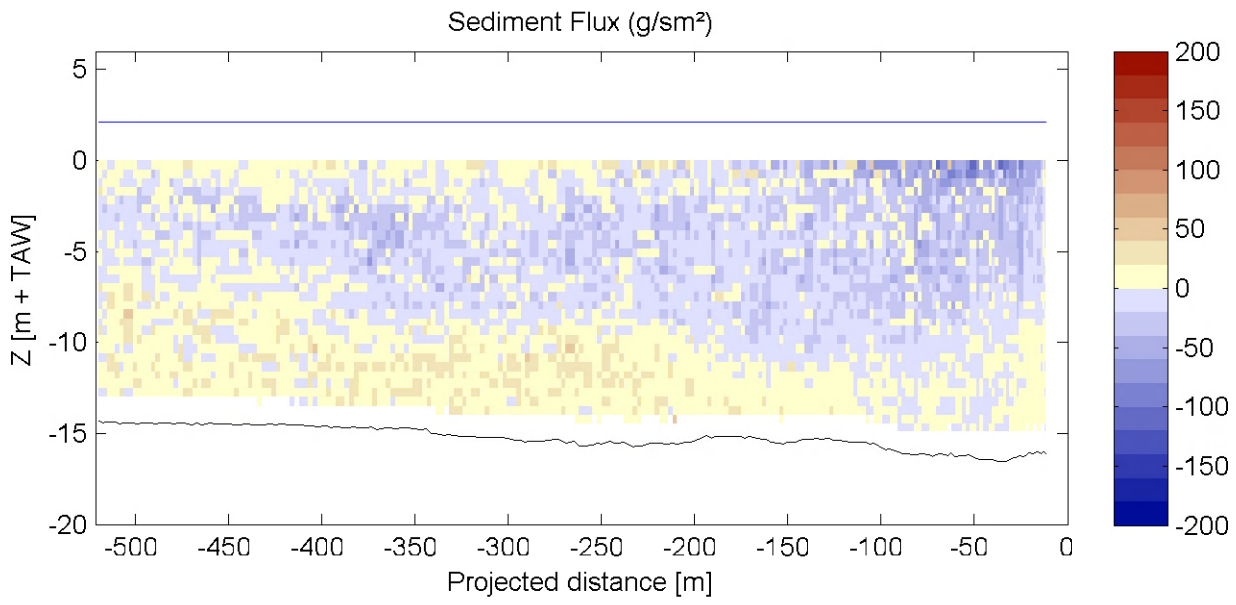
In association with :

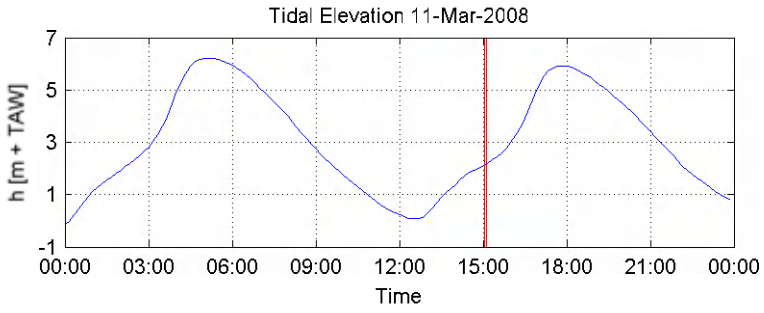
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3067DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

15:02 - 15:06

Time after HW [HH:MM]

-2:45

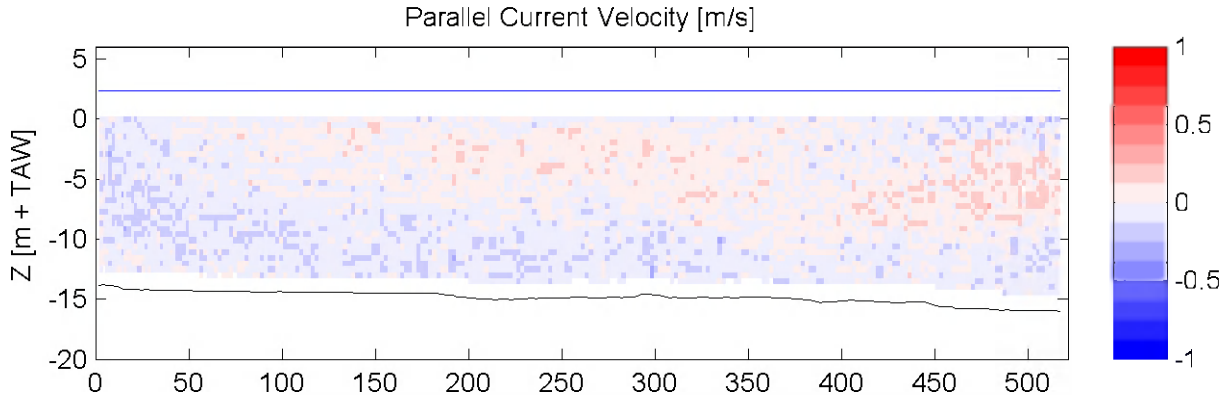
Data Processed by: IMDC

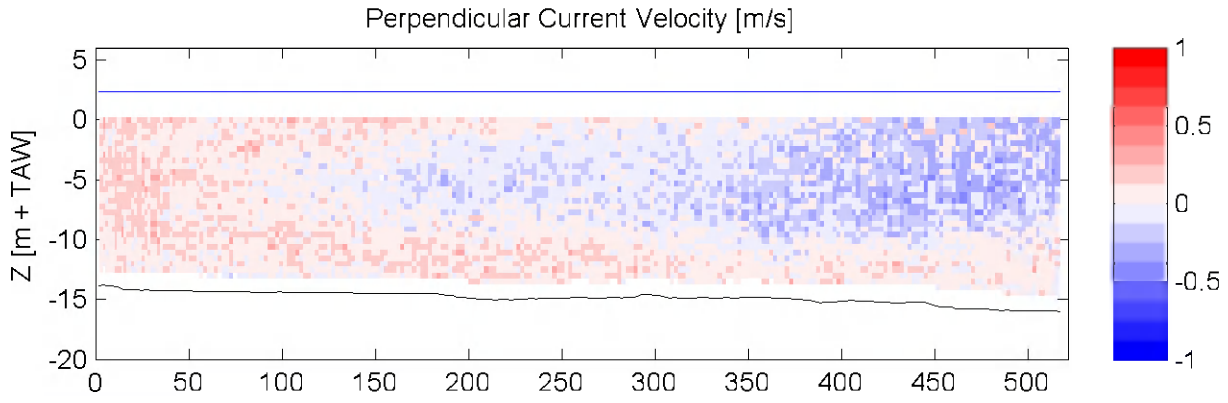
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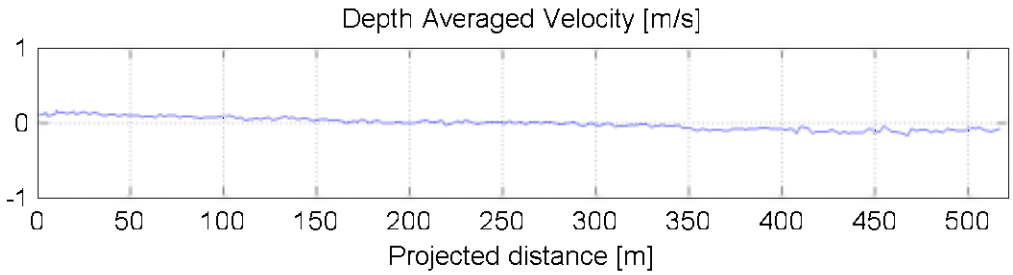
I/RA/11283/07.090/MSA

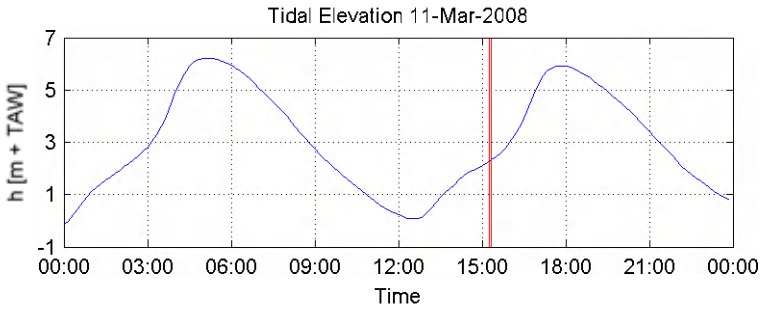
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3069DGDs_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

15:15 - 15:19

Time after HW [HH:MM]

-2:32

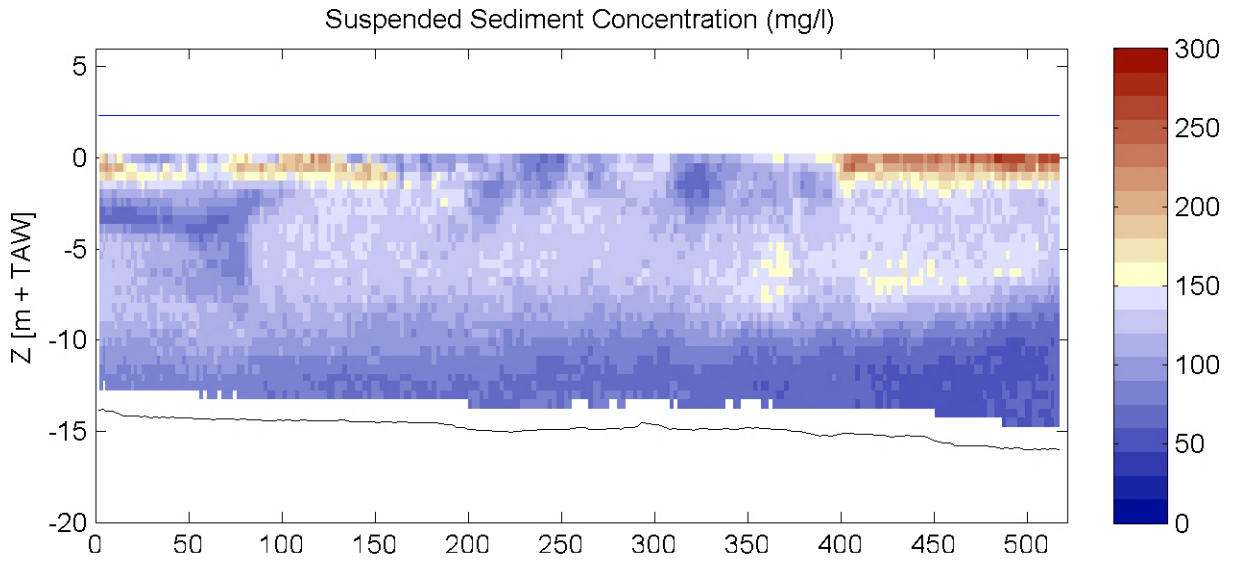
Data Processed by: IMDC

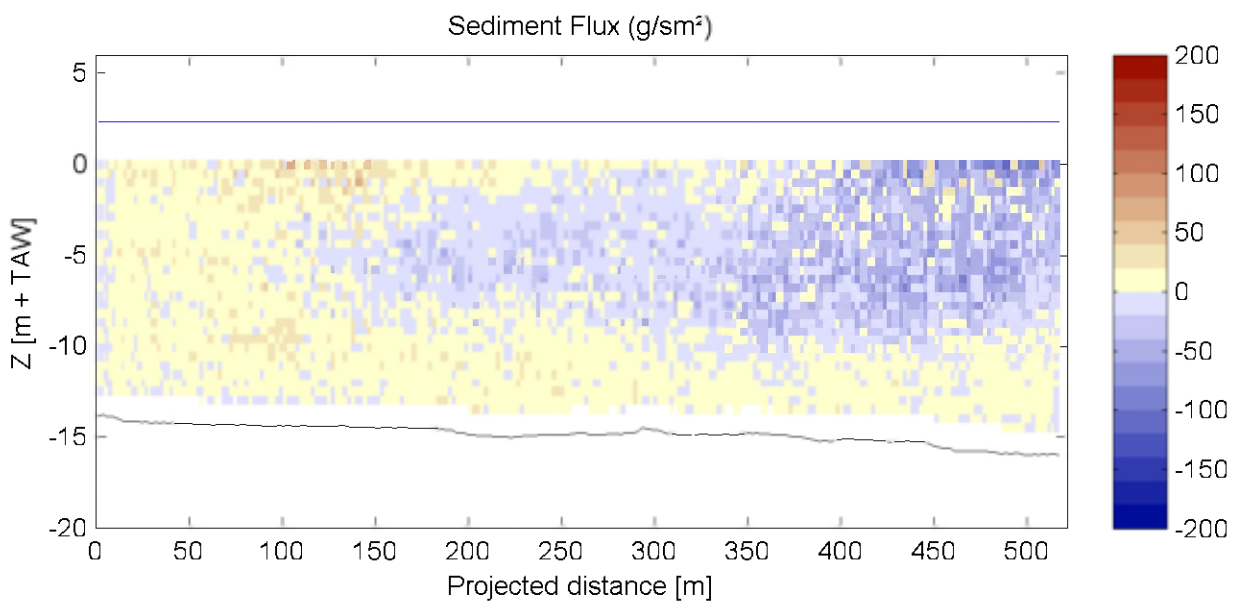
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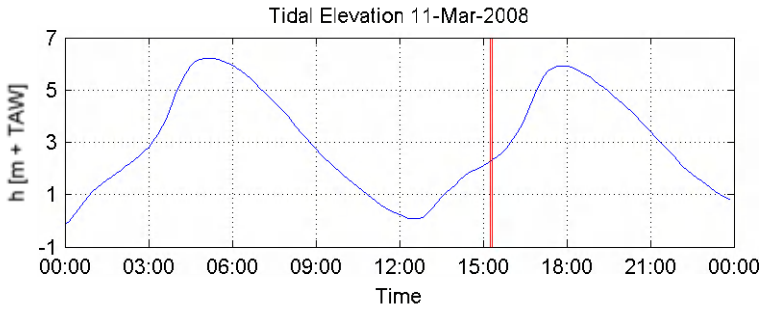
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3069DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
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Date / Time [MET] :

11-Mar-2008

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Time after HW [HH:MM]

-2:32

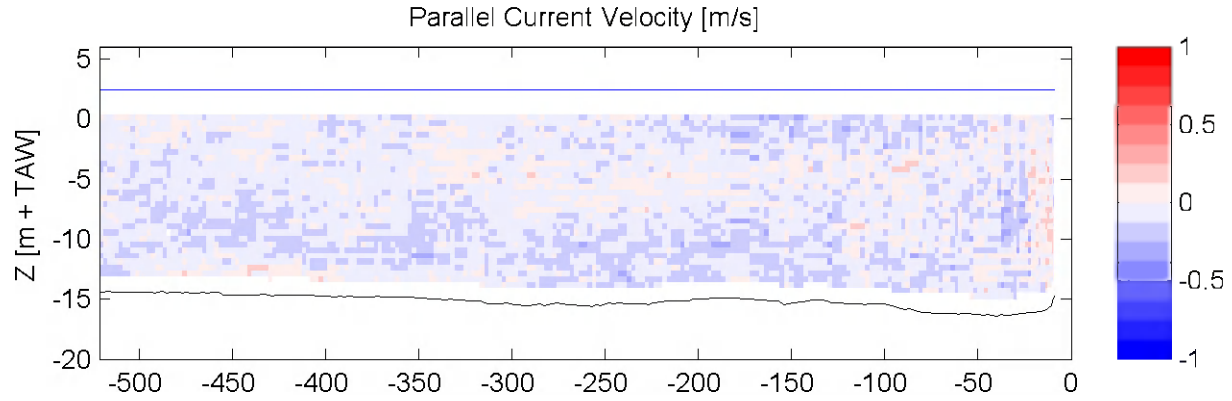
Data Processed by: IMDC

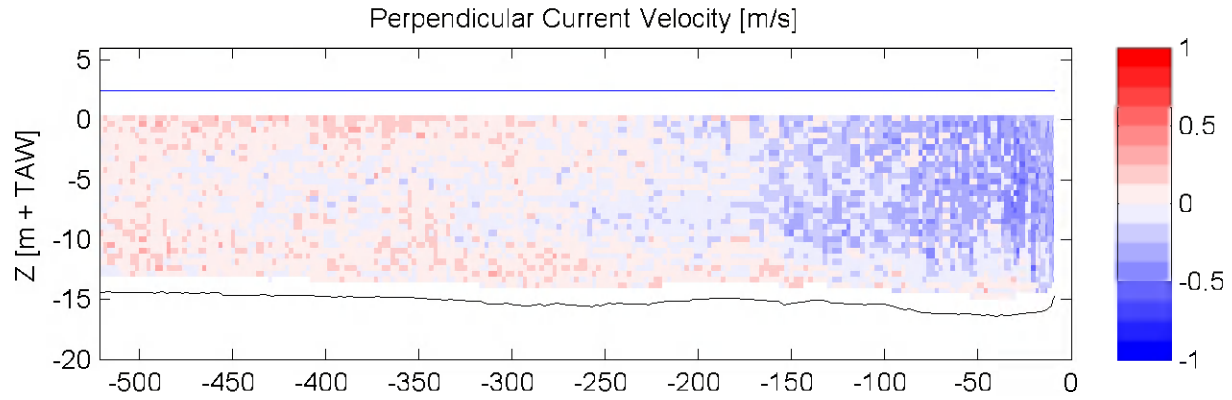
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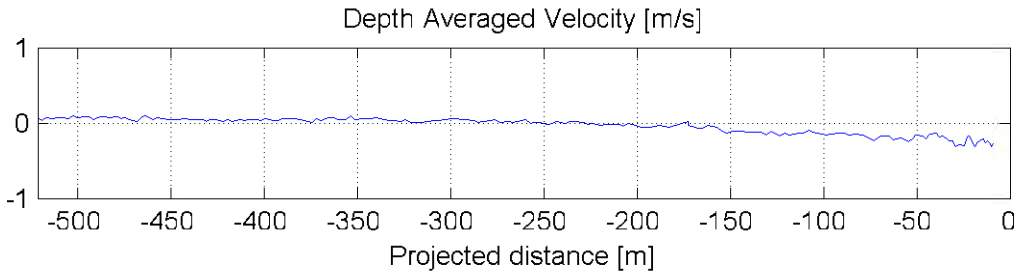
I/RA/11283/07.090/MSA

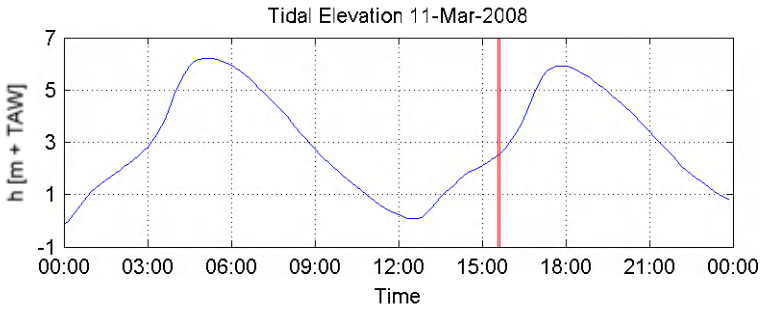
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3071DGDt_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

15:33 - 15:37

Time after HW [HH:MM]

-2:14

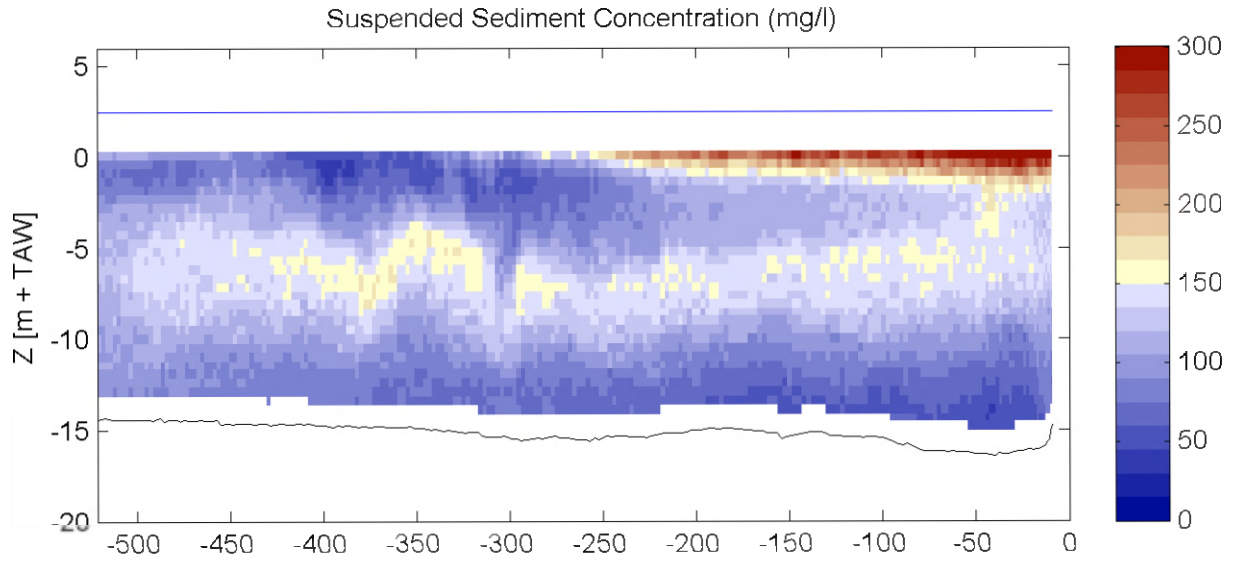
Data Processed by: IMDC

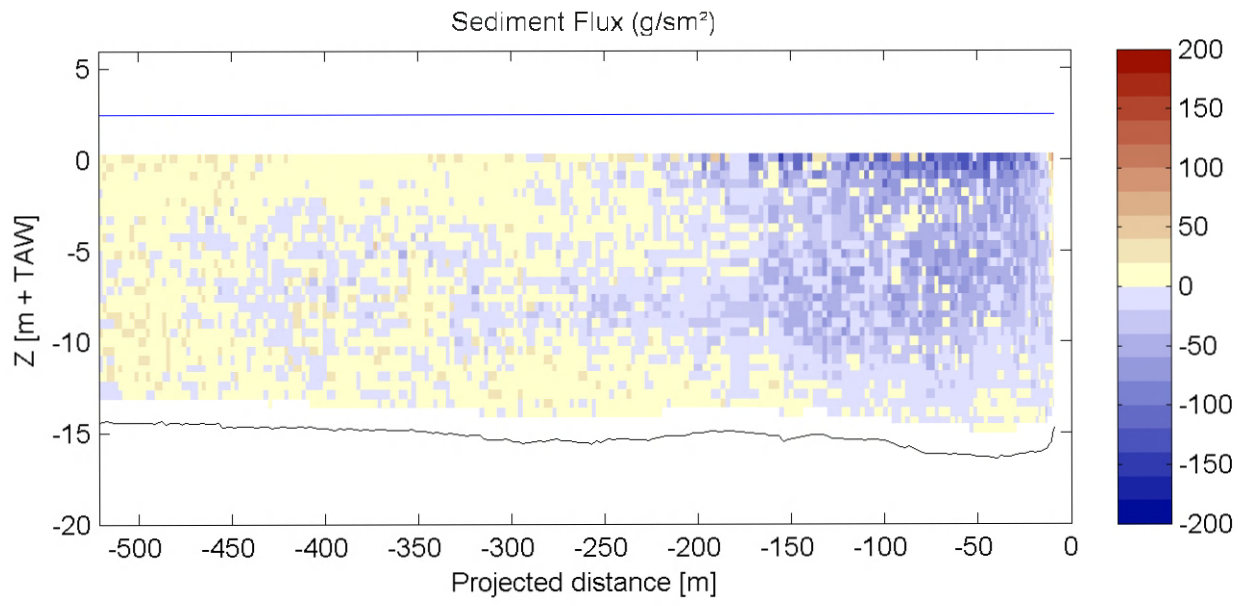
In association with :

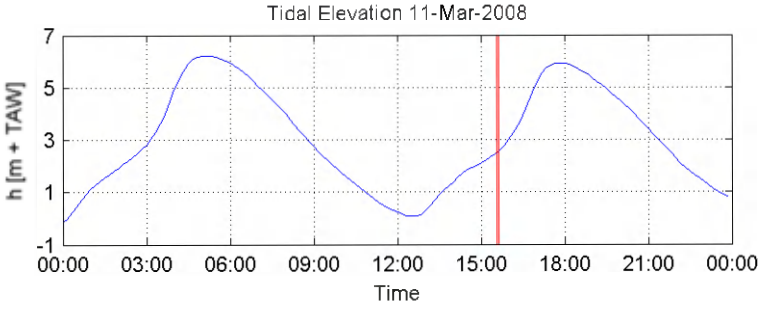
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3071DGDt_sub.csv	Location: Transect DGD







HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
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Date / Time [MET] :

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Time after HW [HH:MM]

-2:14

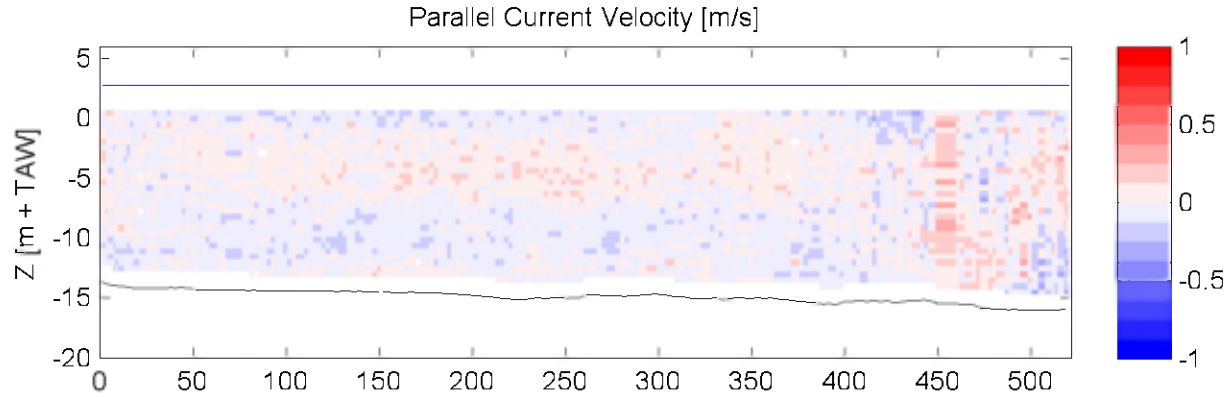
Data Processed by: IMDC

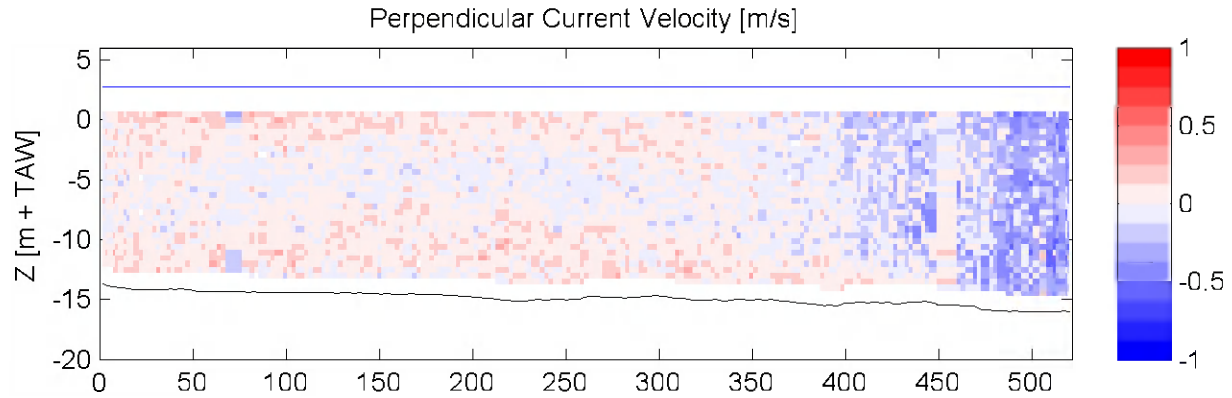
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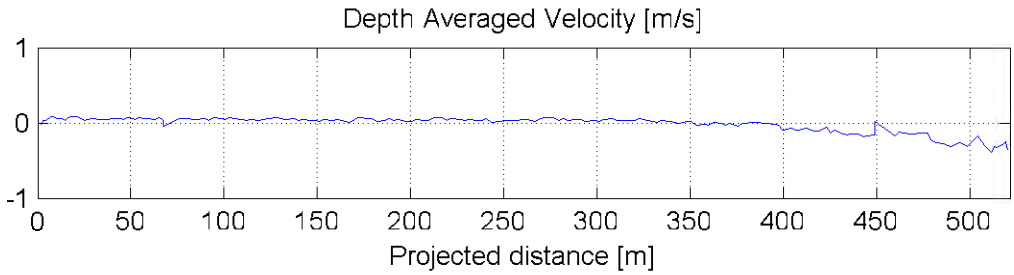
I/RA/11283/07.090/MSA

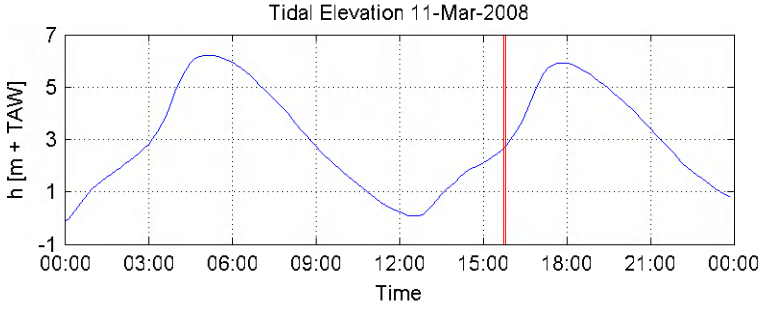
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3073DGDs_sub.csv	Location: Transect DGD









HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

15:45 - 15:49

Time after HW [HH:MM]

-2:02

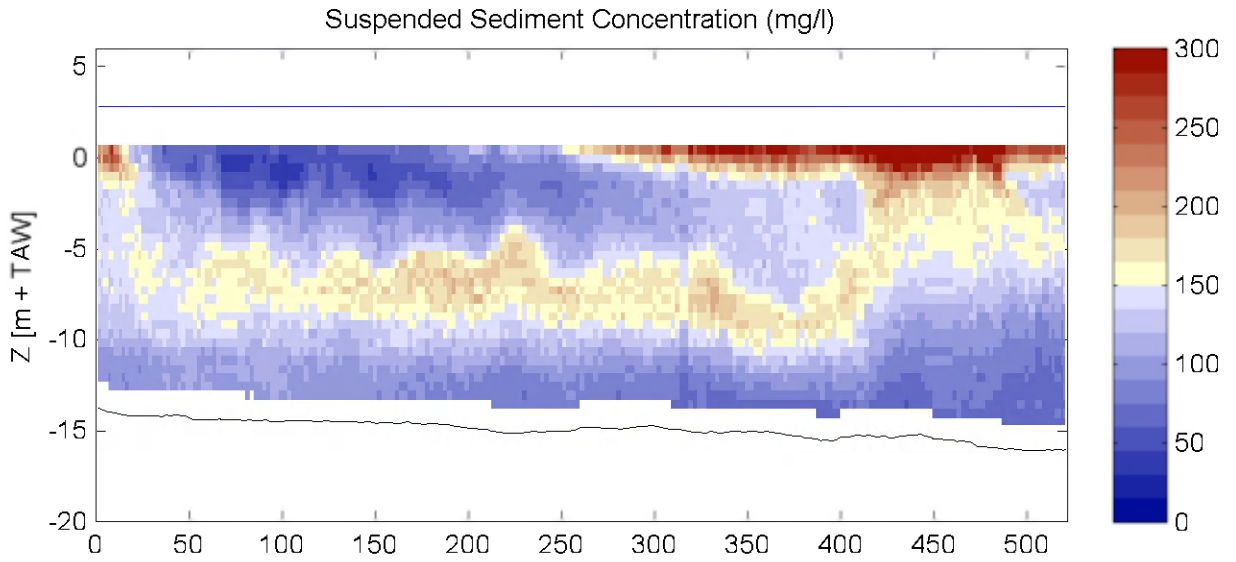
Data Processed by: IMDC

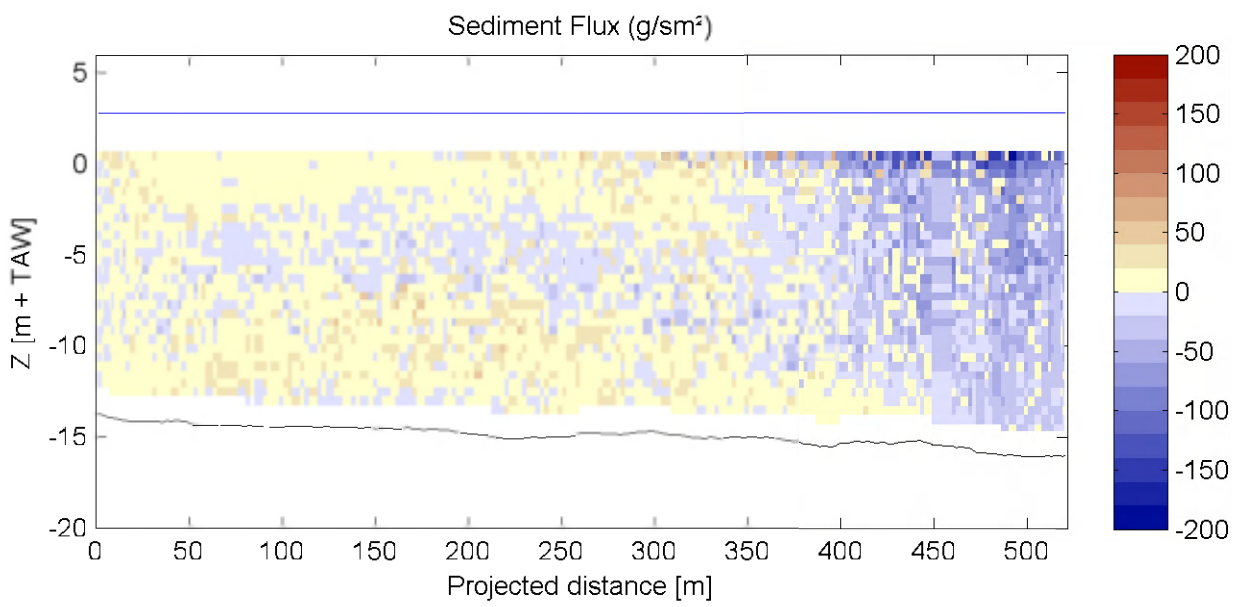
In association with :

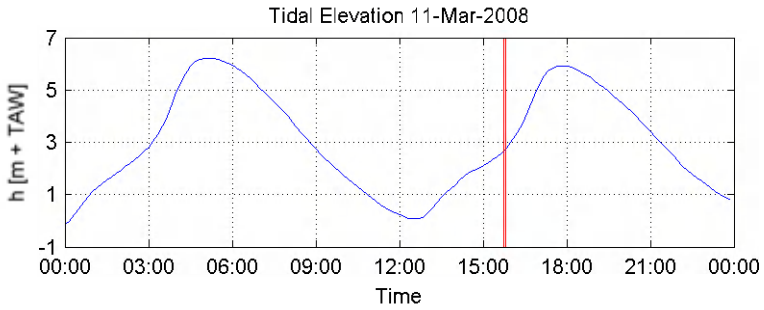
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3073DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

15:45 - 15:49

Time after HW [HH:MM]

-2:02

Data Processed by: IMDC

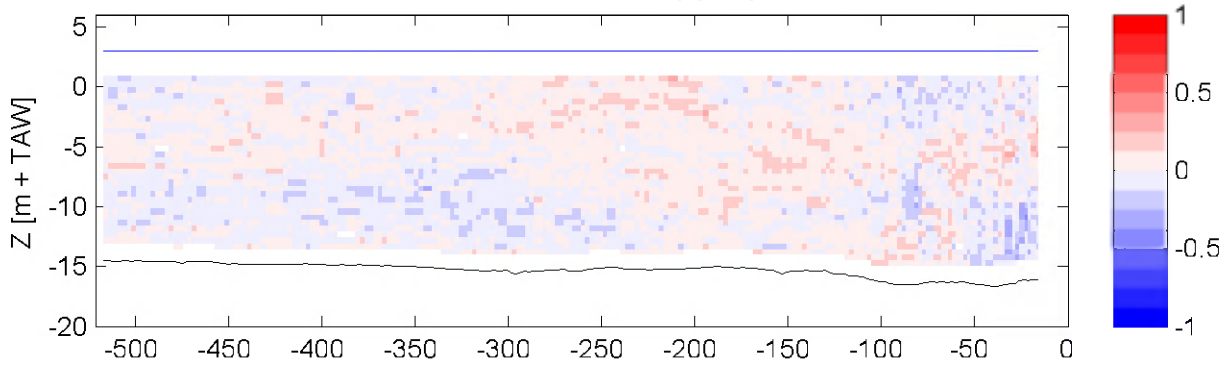
In association with :

I/RA/11283/07.090/MSA

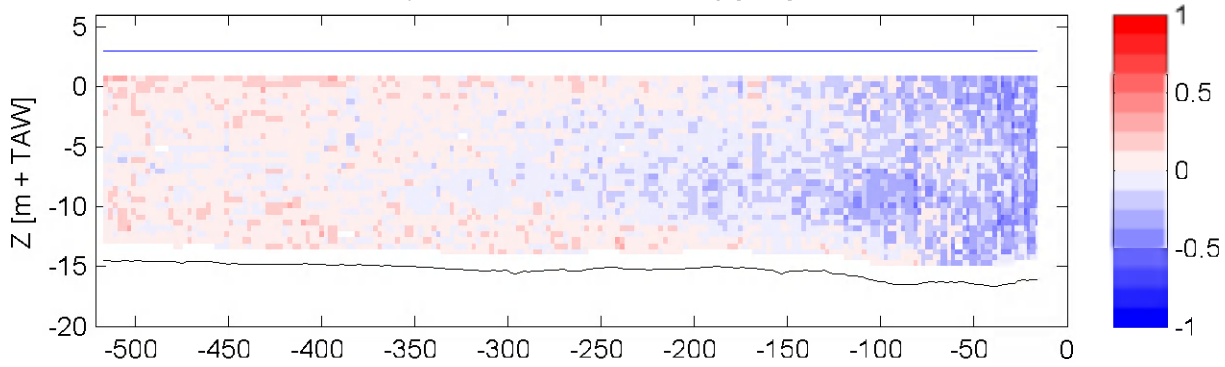
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3075DGDt_sub.csv	Location: Transect DGD

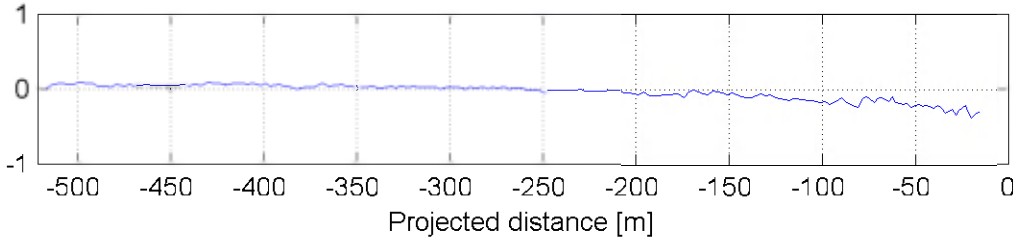
Parallel Current Velocity [m/s]



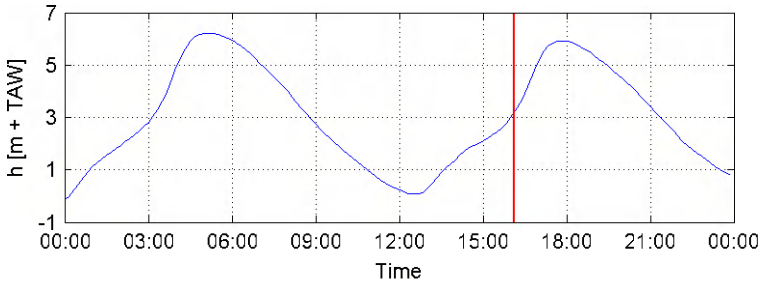
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
16:04 - 16:08

Time after HW [HH:MM]
-1:43

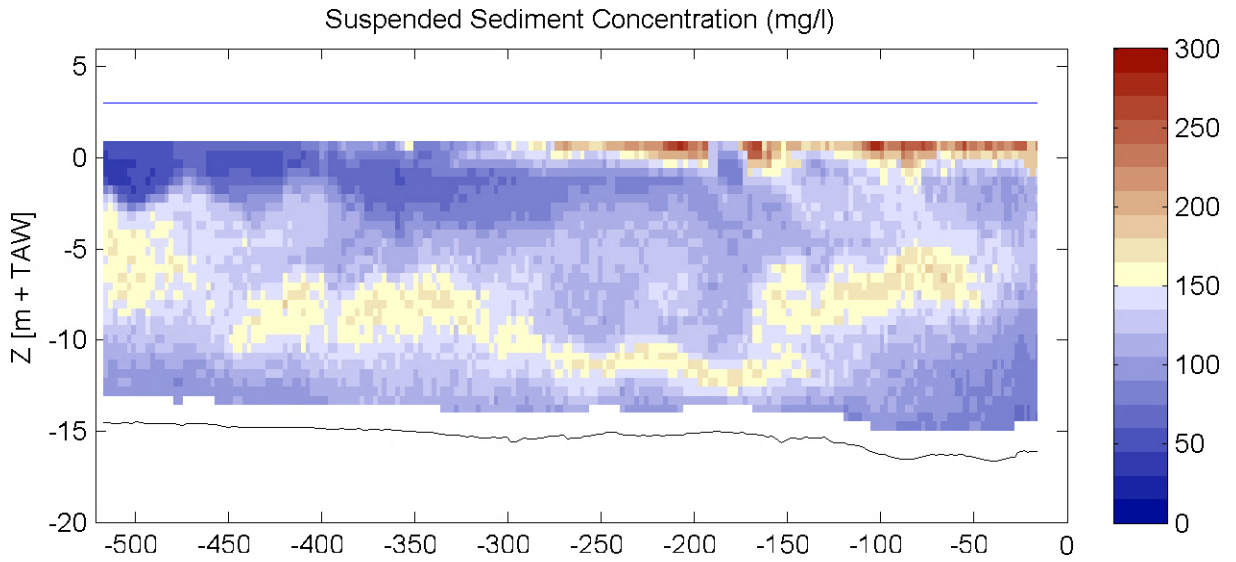
Data Processed by: IMDC

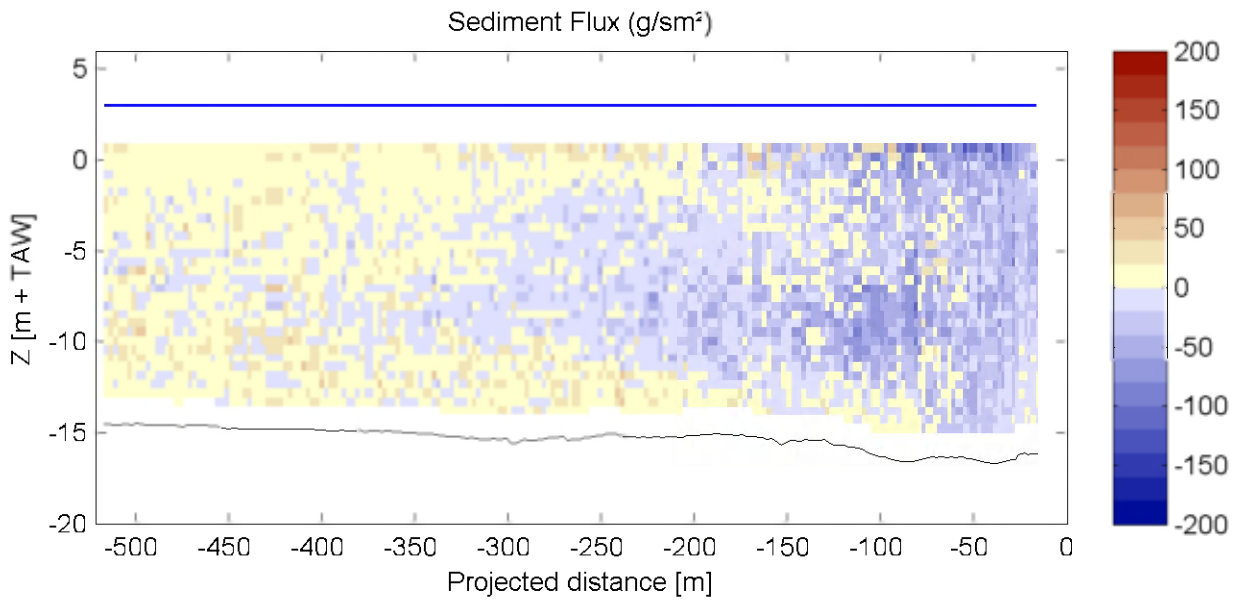
In association with :

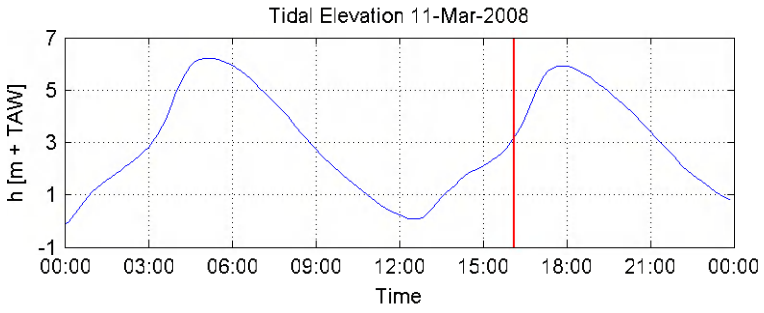
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3075DGDt_sub.csv	Location: Transect DGD







HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

16:04 - 16:08

Time after HW [HH:MM]

-1:43

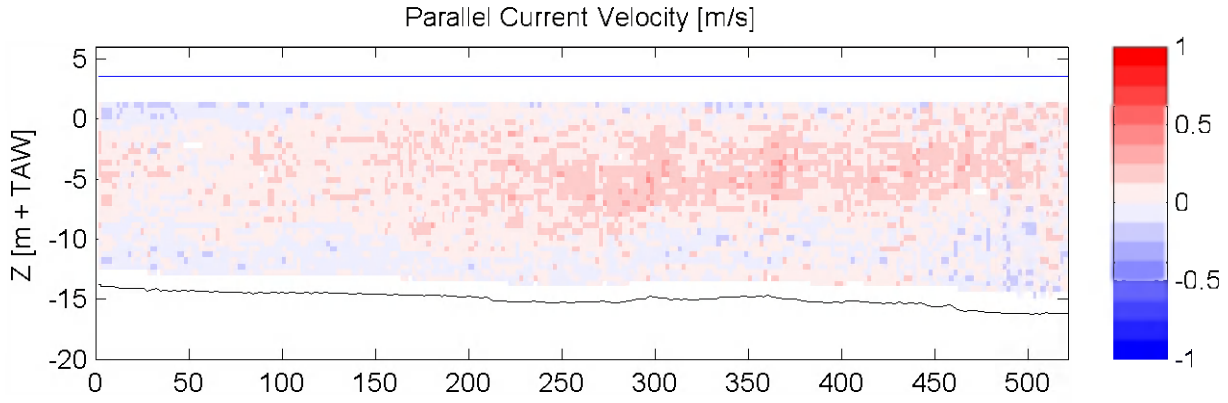
Data Processed by: IMDC

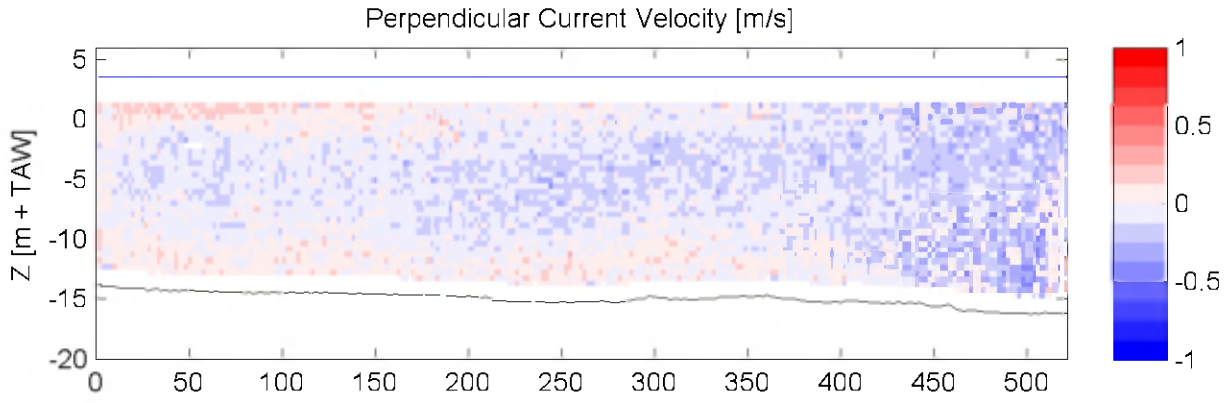
In association with :

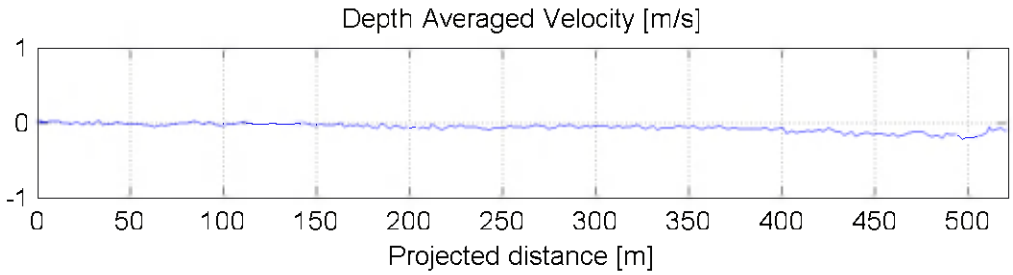
I/RA/11283/07.090/MSA

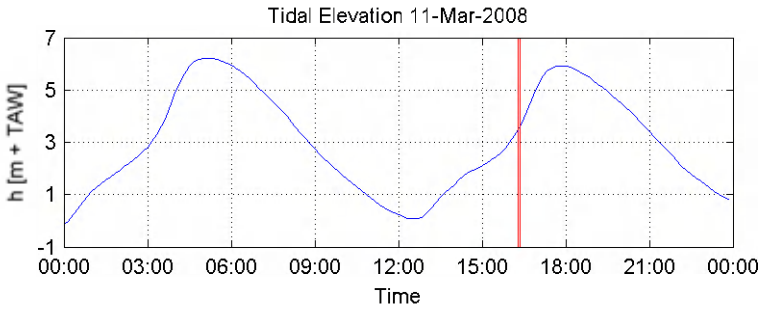
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3077DGDs_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
16:16 - 16:21

Time after HW [HH:MM]
-1:31

Data Processed by: IMDC

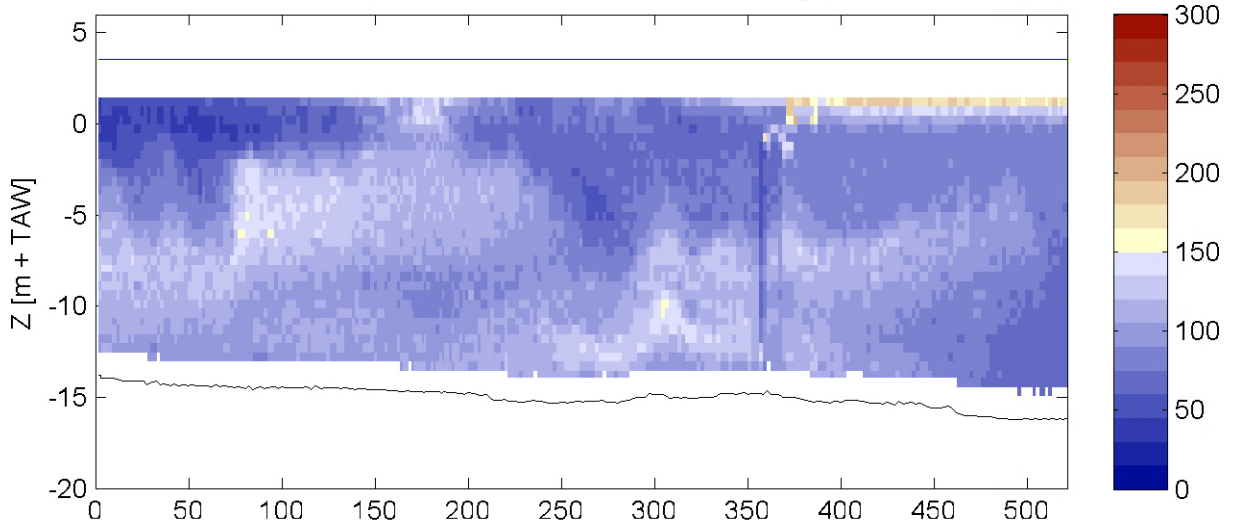
In association with :

I/RA/11283/07.090/MSA

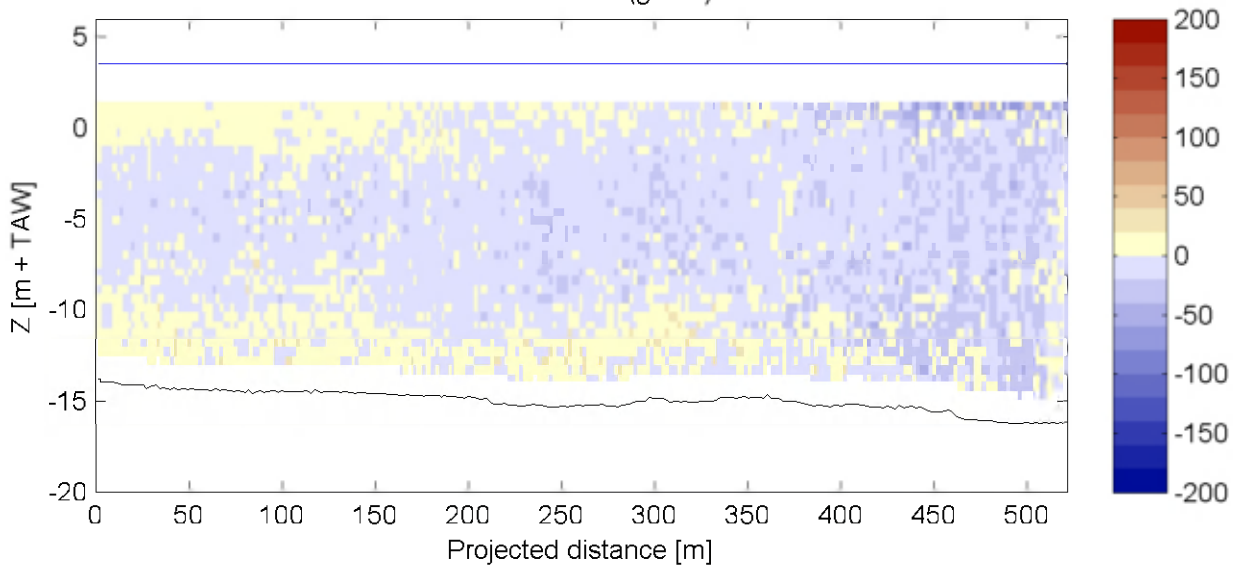
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3077DGDs_sub.csv	Location: Transect DGD

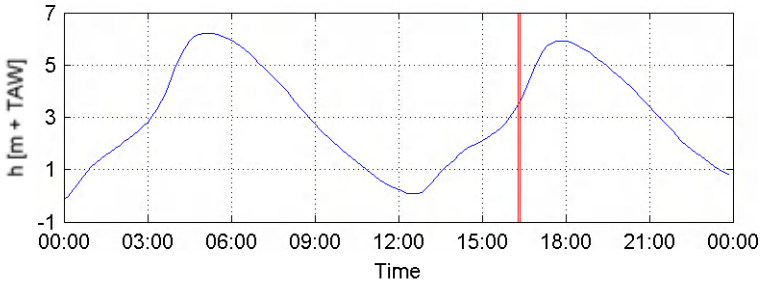
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
16:16 - 16:21

Time after HW [HH:MM]
-1:31

Data Processed by: IMDC

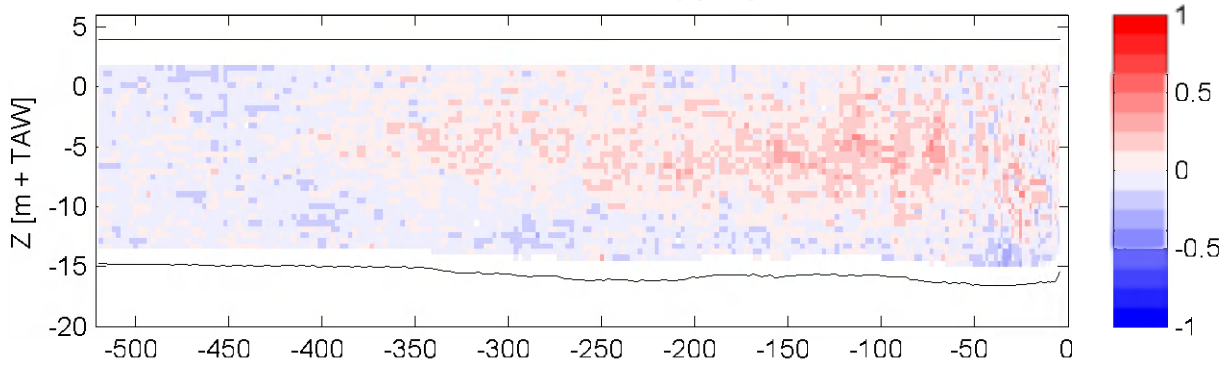
In association with :

I/RA/11283/07.090/MSA

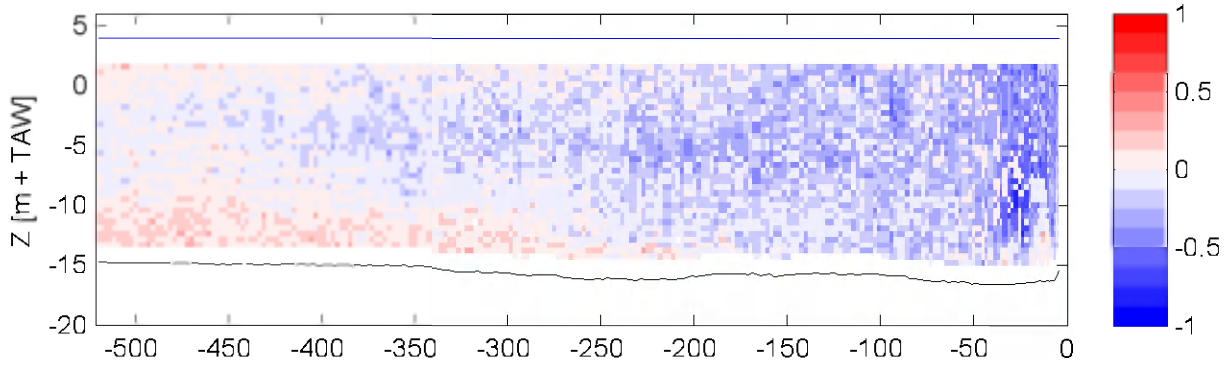
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3079DGDt_sub.csv	Location: Transect DGD

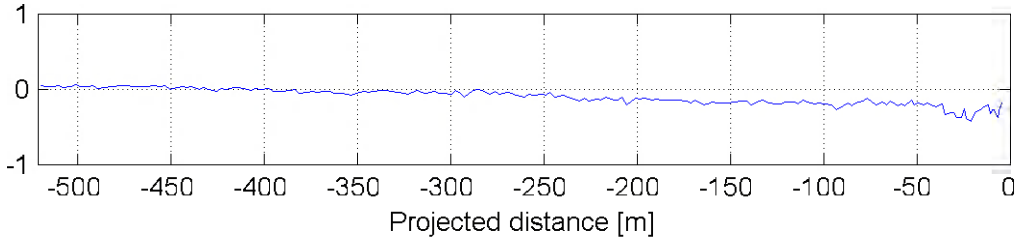
Parallel Current Velocity [m/s]



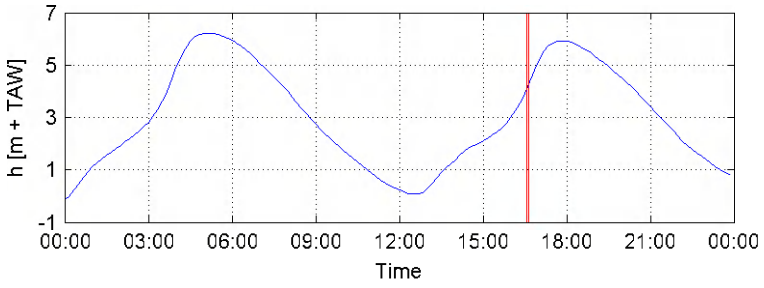
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
16:33 - 16:37

Time after HW [HH:MM]
-1:14

Data Processed by: IMDC

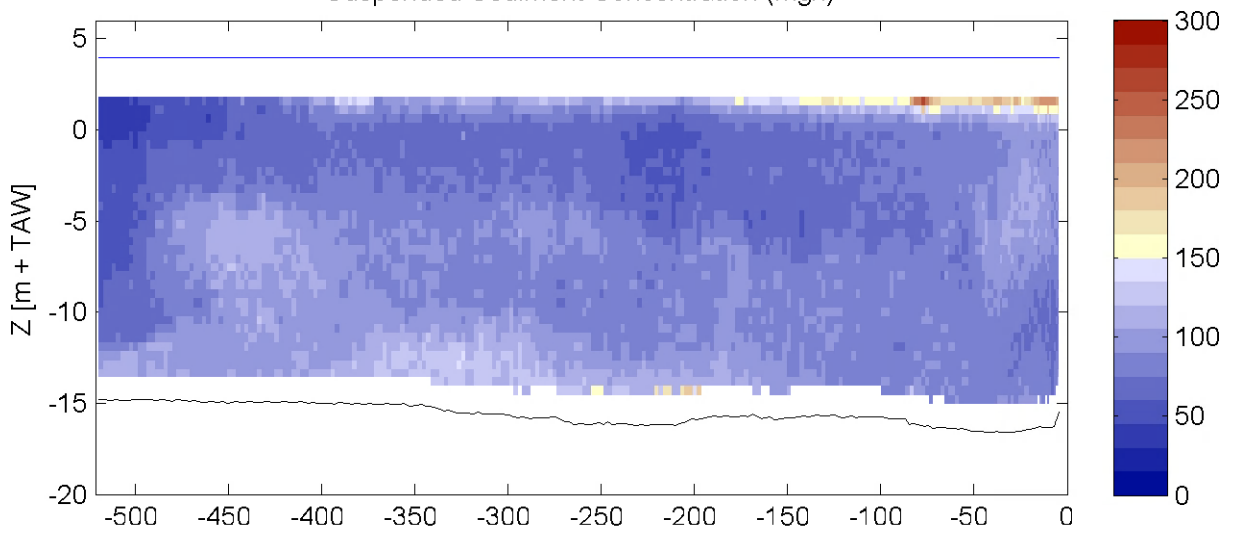
In association with :

I/RA/11283/07.090/MSA

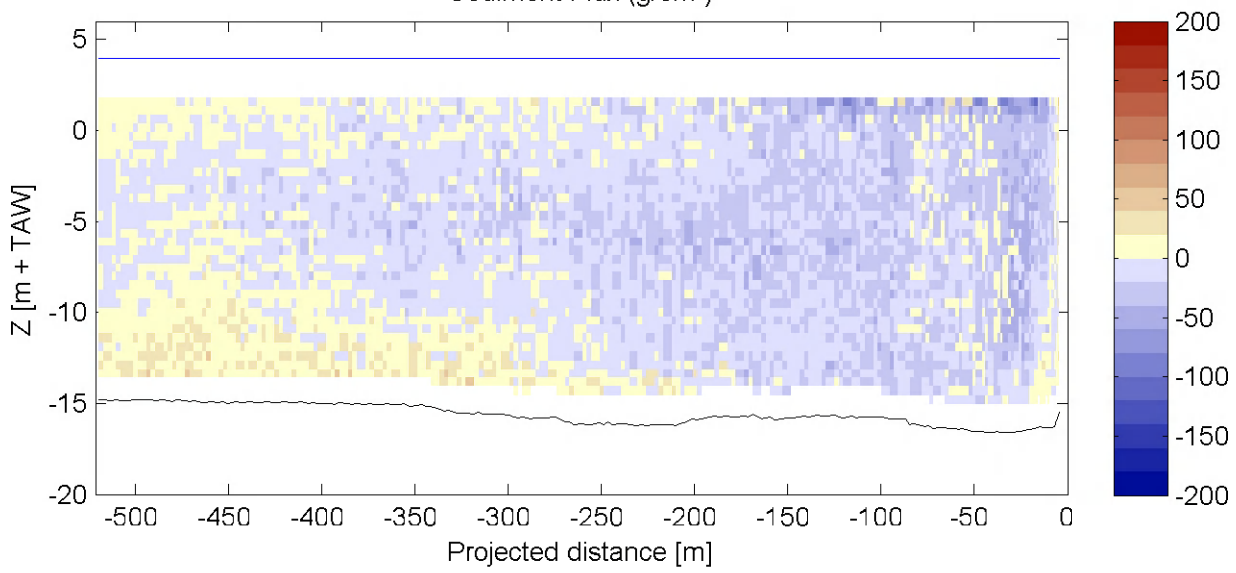
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3079DGDt_sub.csv	Location: Transect DGD

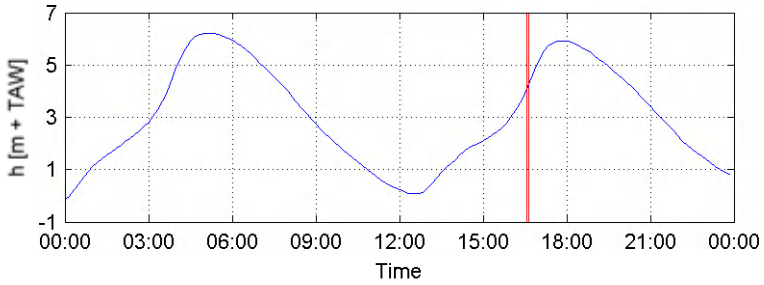
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

16:33 - 16:37

Time after HW [HH:MM]

-1:14

Data Processed by: IMDC

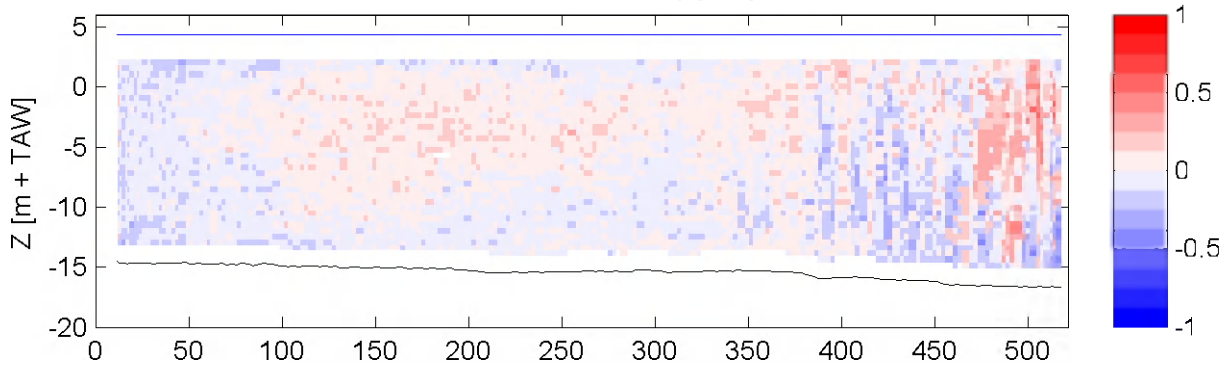
In association with :

I/RA/11283/07.090/MSA

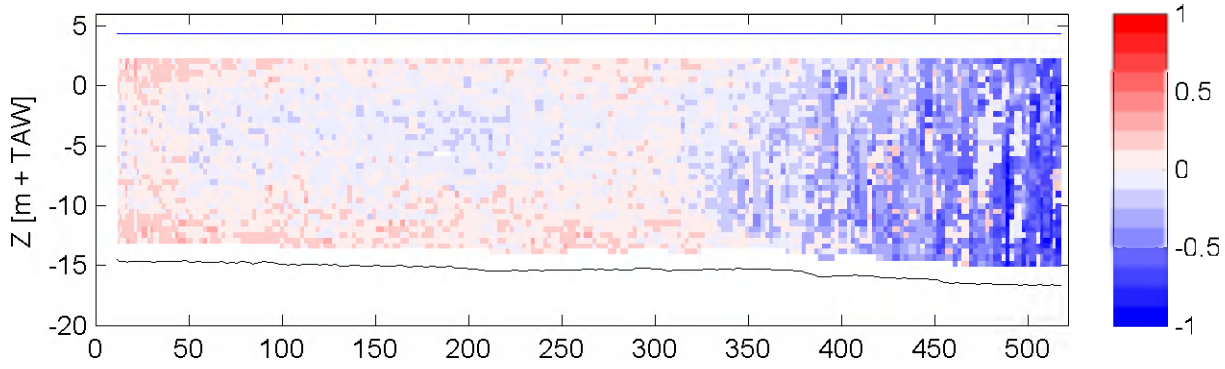
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3081DGDs_sub.csv	Location: Transect DGD

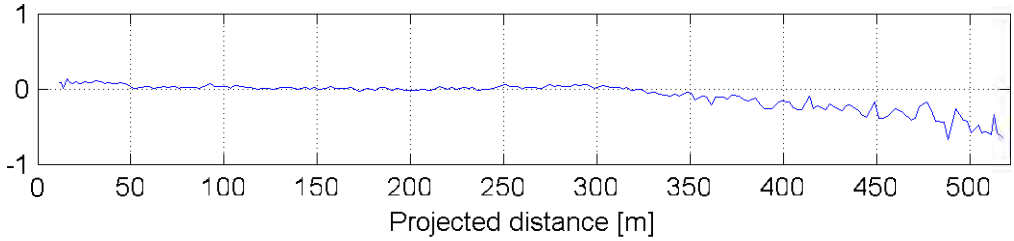
Parallel Current Velocity [m/s]



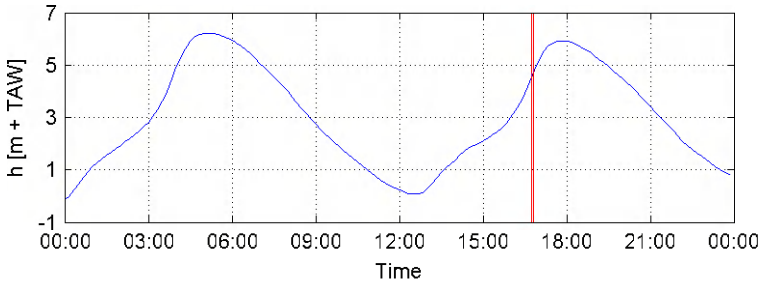
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
16:44 - 16:48

Time after HW [HH:MM]
-1:03

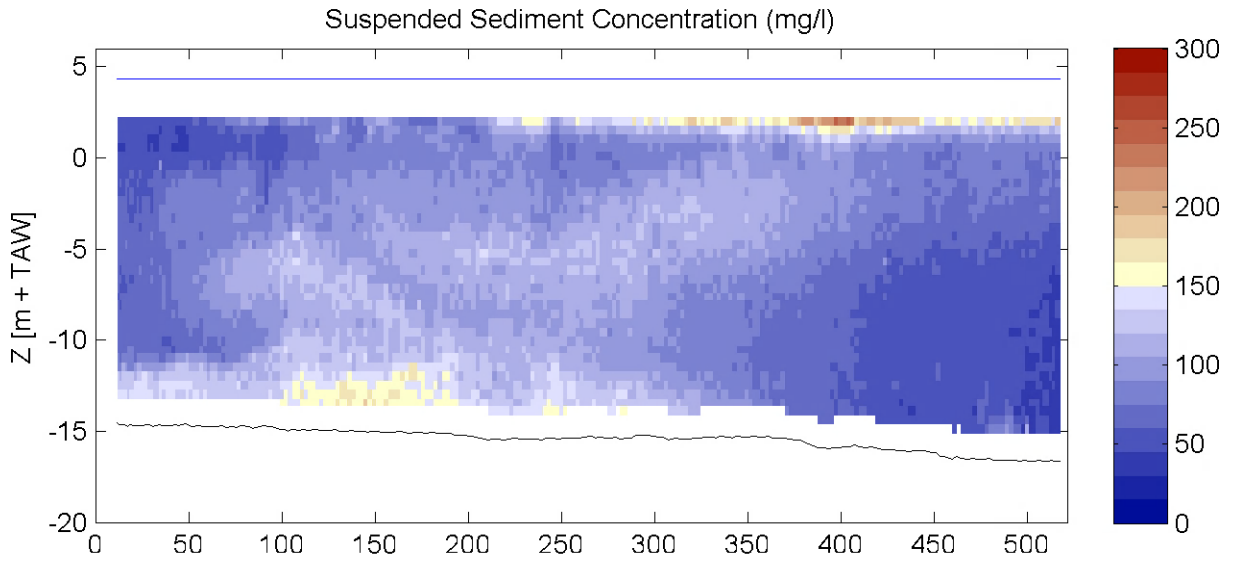
Data Processed by: IMDC

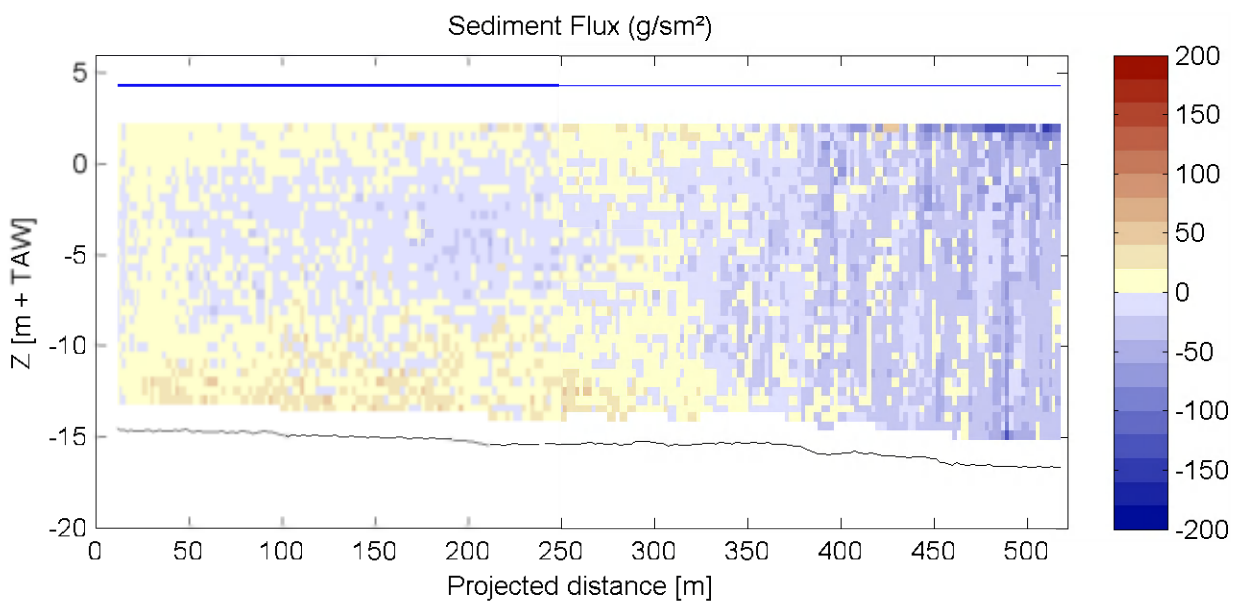
In association with :

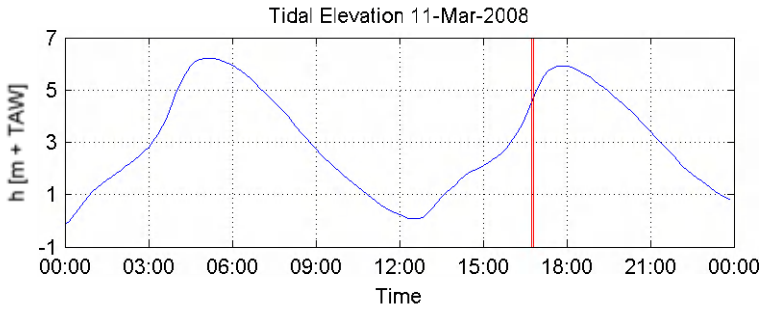
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3081DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
16:44 - 16:48

Time after HW [HH:MM]
-1:03

Data Processed by: IMDC

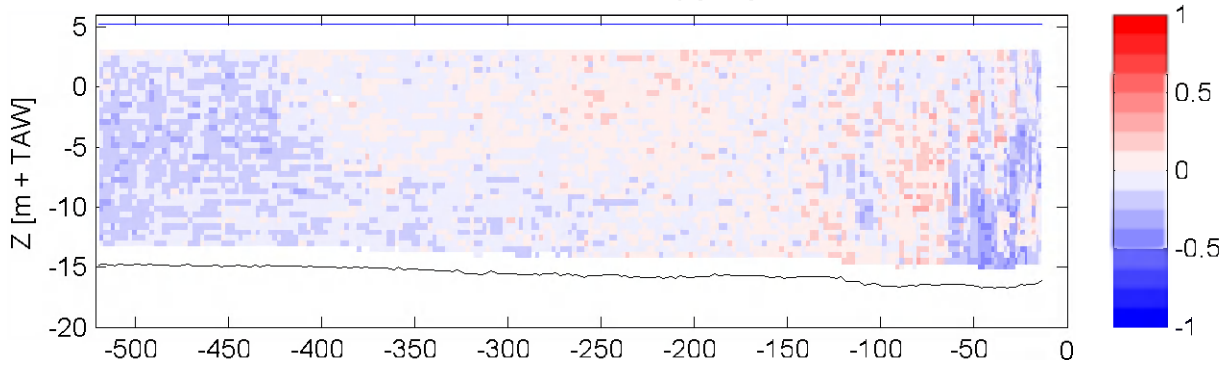
In association with :

I/RA/11283/07.090/MSA

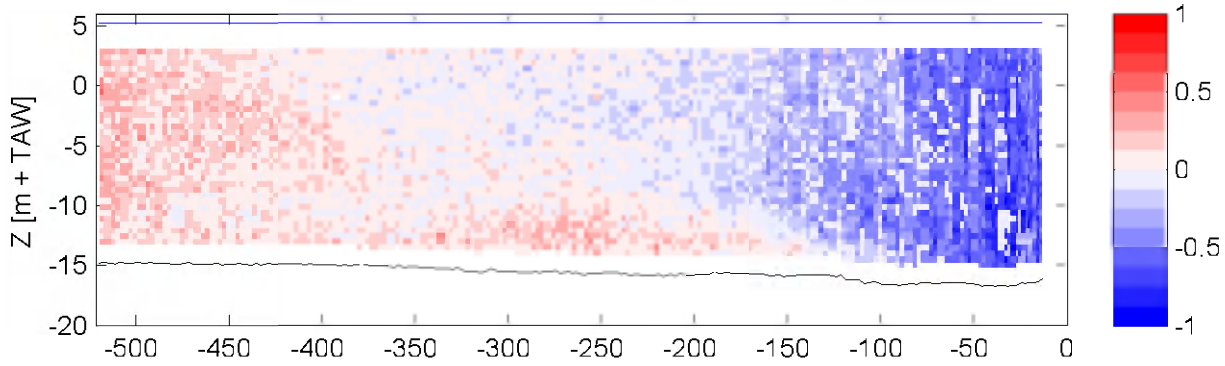
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3083DGDt_sub.csv	Location: Transect DGD

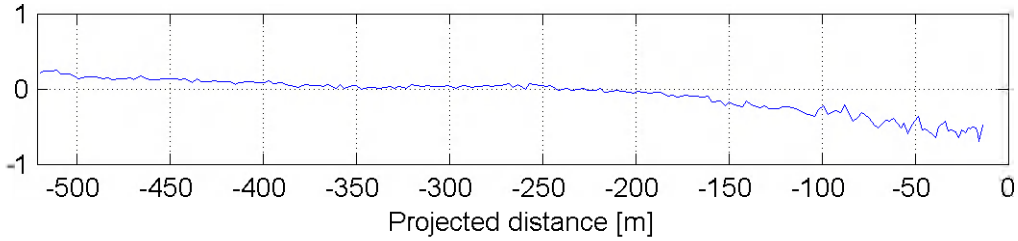
Parallel Current Velocity [m/s]



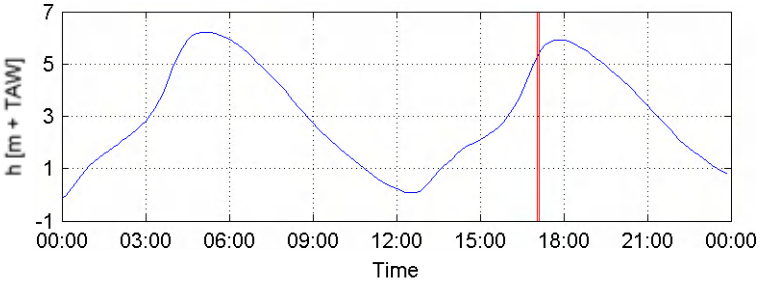
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
17:03 - 17:07

Time after HW [HH:MM]
-0:44

Data Processed by: IMDC

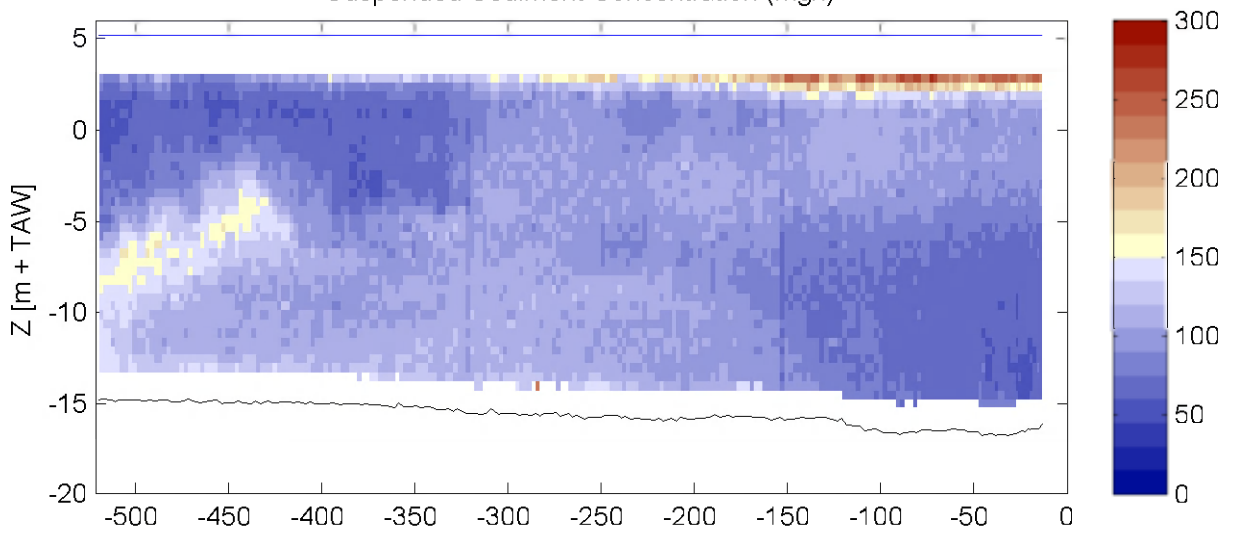
In association with :

I/RA/11283/07.090/MSA

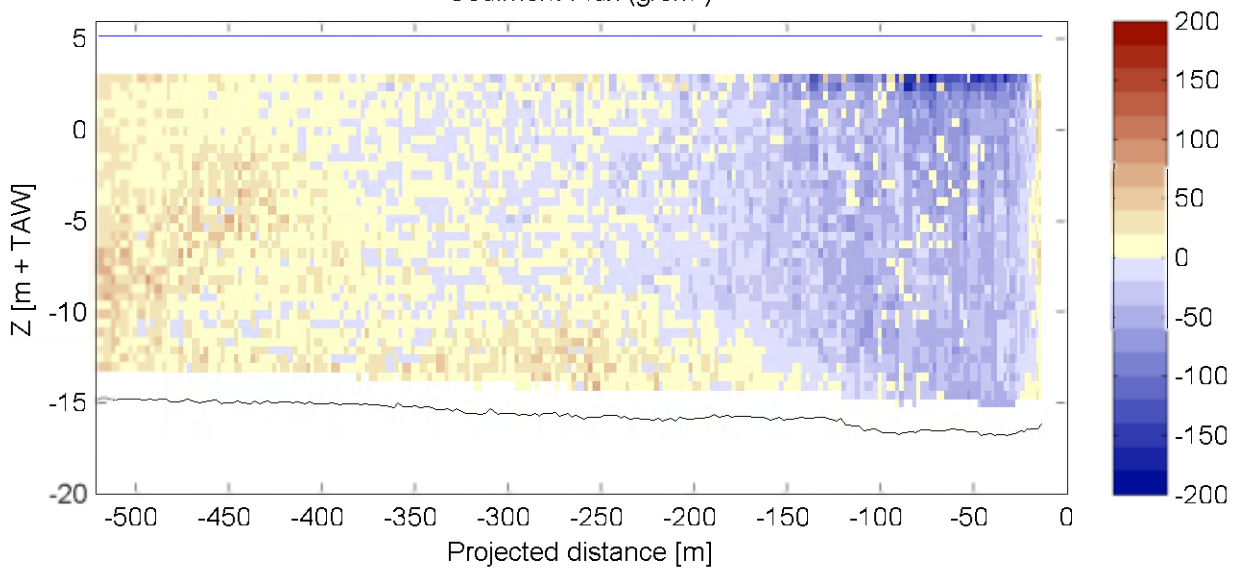
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3083DGDt_sub.csv	Location: Transect DGD

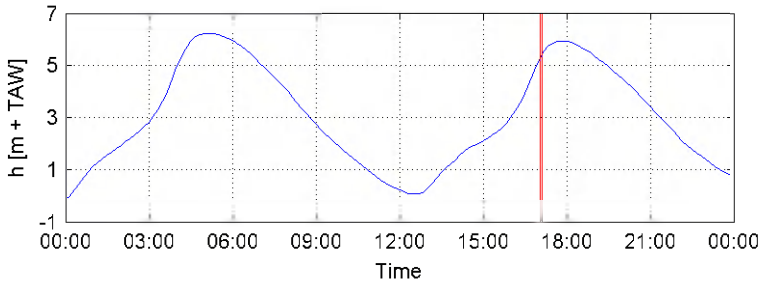
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
17:03 - 17:07

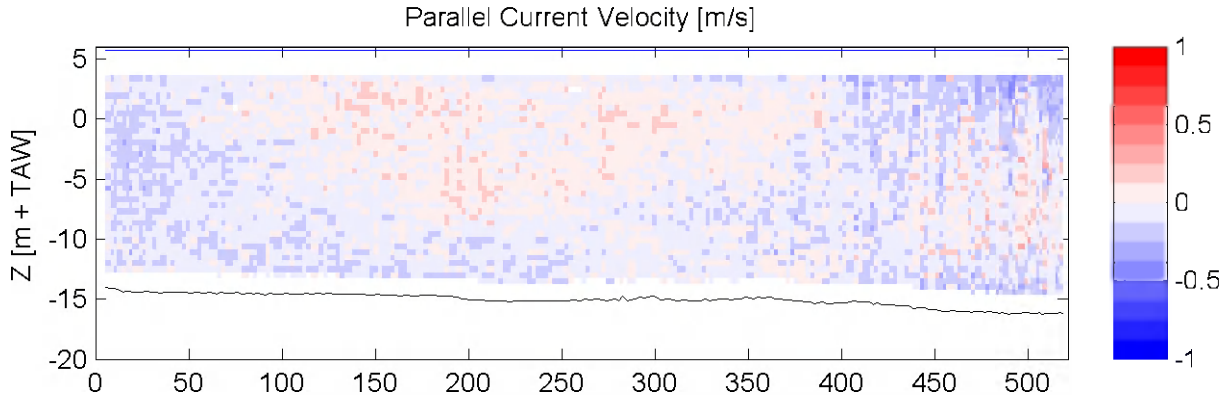
Time after HW [HH:MM]
-0:44

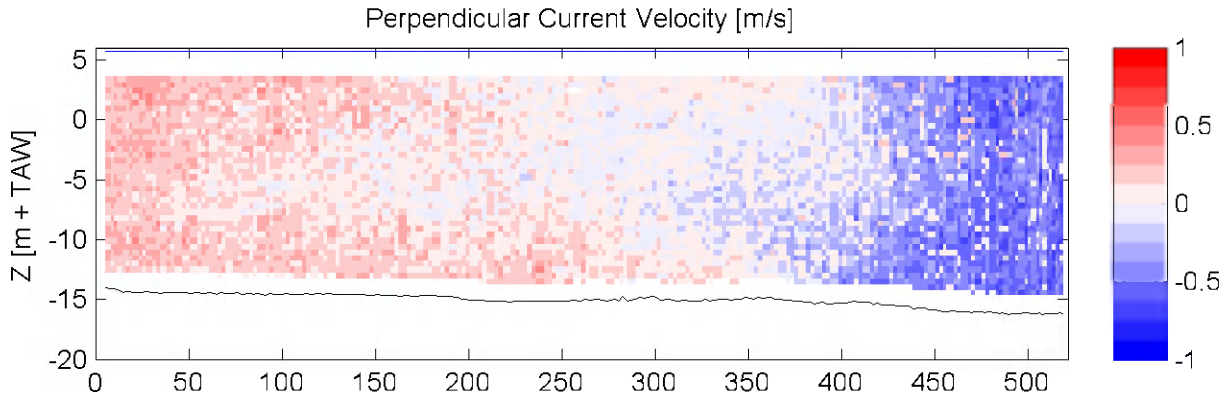
Data Processed by: IMDC
In association with :

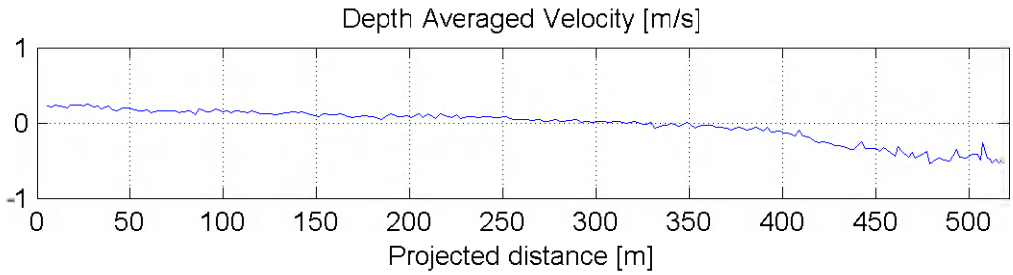
I/RA/11283/07.090/MSA

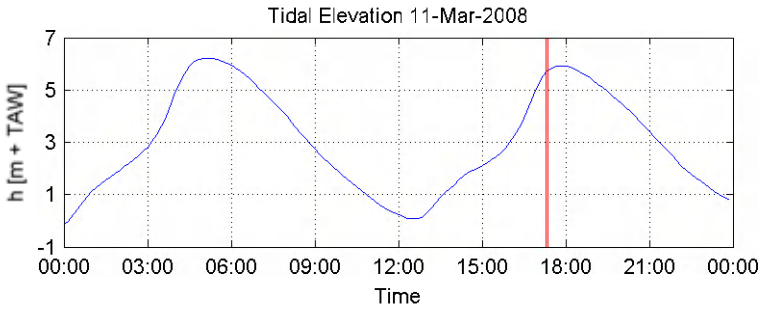
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3085DGDs_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
17:17 - 17:21

Time after HW [HH:MM]
-0:30

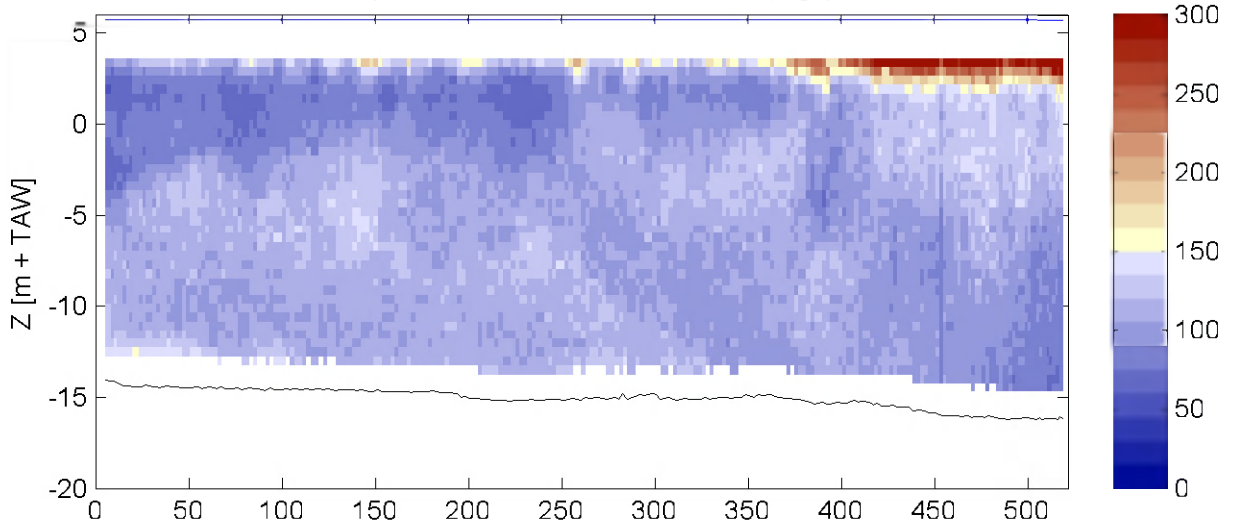
Data Processed by: IMDC
In association with :

I/RA/11283/07.090/MSA

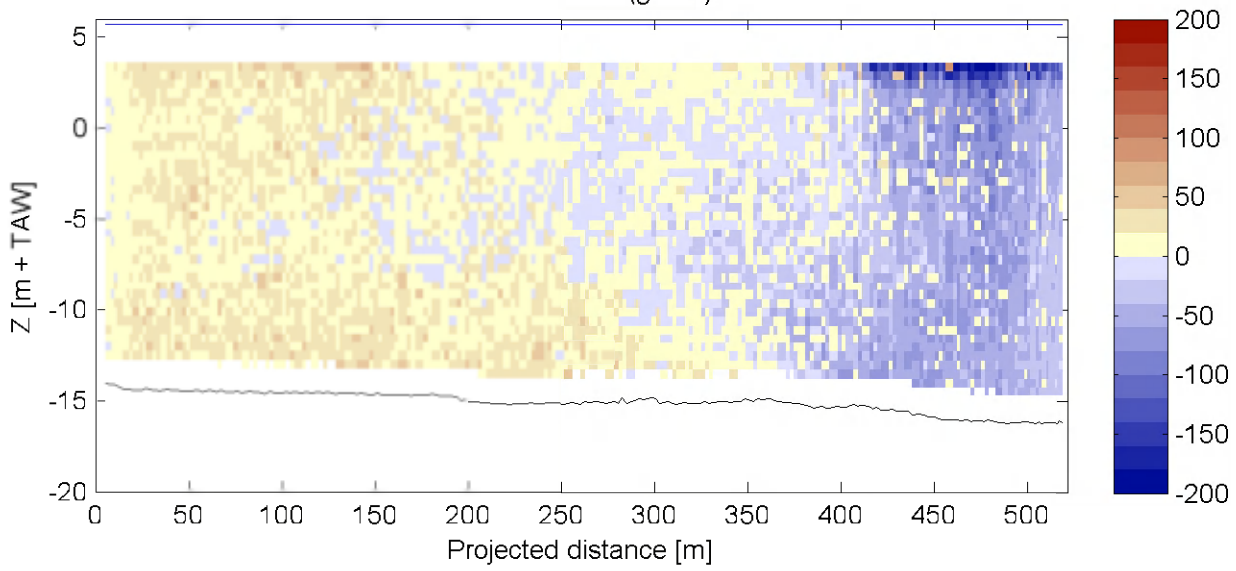
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3085DGDs_sub.csv	Location: Transect DGD

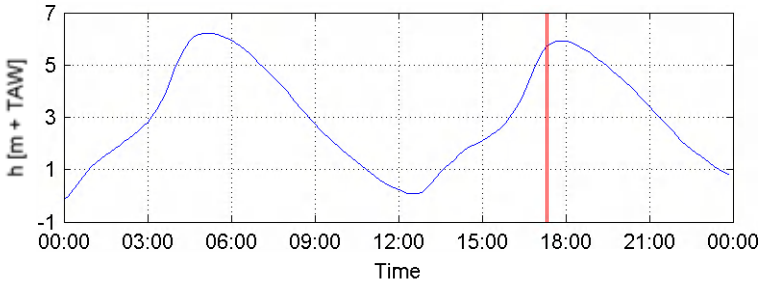
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
17:17 - 17:21

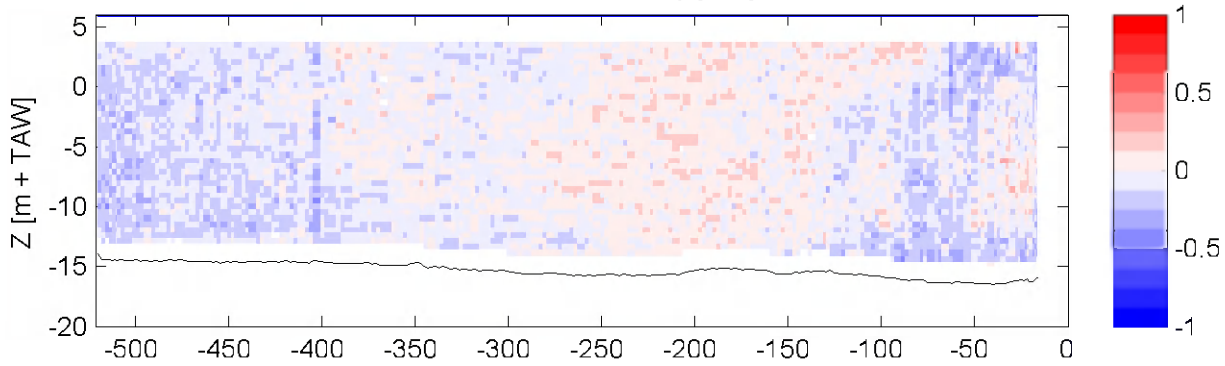
Time after HW [HH:MM]
-0:30

Data Processed by: IMDC
In association with :
I/RA/11283/07.090/MSA

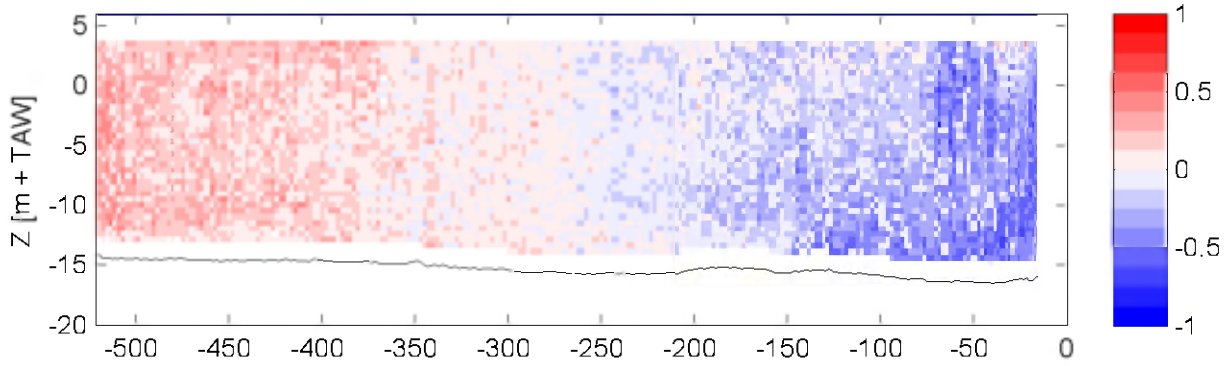
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3087DGDt_sub.csv	Location: Transect DGD

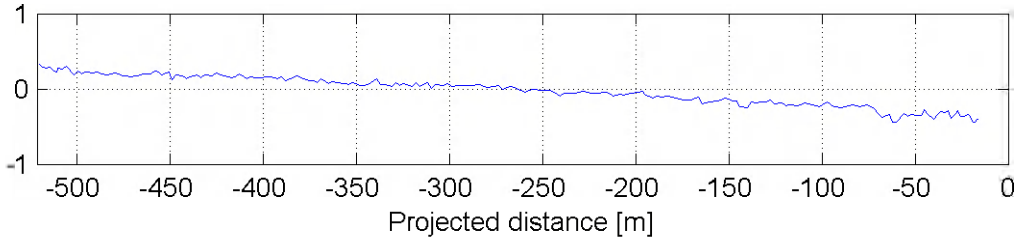
Parallel Current Velocity [m/s]



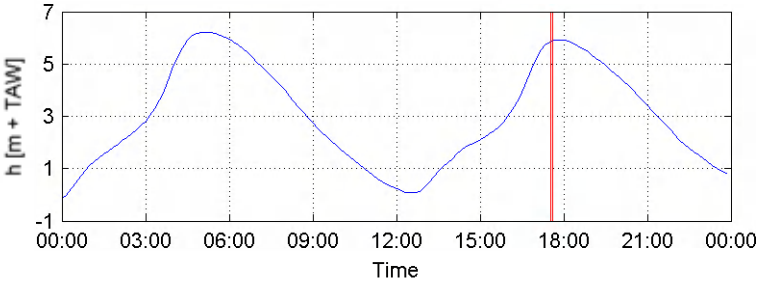
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
17:31 - 17:35

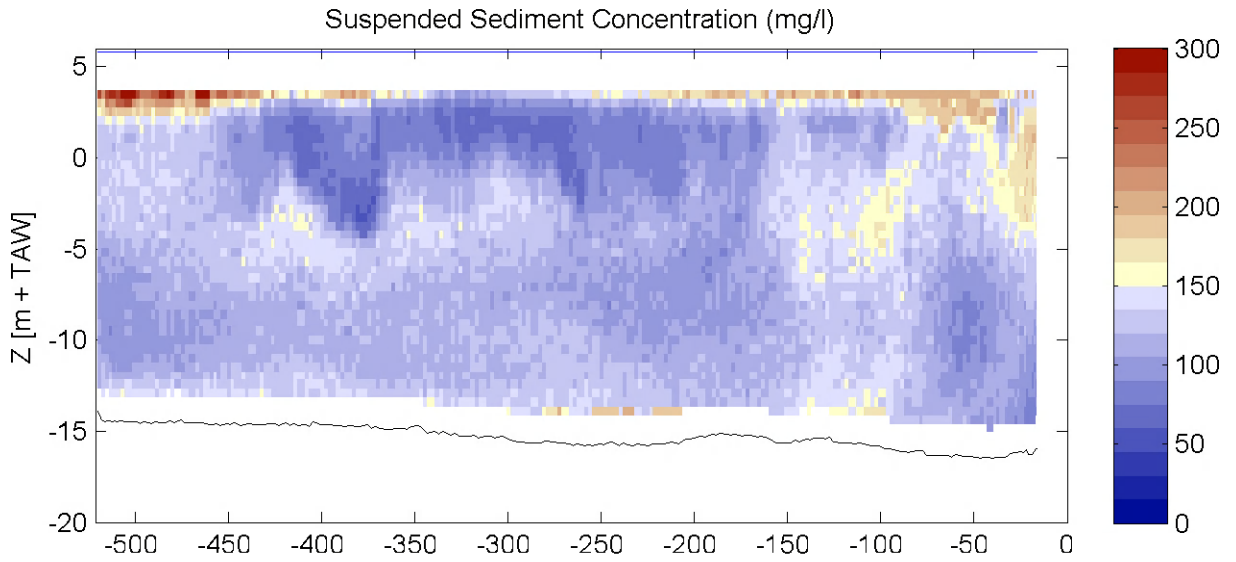
Time after HW [HH:MM]
-0:16

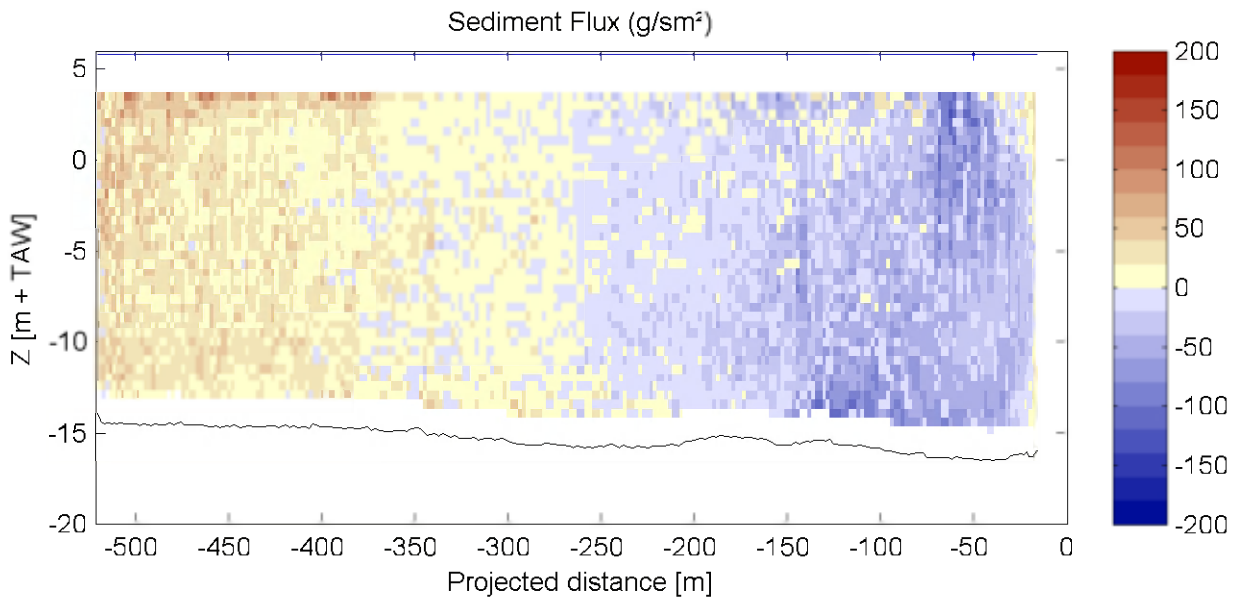
Data Processed by: IMDC
In association with :

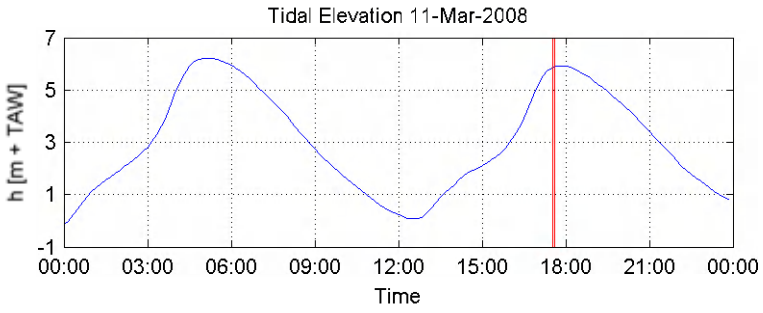
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3087DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

17:31 - 17:35

Time after HW [HH:MM]

-0:16

Data Processed by: IMDC

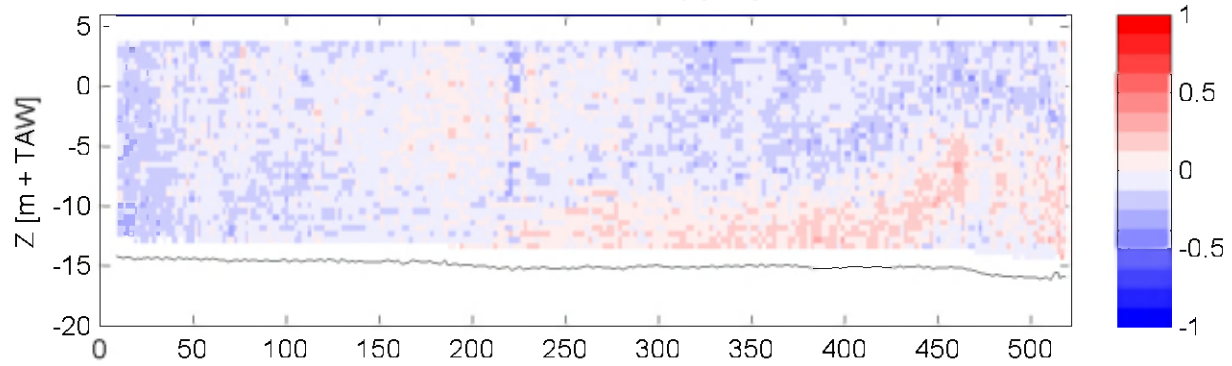
In association with :

I/RA/11283/07.090/MSA

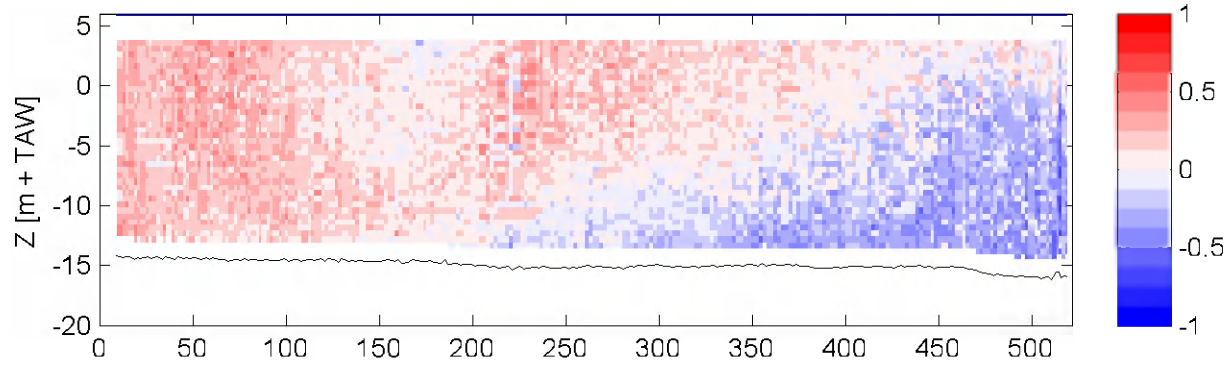
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3089DGDs_sub.csv	Location: Transect DGD

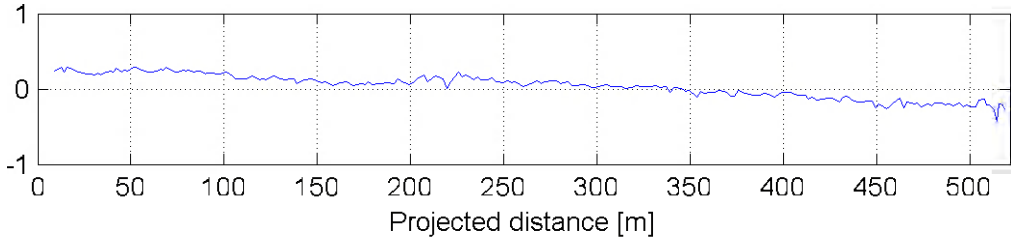
Parallel Current Velocity [m/s]



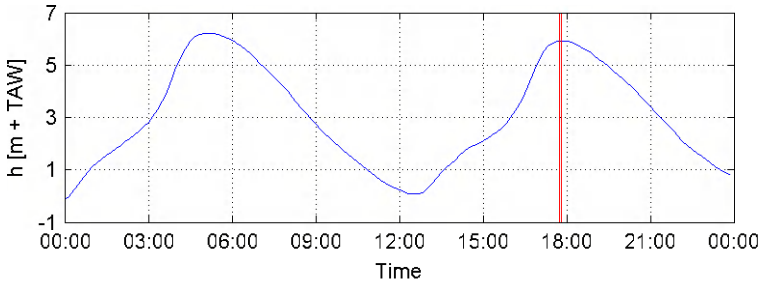
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
17:43 - 17:48

Time after HW [HH:MM]
-0:04

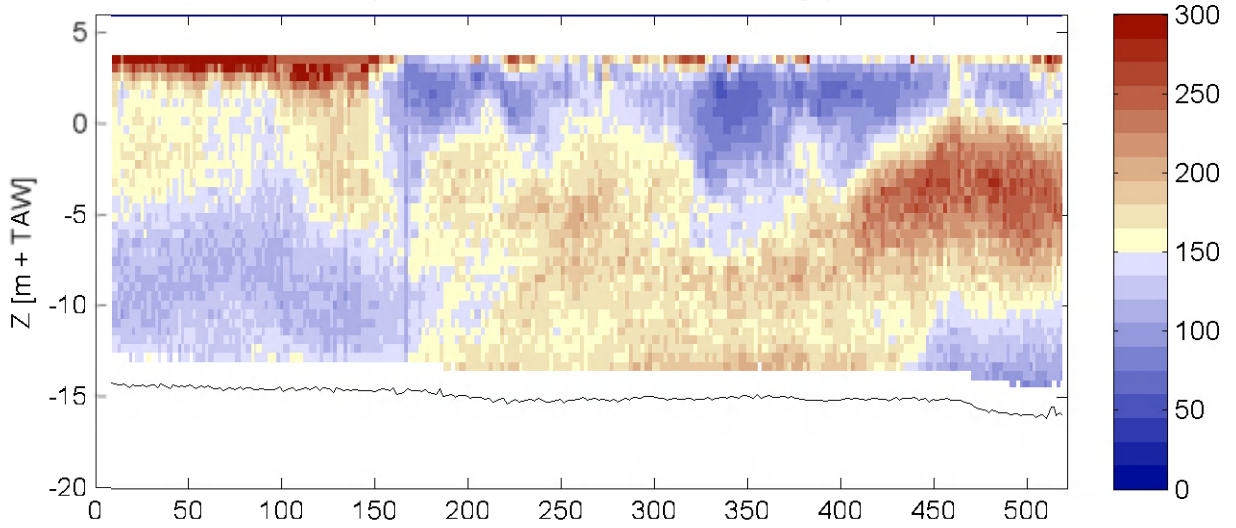
Data Processed by: IMDC
In association with :

I/RA/11283/07.090/MSA

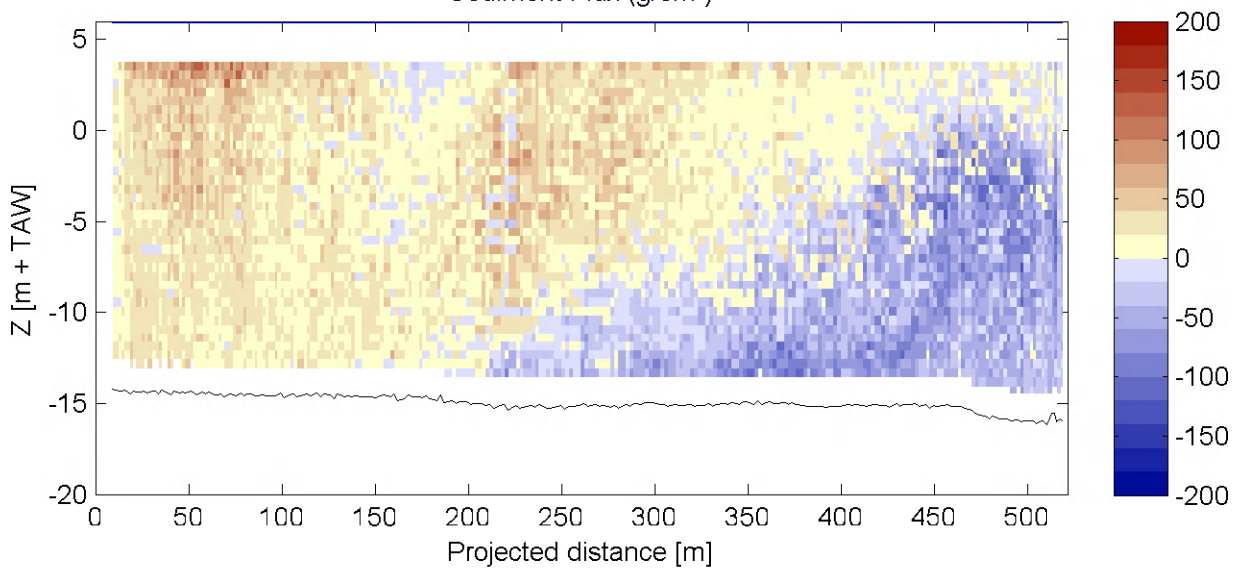
Through Tide Sediview Measurement Spring tide 11/03/2008

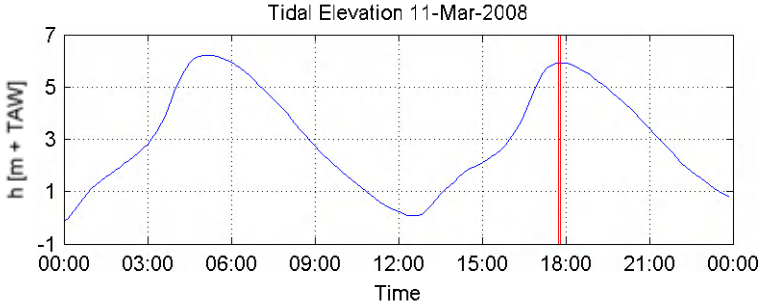
11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3089DGDs_sub.csv	Location: Transect DGD

Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)





HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
17:43 - 17:48

Time after HW [HH:MM]
-0:04

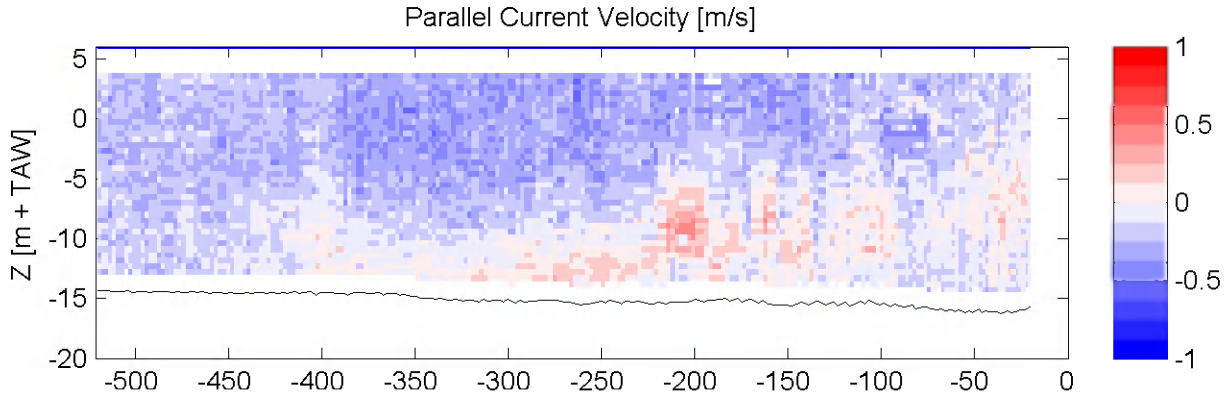
Data Processed by: IMDC

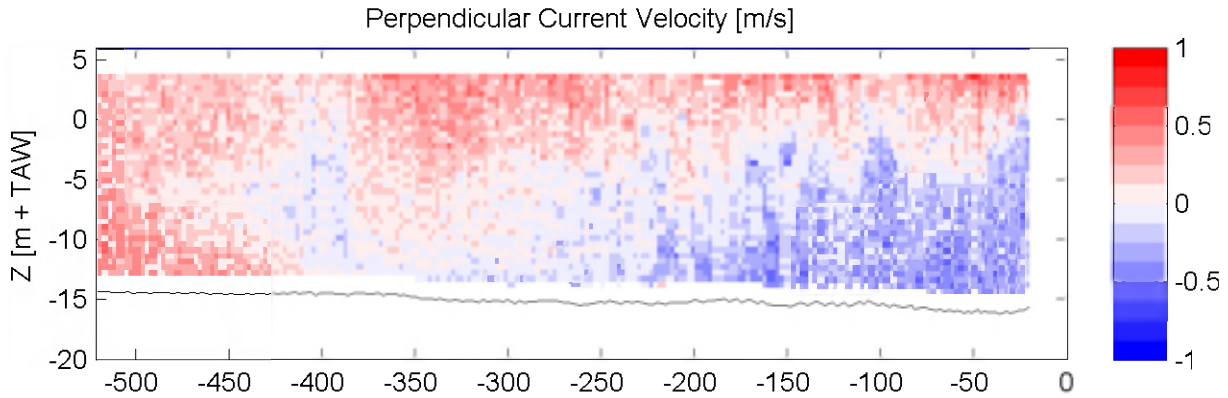
In association with :

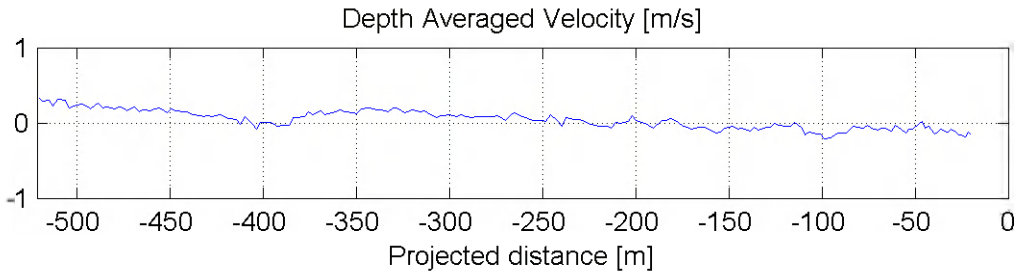
I/RA/11283/07.090/MSA

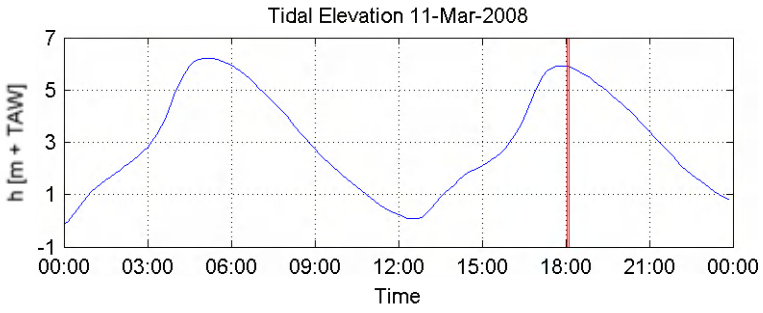
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3091DGDt_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

18:02 - 18:06

Time after HW [HH:MM]

0:14

Data Processed by: IMDC

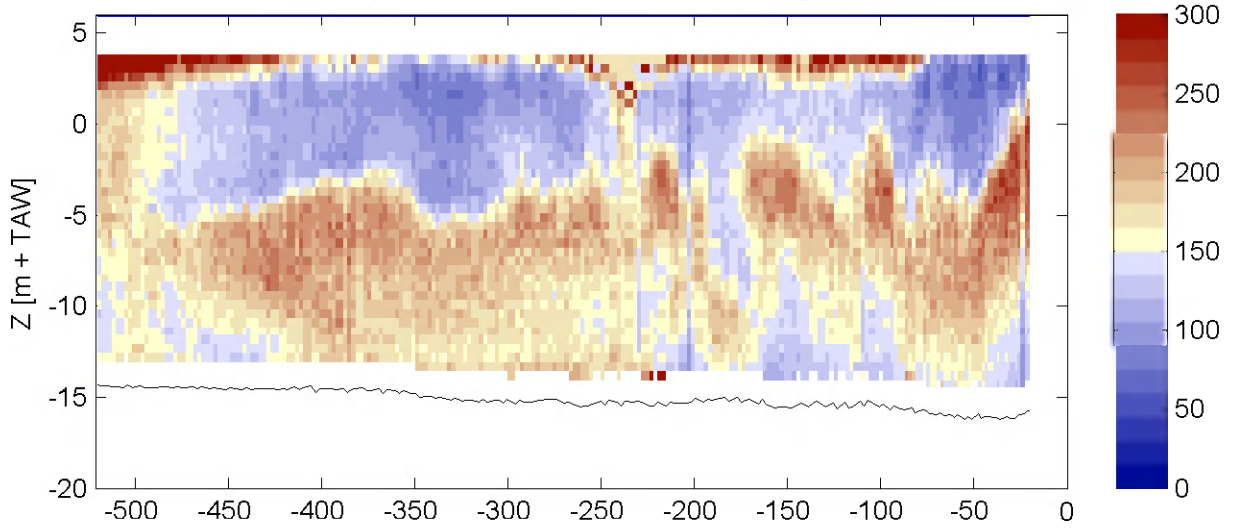
In association with :

I/RA/11283/07.090/MSA

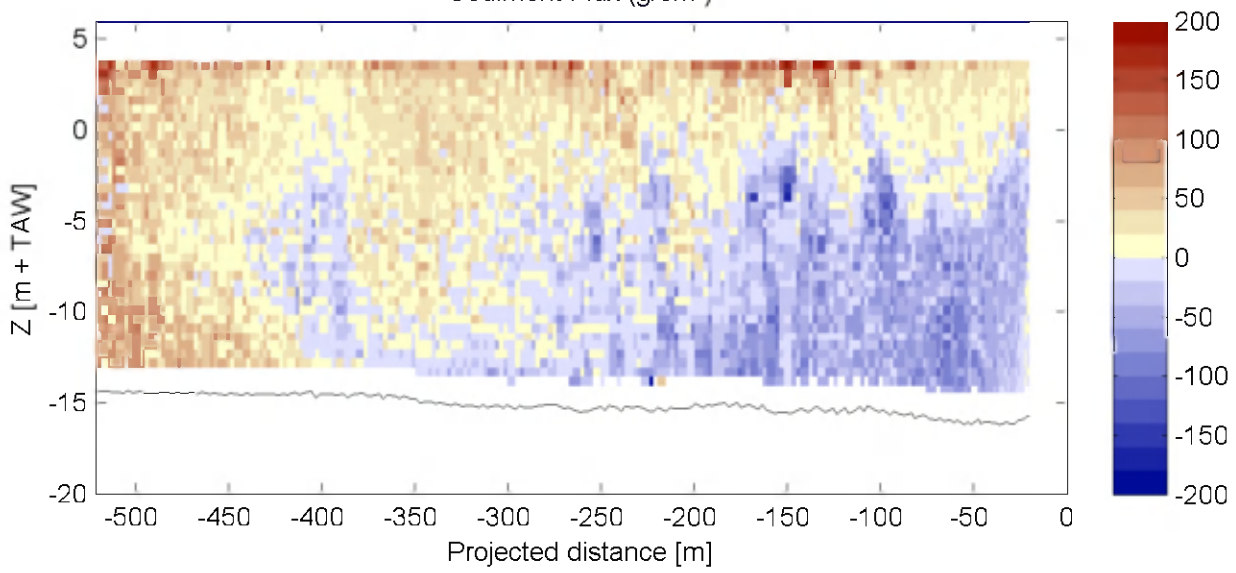
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3091DGDt_sub.csv	Location: Transect DGD

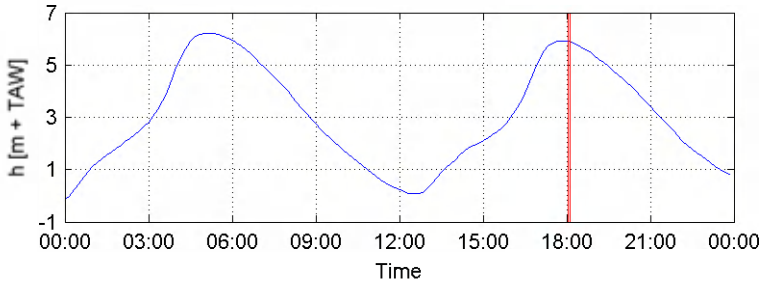
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
18:02 - 18:06

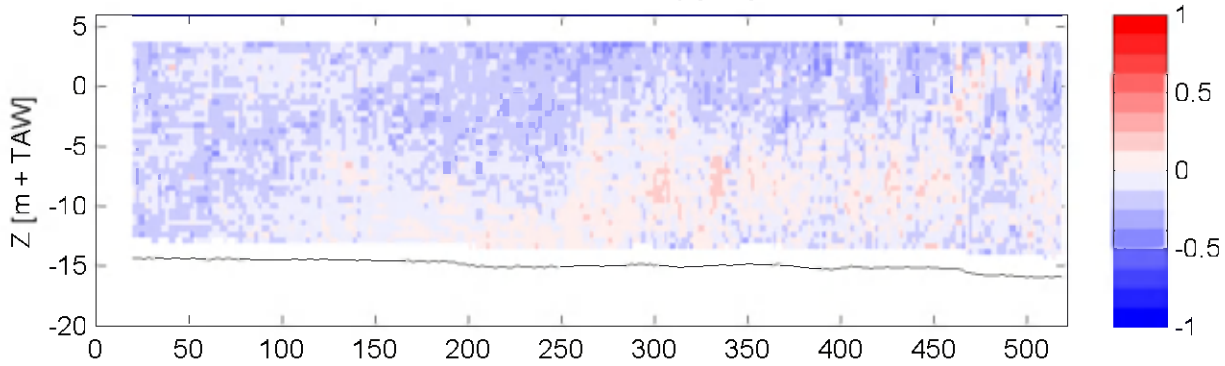
Time after HW [HH:MM]
0:14

Data Processed by: IMDC
In association with :
I/RA/11283/07.090/MSA

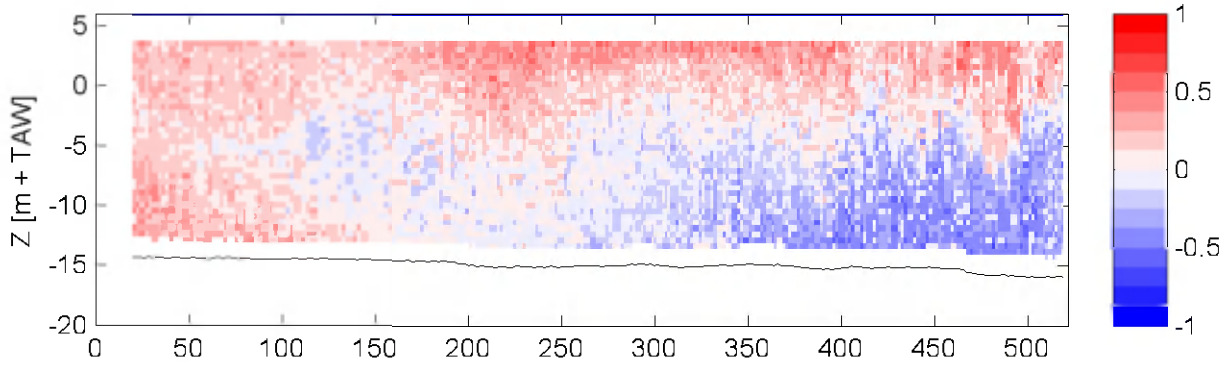
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3093DGDs_sub.csv	Location: Transect DGD

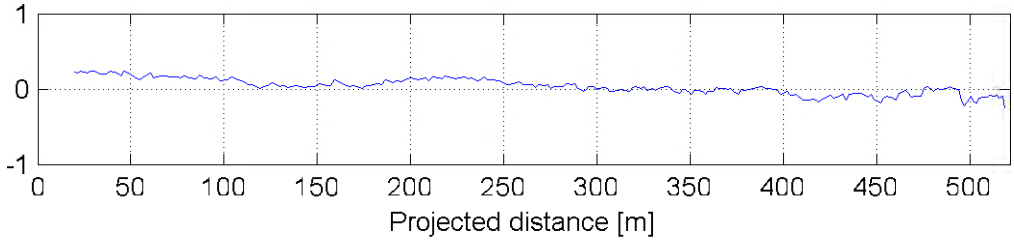
Parallel Current Velocity [m/s]



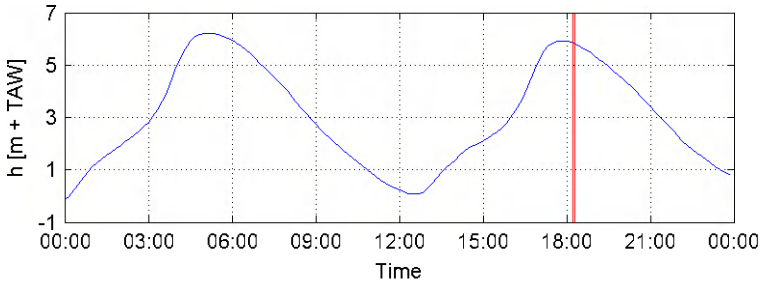
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
18:13 - 18:18

Time after HW [HH:MM]
0:25

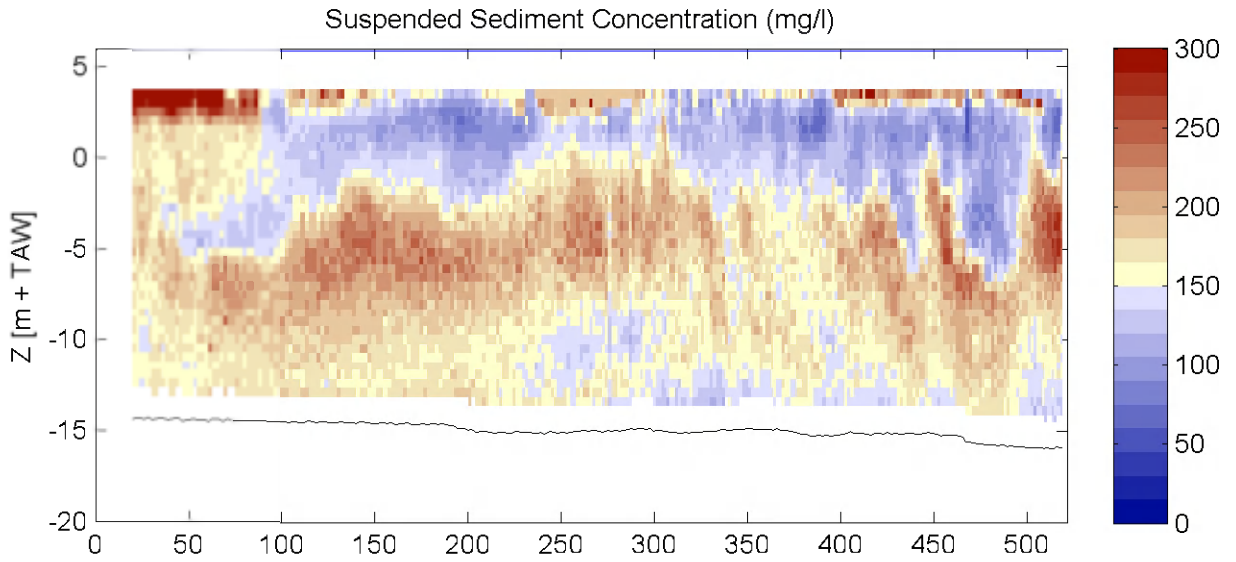
Data Processed by: IMDC

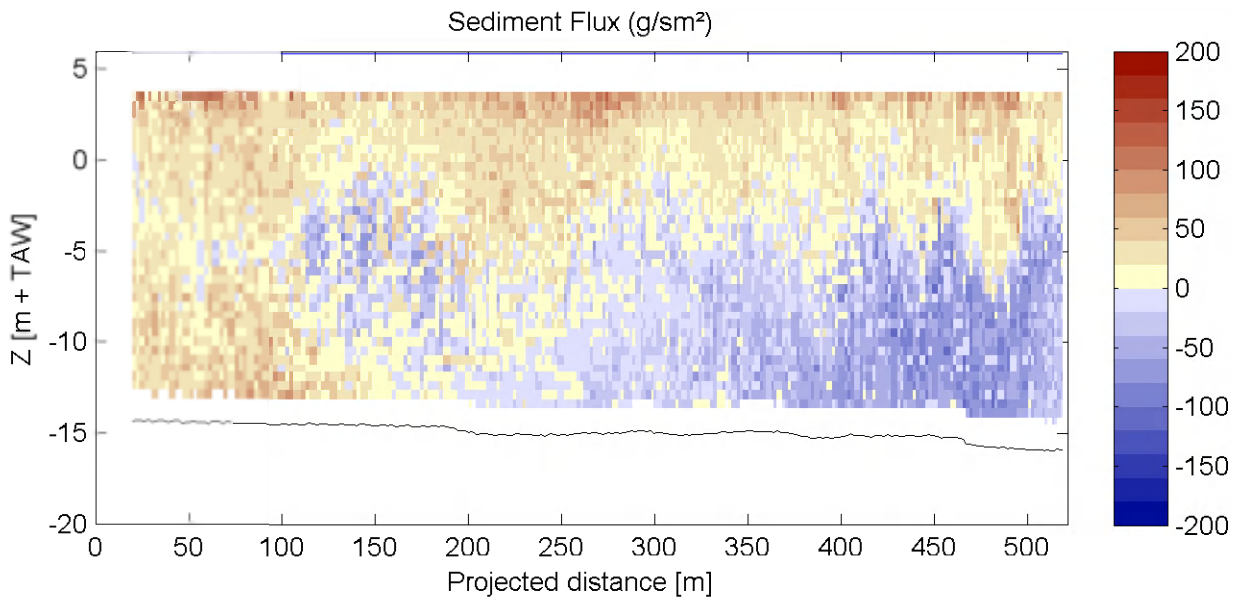
In association with :

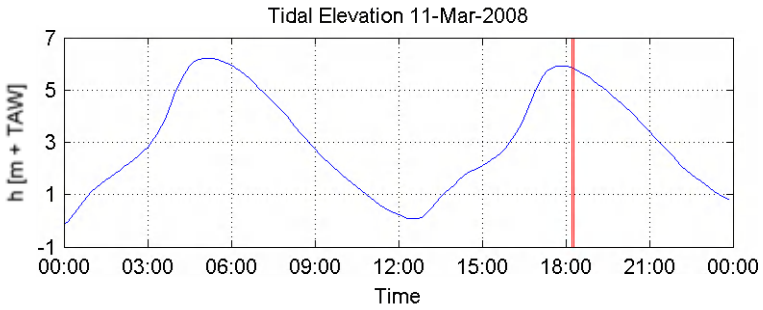
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3093DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

18:13 - 18:18

Time after HW [HH:MM]

0:25

Data Processed by: IMDC

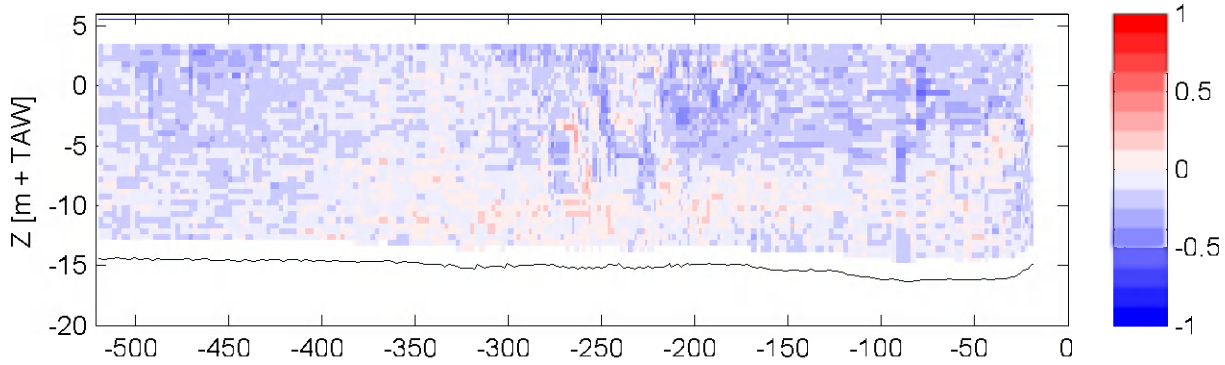
In association with :

I/RA/11283/07.090/MSA

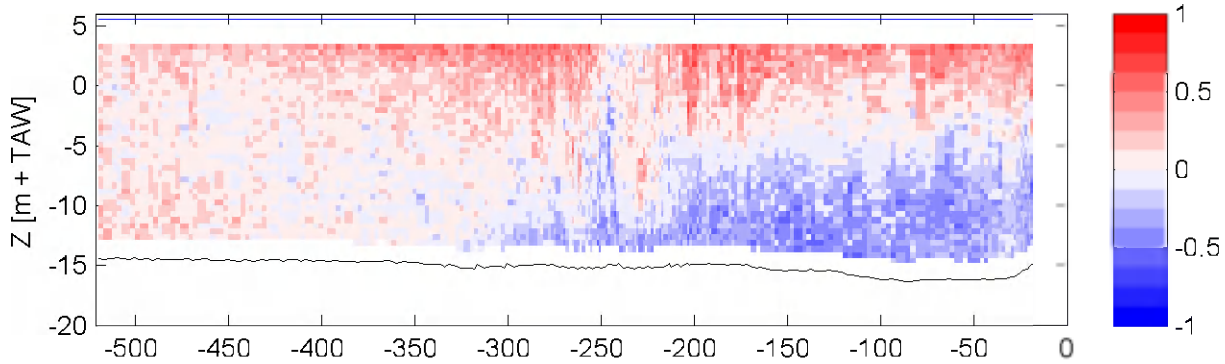
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3095DGDt_sub.csv	Location: Transect DGD

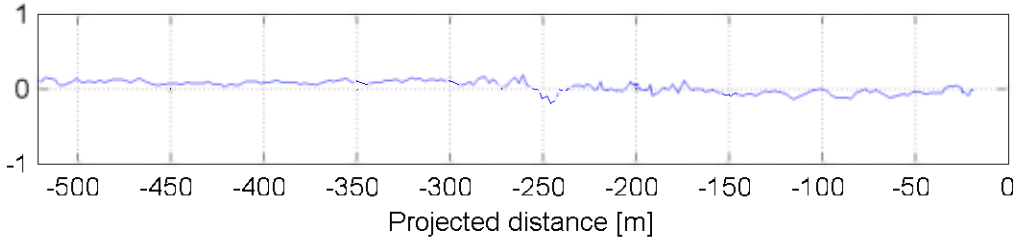
Parallel Current Velocity [m/s]

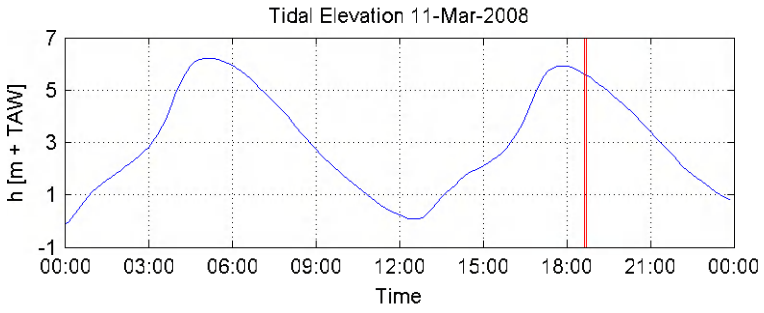


Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]





HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

18:37 - 18:42

Time after HW [HH:MM]

0:49

Data Processed by: IMDC

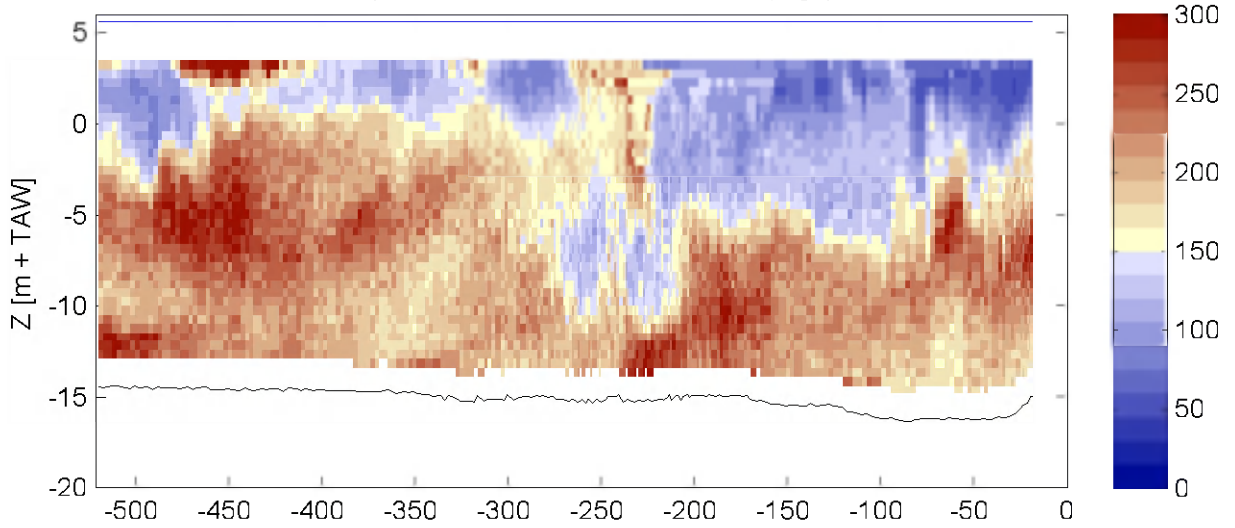
In association with :

I/RA/11283/07.090/MSA

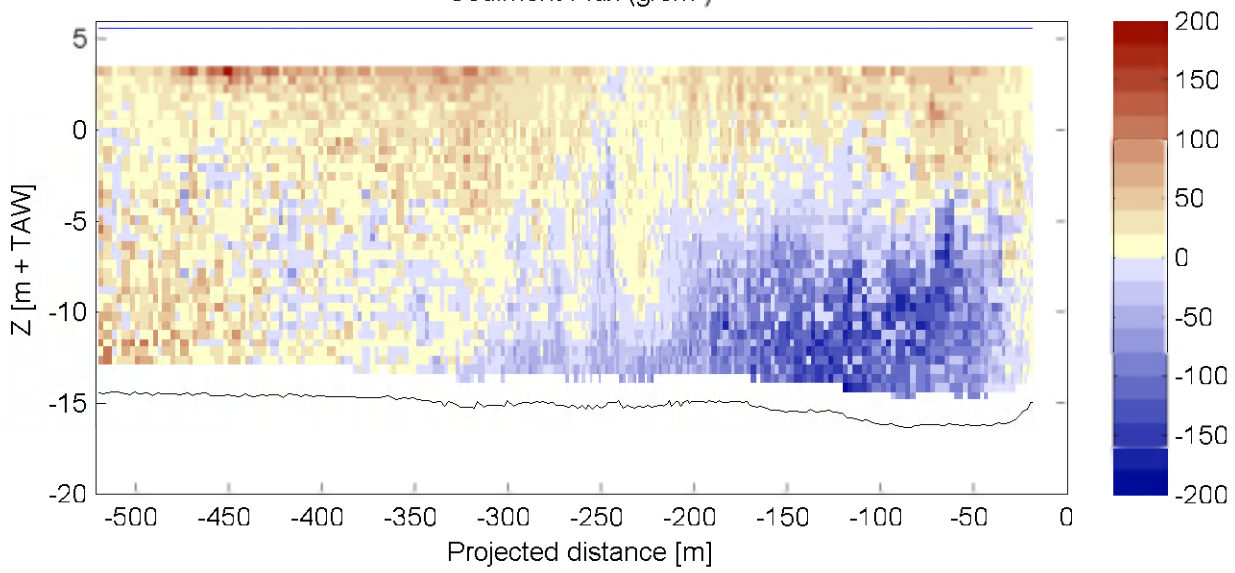
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3095DGDt_sub.csv	Location: Transect DGD

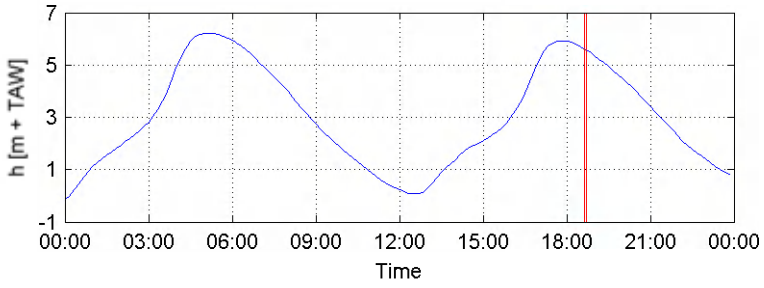
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW: 05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
18:37 - 18:42

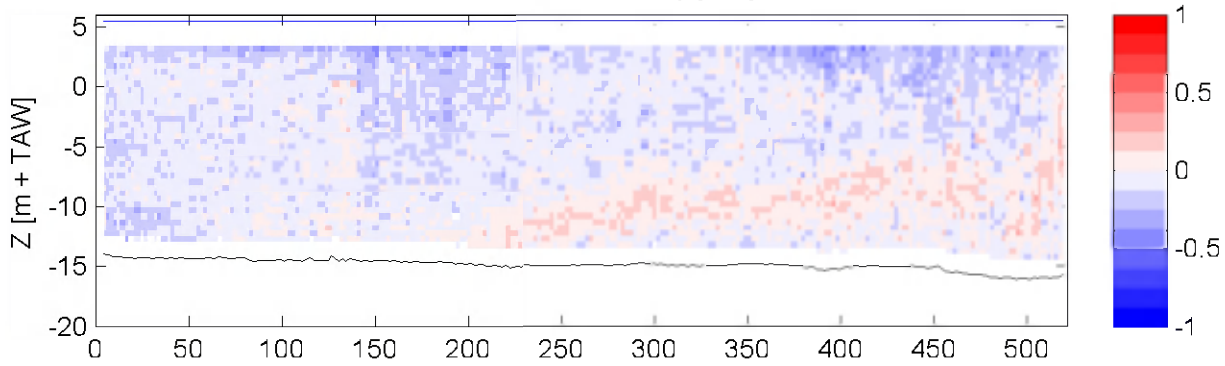
Time after HW [HH:MM]
0:49

Data Processed by: IMDC
In association with :
I/RA/11283/07.090/MSA

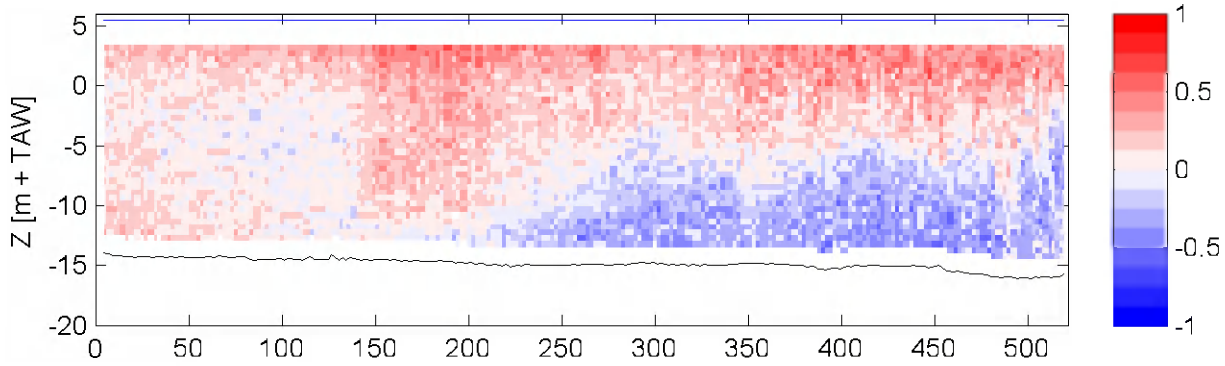
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3097DGDt_sub.csv	Location: Transect DGD

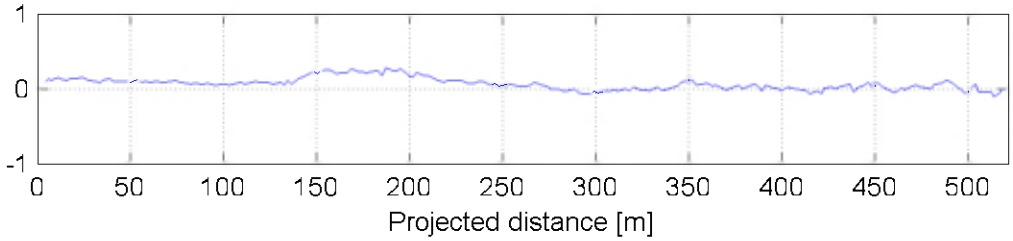
Parallel Current Velocity [m/s]



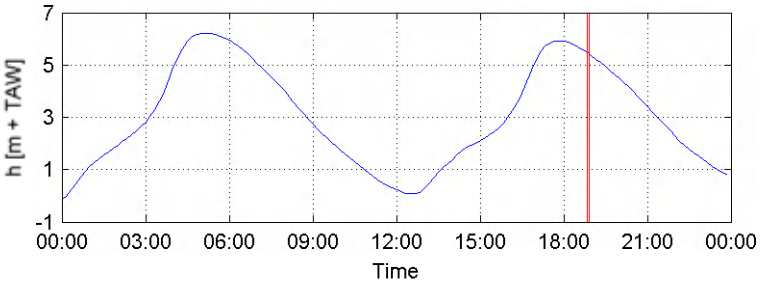
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
18:50 - 18:55

Time after HW [HH:MM]
1:03

Data Processed by: IMDC

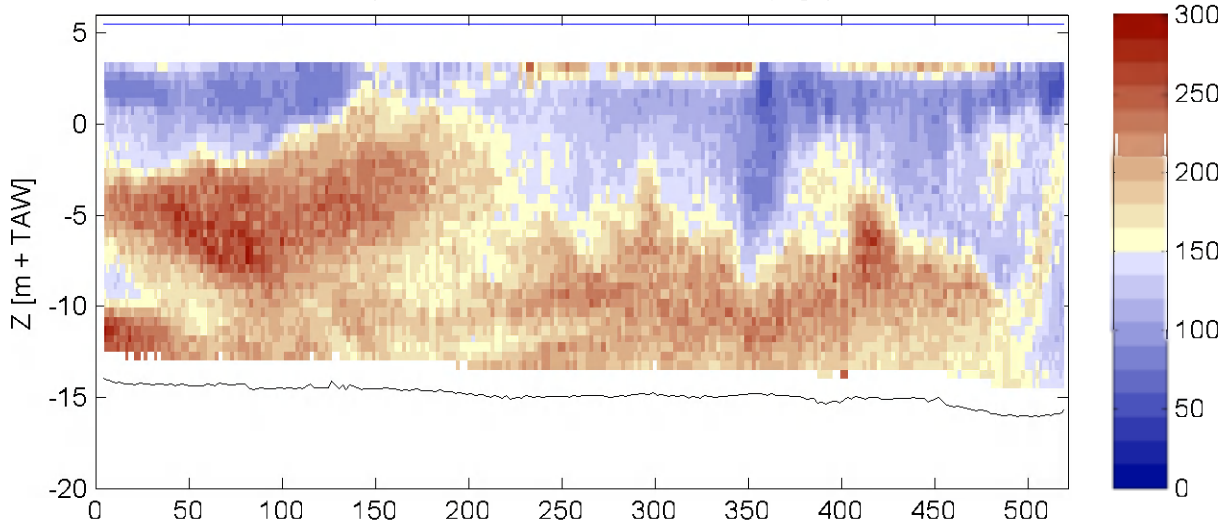
In association with :

I/RA/11283/07.090/MSA

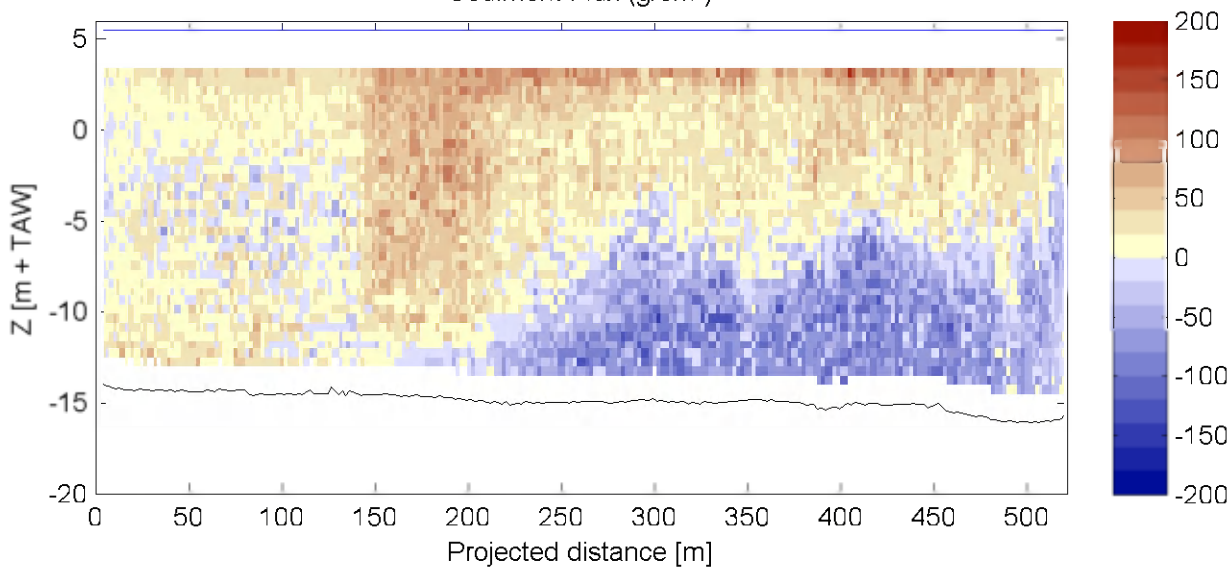
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3097DGDt_sub.csv	Location: Transect DGD

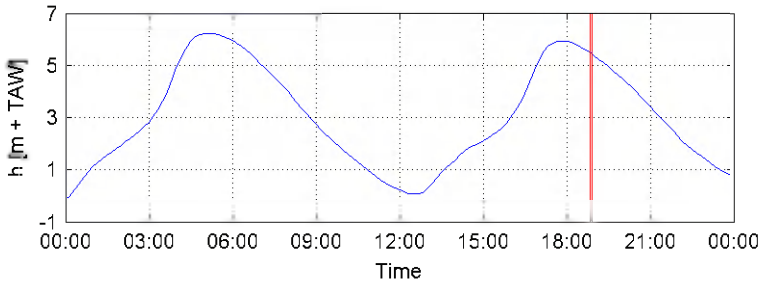
Suspended Sediment Concentration (mg/l)



Sediment Flux (g/sm²)



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
18:50 - 18:55

Time after HW [HH:MM]
1:03

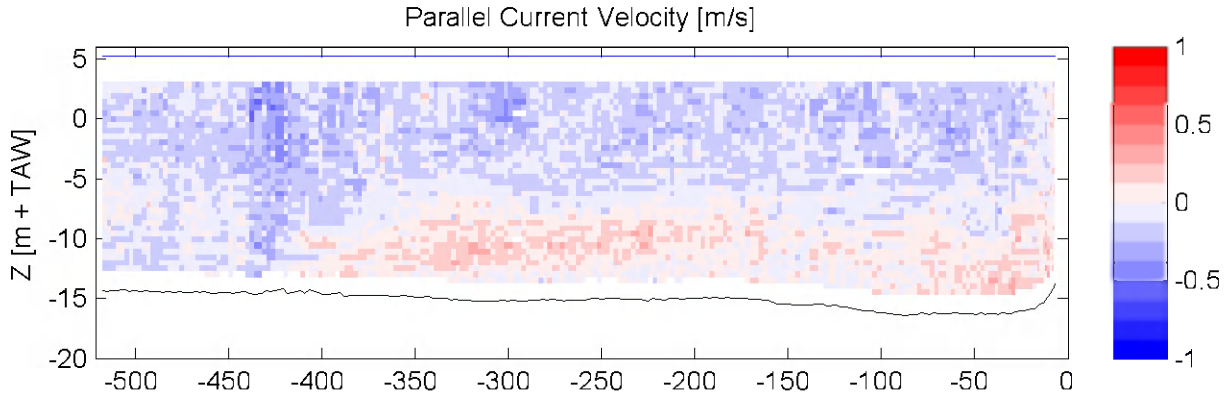
Data Processed by: IMDC

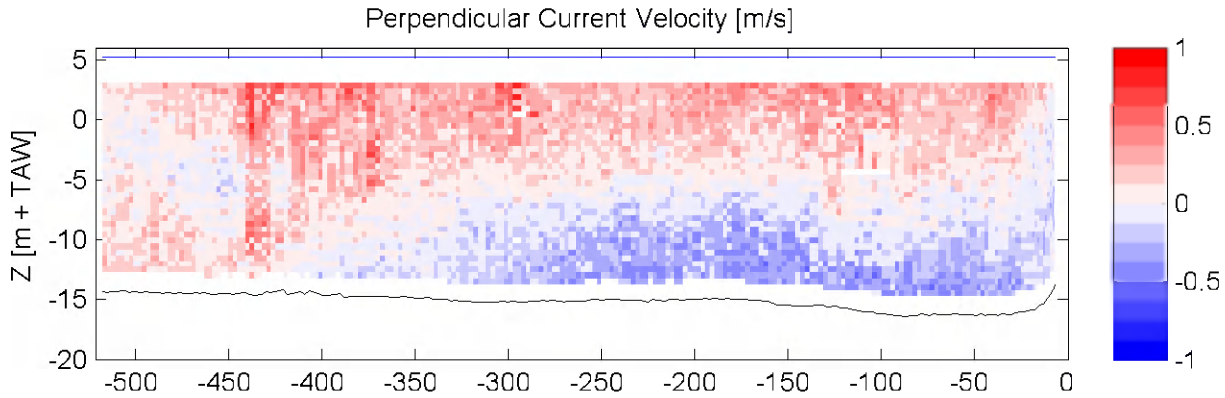
In association with :

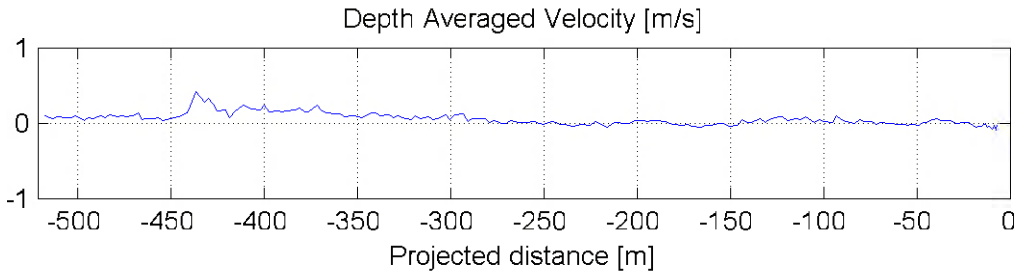
I/RA/11283/07.090/MSA

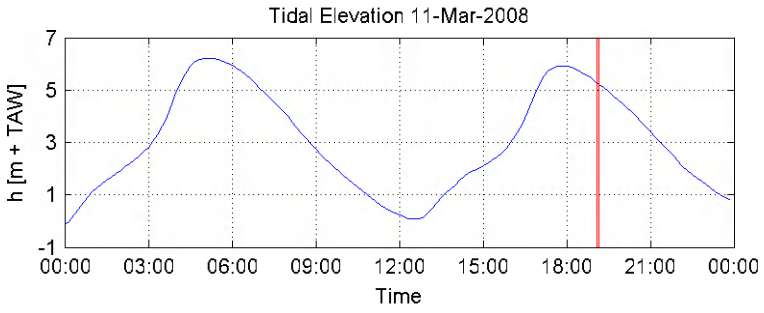
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3099DGDt_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
19:05 - 19:09

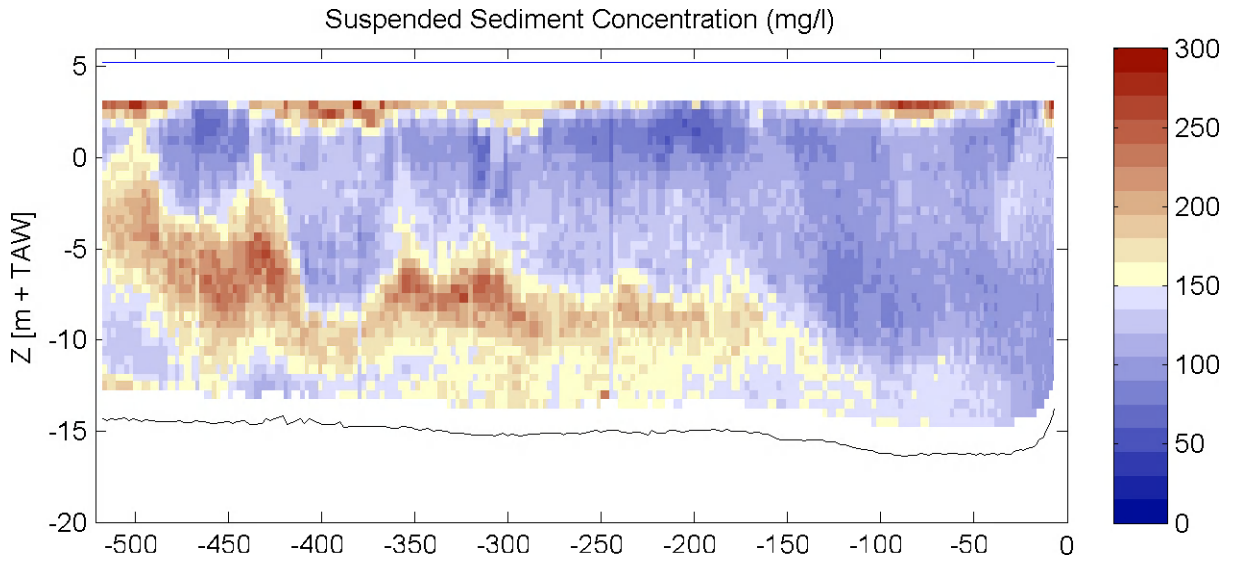
Time after HW [HH:MM]
1:17

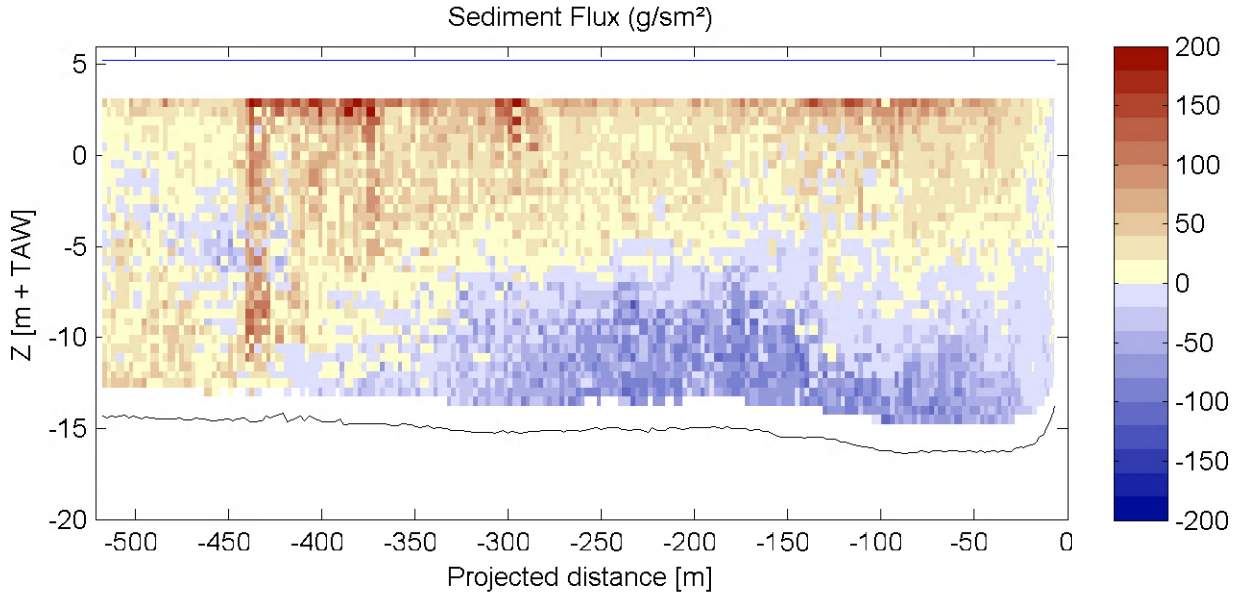
Data Processed by: IMDC
In association with :

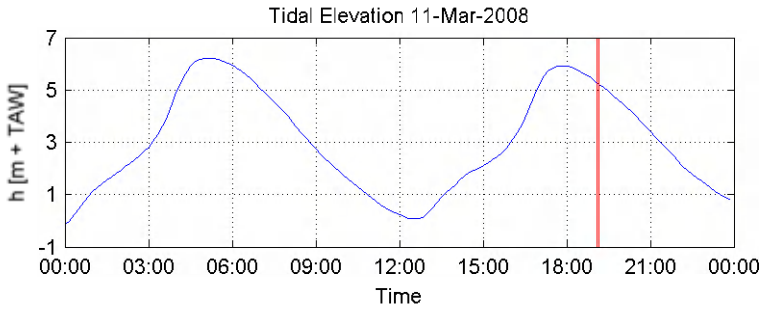
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3099DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
19:05 - 19:09

Time after HW [HH:MM]
1:17

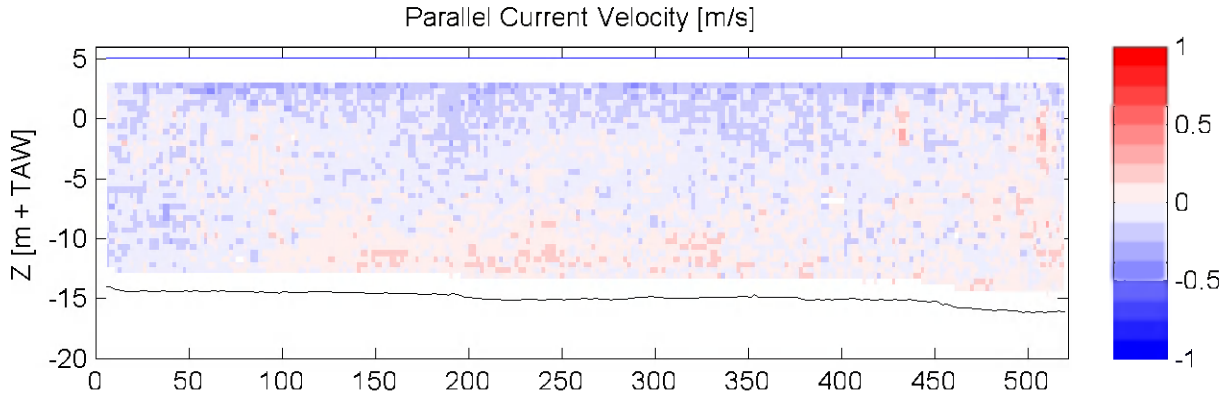
Data Processed by: IMDC

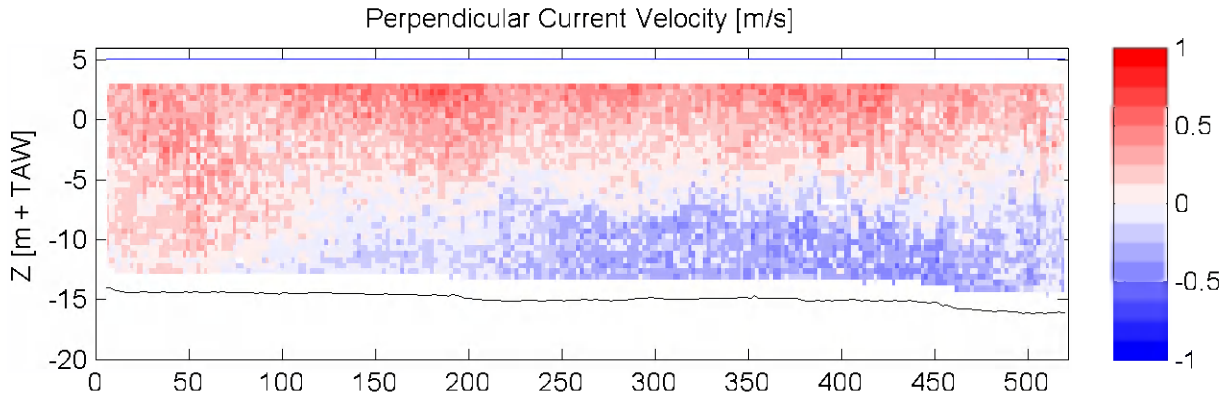
In association with :

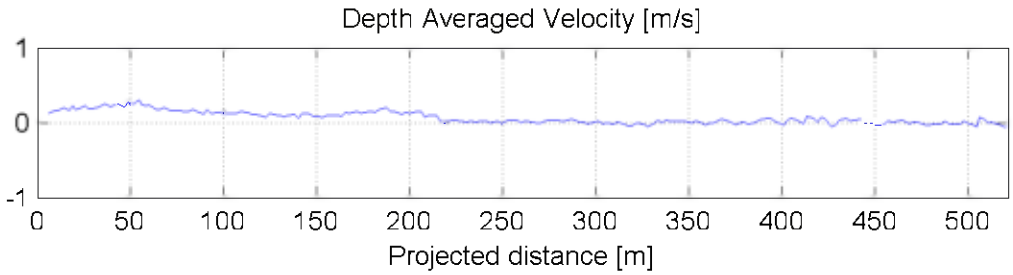
I/RA/11283/07.090/MSA

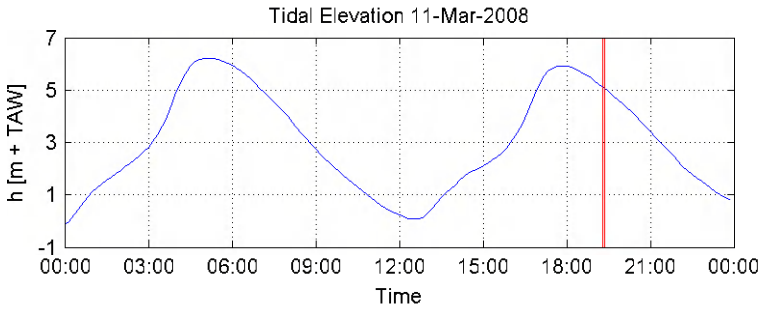
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3101DGDs_sub.csv	Location: Transect DGD









HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
19:17 - 19:22

Time after HW [HH:MM]
1:30

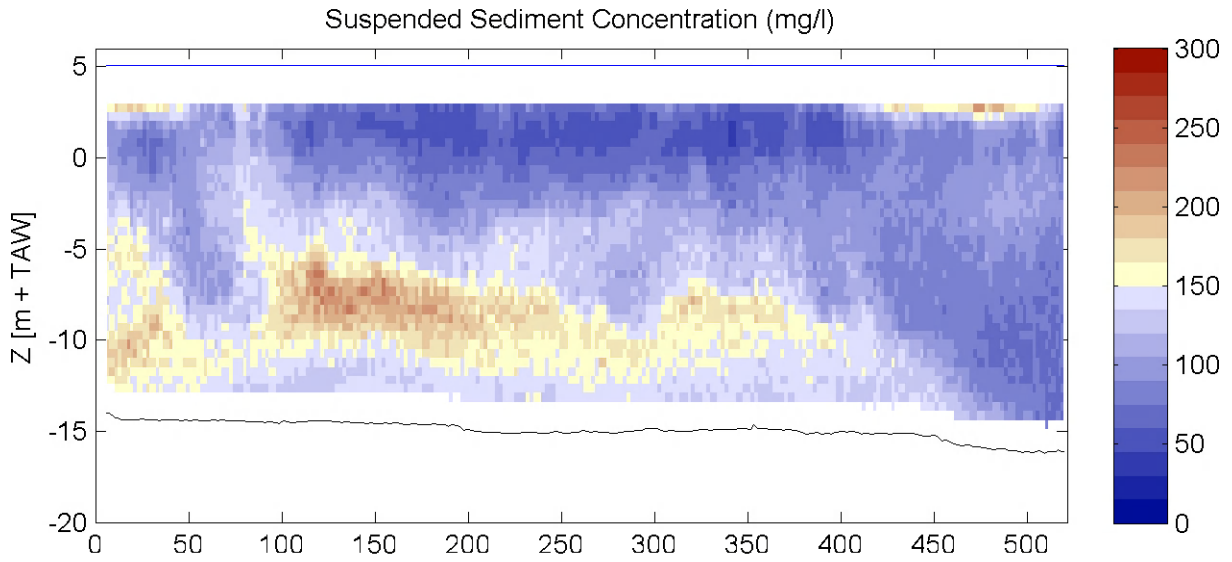
Data Processed by: IMDC

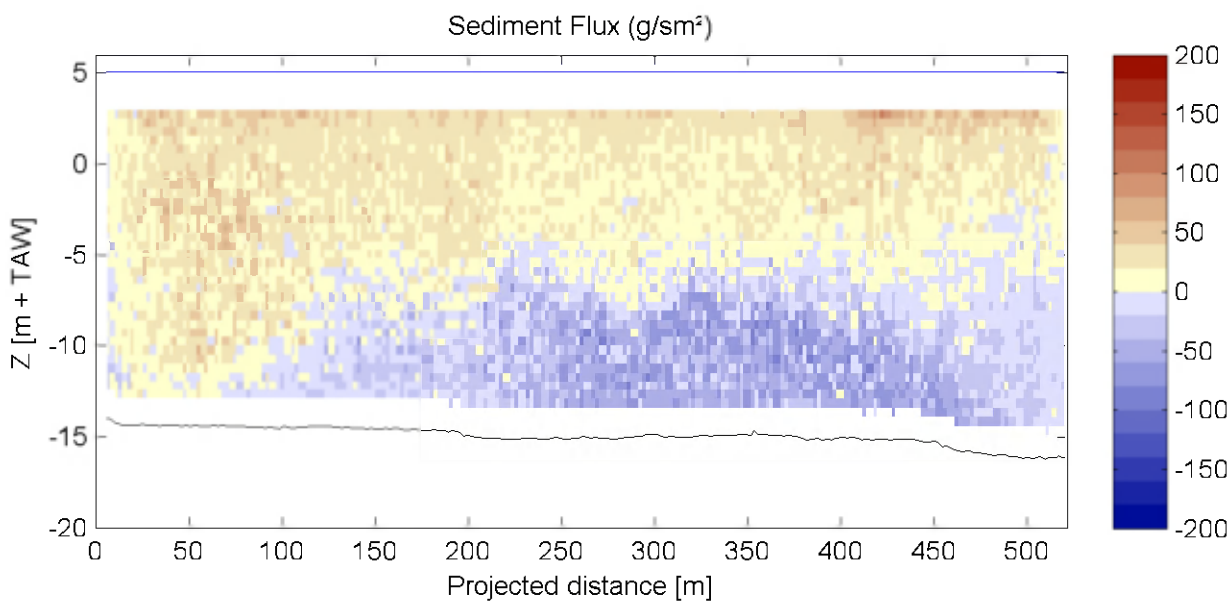
In association with :

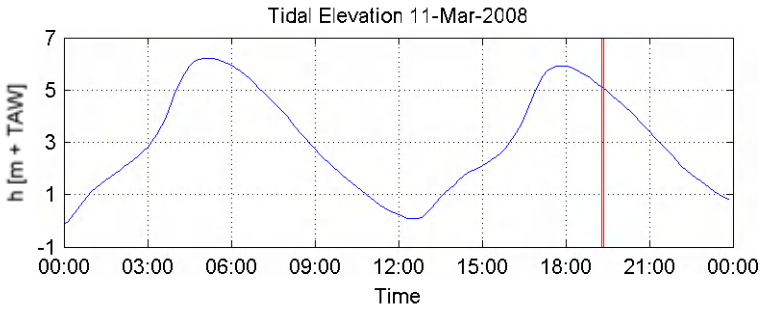
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3101DGDs_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

19:17 - 19:22

Time after HW [HH:MM]

1:30

Data Processed by: IMDC

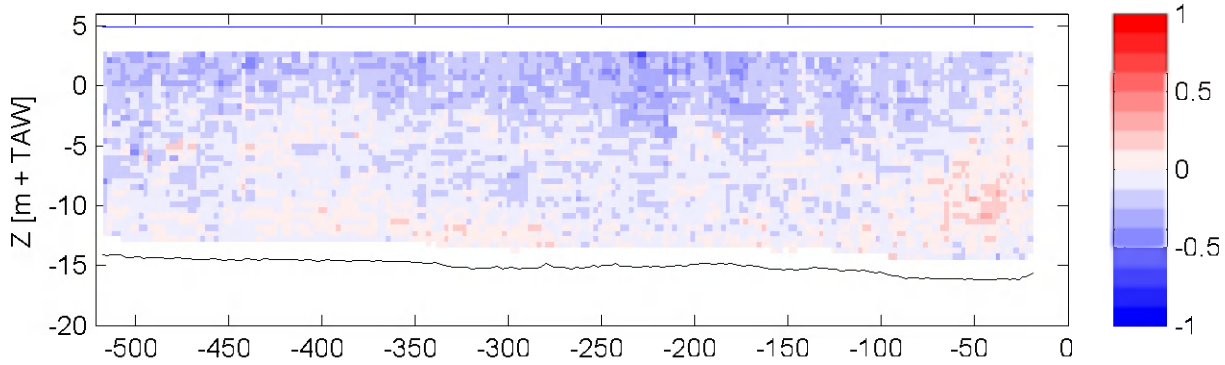
In association with :

I/RA/11283/07.090/MSA

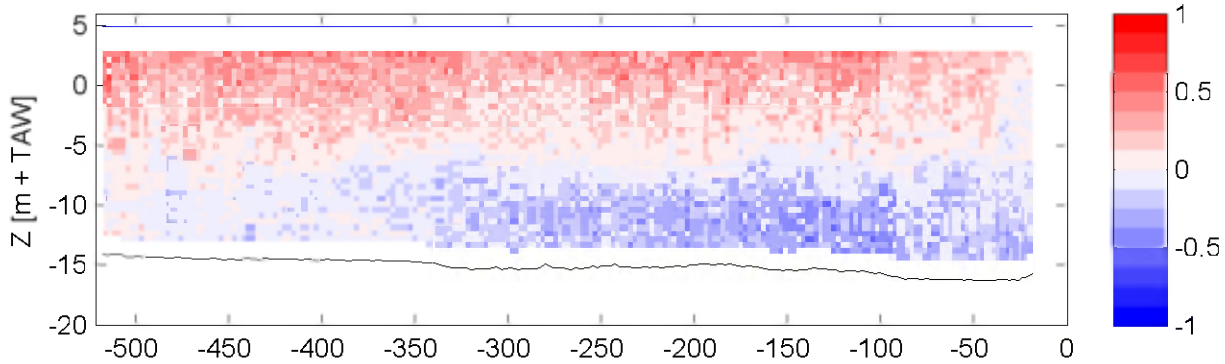
Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3103DGDt_sub.csv	Location: Transect DGD

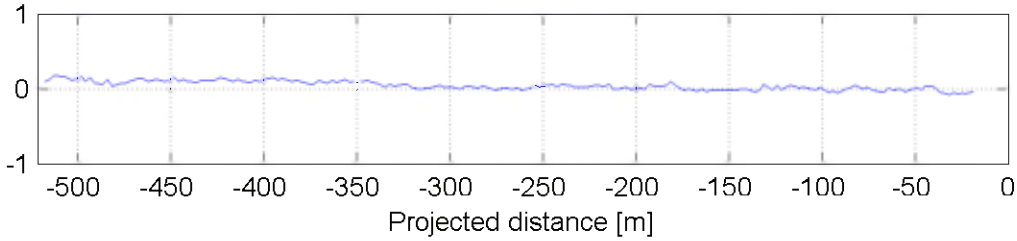
Parallel Current Velocity [m/s]



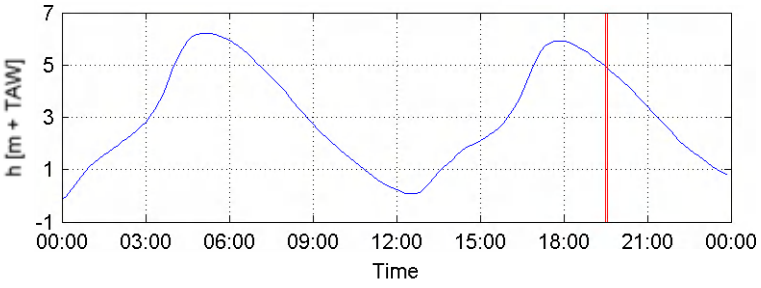
Perpendicular Current Velocity [m/s]



Depth Averaged Velocity [m/s]



Tidal Elevation 11-Mar-2008



HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :
11-Mar-2008
19:30 - 19:33

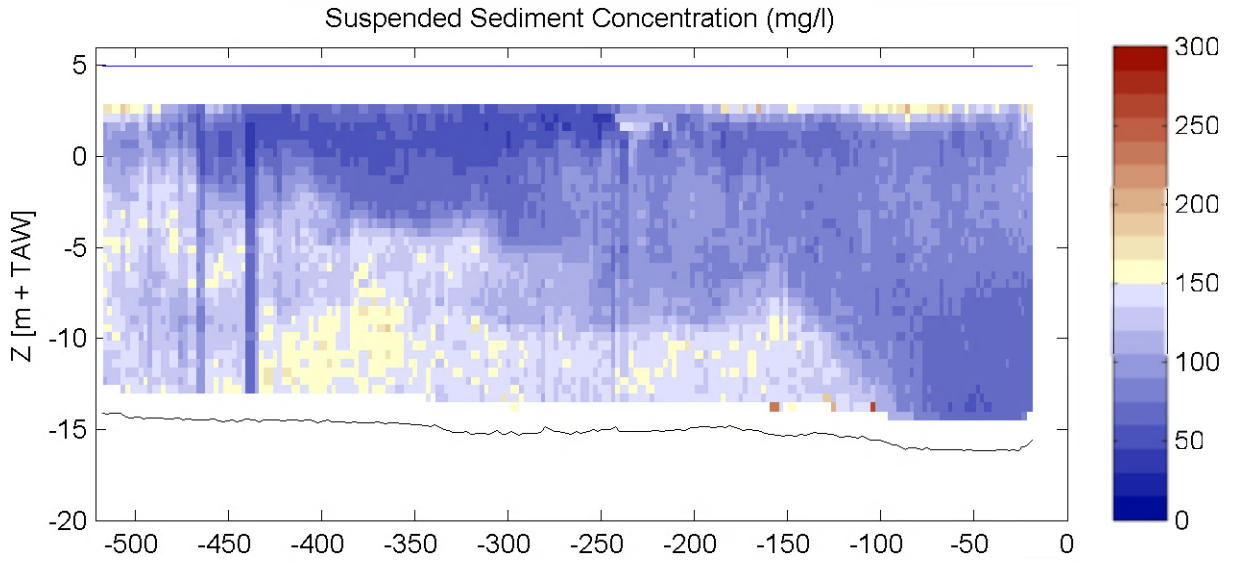
Time after HW [HH:MM]
1:41

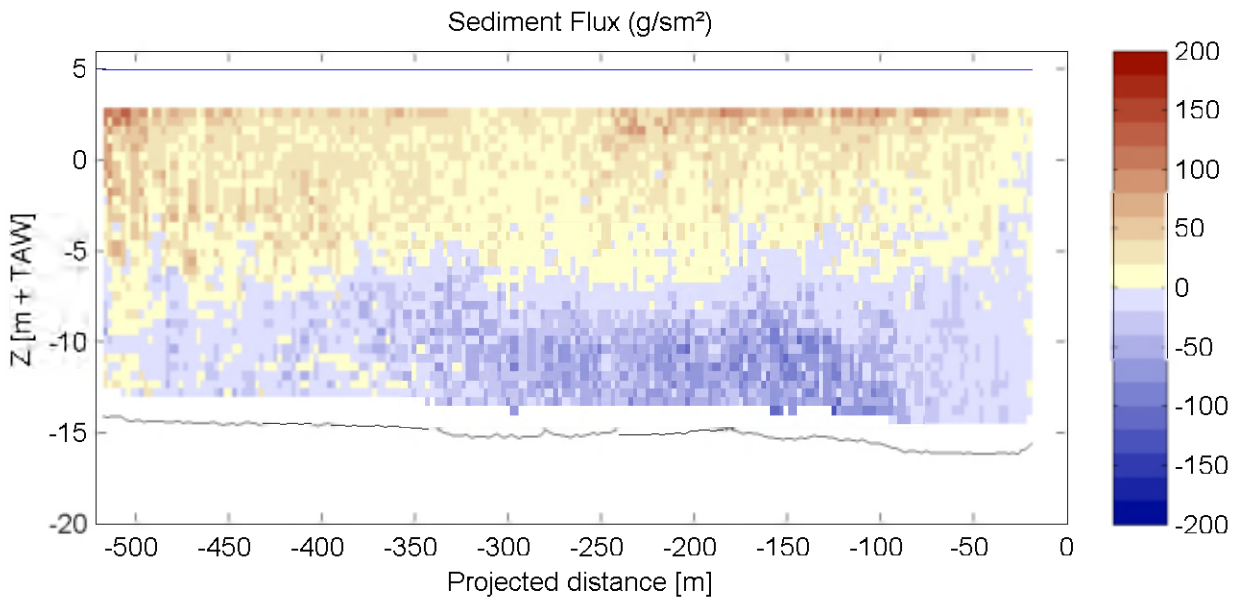
Data Processed by: IMDC
In association with :

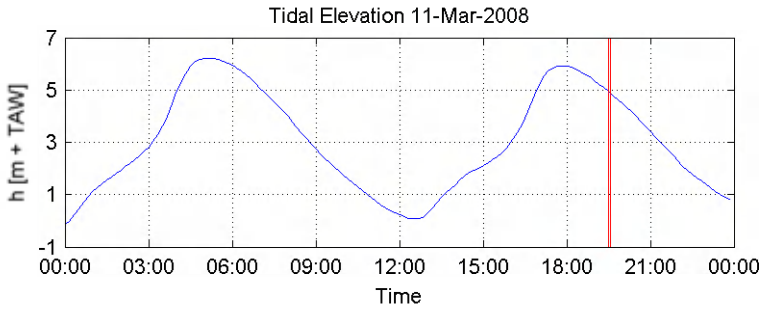
I/RA/11283/07.090/MSA

Through Tide Sediview Measurement Spring tide 11/03/2008

11283 - Aanslibbing Deurganckdok	Equipment(s): ADCP
Sourcefile: 3103DGDt_sub.csv	Location: Transect DGD







HW/LW:
05:00: h = 6.22 m+TAW
12:30: h = 0.08 m+TAW
17:50: h = 5.93 m+TAW

Date / Time [MET] :

11-Mar-2008

19:30 - 19:33

Time after HW [HH:MM]

1:41

Data Processed by: IMDC

In association with :

I/RA/11283/07.090/MSA

APPENDIX H. DISCHARGE, CONCENTRATION AND SEDIMENT FLUX FOR THE TOTAL CROSS-SECTION

Discharge distribution over the cross section: positive is from dock to river

Filename	*Time to HW [hh:mm]*	*Qmid [m³/s]*	*Qtop [m³/s]*	*Qbottom [m³/s]*	*Qleft [m³/s]*	*Qright [m³/s]*	*Qtotal [m³/s]*
3003DGDt_sub.csv	2:08	157	284	6	3	13	463
3005DGDs_sub.csv	2:21	287	321	18	-12	11	625
3007DGDt_sub.csv	2:36	344	275	18	1	-8	629
3009DGDs_sub.csv	2:51	308	266	19	5	15	613
3011DGDt_sub.csv	3:03	218	238	13	-4	16	482
3013DGDs_sub.csv	3:16	281	253	19	4	20	577
3015DGDt_sub.csv	3:35	296	239	16	-19	10	542
3017DGDs_sub.csv	3:48	216	212	15	19	30	492
3019DGDt_sub.csv	4:05	238	196	13	-7	6	446
3021DGDs_sub.csv	4:20	235	143	15	20	20	433
3023DGDt_sub.csv	4:35	217	120	14	-3	19	367
3025DGDs_sub.csv	4:46	229	103	17	5	3	358
3027DGDt_sub.csv	5:00	214	108	14	0	18	352
3029DGDs_sub.csv	5:13	243	98	18	0	19	378
3031DGDt_sub.csv	5:30	180	58	13	-3	18	265
3033DGDs_sub.csv	5:43	208	31	16	7	2	264
3035DGDt_sub.csv	6:00	172	52	11	-2	9	243
3037DGDs_sub.csv	6:20	124	24	11	45	-1	203
3039DGDt_sub.csv	6:32	148	38	10	-2	9	205
3041DGDs_sub.csv	6:46	56	-9	7	-42	7	19
3043DGDt_sub.csv	7:04	137	-41	8	-2	8	110
3045DGDs_sub.csv	7:20	120	-121	11	16	7	34
3047DGDt_sub.csv	-5:18	110	-134	7	-11	-21	-49
3049DGDs_sub.csv	-5:05	-67	-168	-2	28	10	-200
3051DGDt_sub.csv	-4:46	-141	-126	-10	-33	11	-299
3053DGDt_sub.csv	-4:31	-314	-125	-19	-19	3	-475
3055DGDt_sub.csv	-4:20	-222	-92	-14	-1	2	-327
3057DGDs_sub.csv	-4:06	-246	-107	-16	4	-4	-369
3059DGDt_sub.csv	-3:45	-296	-66	-20	1	12	-368
3061DGDs_sub.csv	-3:32	-295	-72	-20	7	-4	-383
3063DGDt_sub.csv	-3:14	-111	-19	-7	1	48	-89
3065DGDt_sub.csv	-3:01	-68	-9	-6	1	-1	-82
3067DGDt_sub.csv	-2:45	-234	-12	-14	1	-28	-287
3069DGDs_sub.csv	-2:32	-98	22	-9	4	-8	-89
3071DGDt_sub.csv	-2:14	-245	5	-16	0	-41	-297
3073DGDs_sub.csv	-2:02	-104	13	-6	1	-6	-102
3075DGDt_sub.csv	-1:43	-299	19	-17	3	-85	-379
3077DGDs_sub.csv	-1:31	-530	-5	-32	2	0	-565
3079DGDt_sub.csv	-1:14	-830	-50	-50	2	20	-908
3081DGDs_sub.csv	-1:03	-750	-24	-45	25	-40	-834

Filename	*Time to HW [hh:mm]*	*Qmid [m³/s]*	*Qtop [m³/s]*	*Qbottom [m³/s]*	*Qleft [m³/s]*	*Qright [m³/s]*	*Qtotal [m³/s]*
3083DGDt_sub.csv	-0:44	-677	-29	-32	9	154	-575
3085DGDs_sub.csv	-0:30	-251	-12	-19	24	-28	-285
3087DGDt_sub.csv	-0:16	-264	49	-12	18	139	-70
3089DGDs_sub.csv	-0:04	326	121	17	54	-13	505
3091DGDt_sub.csv	0:14	345	258	16	7	-65	562
3093DGDs_sub.csv	0:25	312	274	16	99	-8	693
3095DGDt_sub.csv	0:49	-	-	-	-	-	-
3097DGDt_sub.csv	1:03	535	330	31	13	-3	907
3099DGDt_sub.csv	1:17	482	291	26	7	-8	798
3101DGDs_sub.csv	1:30	537	342	33	19	-1	931
3103DGDt_sub.csv	1:41	321	311	16	14	-22	640

Concentration distribution over the cross section.

Filename	*Time to HW [hh:mm]*	*Cmid [mg/l]*	*Ctop [mg/l]*	*Cbottom [mg/l]*	*Cleft [mg/l]*	*Cright [mg/l]*	*Ctotal [mg/l]*
3003DGDt_sub.csv	2:08	-76	40	46	107	50	1
3005DGDs_sub.csv	2:21	-23	38	110	84	36	11
3007DGDt_sub.csv	2:36	4	33	113	86	43	19
3009DGDs_sub.csv	2:51	-4	35	105	89	45	19
3011DGDt_sub.csv	3:03	-75	38	114	105	41	-12
3013DGDs_sub.csv	3:16	-22	43	112	116	44	14
3015DGDt_sub.csv	3:35	-21	37	78	123	48	4
3017DGDs_sub.csv	3:48	-65	42	82	134	36	-1
3019DGDt_sub.csv	4:05	-28	37	45	119	39	1
3021DGDs_sub.csv	4:20	-20	35	26	123	27	9
3023DGDt_sub.csv	4:35	-25	26	24	103	31	-5
3025DGDs_sub.csv	4:46	-3	41	32	138	26	14
3027DGDt_sub.csv	5:00	5	47	26	117	25	19
3029DGDs_sub.csv	5:13	13	58	31	122	22	26
3031DGDt_sub.csv	5:30	-3	20	20	116	20	3
3033DGDs_sub.csv	5:43	10	10	32	92	33	14
3035DGDt_sub.csv	6:00	15	42	29	93	28	21
3037DGDs_sub.csv	6:20	-9	5	23	111	26	21
3039DGDt_sub.csv	6:32	-47	-100	17	118	23	-52
3041DGDs_sub.csv	6:46	-357	938	-36	105	19	-1733
3043DGDt_sub.csv	7:04	-108	370	9	116	19	-273
3045DGDs_sub.csv	7:20	-182	278	13	100	24	-1568
3047DGDt_sub.csv	-5:18	-251	295	-14	103	29	1397
3049DGDs_sub.csv	-5:05	646	310	286	108	53	463
3051DGDt_sub.csv	-4:46	420	359	120	138	60	366
3053DGDt_sub.csv	-4:31	233	266	87	108	126	232
3055DGDt_sub.csv	-4:20	276	237	65	132	138	256
3057DGDs_sub.csv	-4:06	257	244	46	122	122	244
3059DGDt_sub.csv	-3:45	185	238	57	120	109	190
3061DGDs_sub.csv	-3:32	193	215	65	140	122	191
3063DGDt_sub.csv	-3:14	238	482	-27	112	102	347
3065DGDt_sub.csv	-3:01	225	691	-12	117	90	262
3067DGDt_sub.csv	-2:45	137	576	76	103	93	148
3069DGDs_sub.csv	-2:32	243	-51	46	117	108	290
3071DGDt_sub.csv	-2:14	182	-2227	40	106	130	205
3073DGDs_sub.csv	-2:02	211	-586	23	141	119	295
3075DGDt_sub.csv	-1:43	140	-175	86	118	114	147
3077DGDs_sub.csv	-1:31	94	805	94	93	80	101
3079DGDt_sub.csv	-1:14	84	201	105	60	93	91
3081DGDs_sub.csv	-1:03	63	316	51	69	59	69

Filename	*Time to HW [hh:mm]*	*Cmid [mg/l]*	*Ctop [mg/l]*	*Cbottom [mg/l]*	*Cleft [mg/l]*	*Cright [mg/l]*	*Ctotal [mg/l]*
3083DGDt_sub.csv	-0:44	82	443	45	102	86	97
3085DGDs_sub.csv	-0:30	158	1406	39	95	118	203
3087DGDt_sub.csv	-0:16	135	214	99	130	137	71
3089DGDs_sub.csv	-0:04	100	235	193	150	176	139
3091DGDt_sub.csv	0:14	98	200	189	187	176	140
3093DGDs_sub.csv	0:25	108	184	192	184	177	150
3095DGDt_sub.csv	0:49	-	-	-	-	-	-
3097DGDt_sub.csv	1:03	94	148	205	170	125	118
3099DGDt_sub.csv	1:17	106	177	155	158	119	134
3101DGDs_sub.csv	1:30	55	96	155	143	83	75
3103DGDt_sub.csv	1:41	33	104	175	134	87	71

Sediment flux distribution over the cross section: positive is from dock to river

Filename	*Time to HW [hh:mm]*	*Fmid [kg/s]*	*Ftop [kg/s]*	*Fbottom [kg/s]*	*Fleft [kg/s]*	*Fright [kg/s]*	*Ftotal [kg/s]*
3003DGDt_sub.csv	2:08	-12	11	0	0	1	1
3005DGDs_sub.csv	2:21	-7	12	2	-1	0	7
3007DGDt_sub.csv	2:36	1	9	2	0	0	12
3009DGDs_sub.csv	2:51	-1	9	2	0	1	11
3011DGDt_sub.csv	3:03	-16	9	2	0	1	-6
3013DGDs_sub.csv	3:16	-6	11	2	0	1	8
3015DGDt_sub.csv	3:35	-6	9	1	-2	0	2
3017DGDs_sub.csv	3:48	-14	9	1	3	1	0
3019DGDt_sub.csv	4:05	-7	7	1	-1	0	1
3021DGDs_sub.csv	4:20	-5	5	0	2	1	4
3023DGDt_sub.csv	4:35	-6	3	0	0	1	-2
3025DGDs_sub.csv	4:46	-1	4	1	1	0	5
3027DGDt_sub.csv	5:00	1	5	0	0	0	7
3029DGDs_sub.csv	5:13	3	6	1	0	0	10
3031DGDt_sub.csv	5:30	-1	1	0	0	0	1
3033DGDs_sub.csv	5:43	2	0	1	1	0	4
3035DGDt_sub.csv	6:00	3	2	0	0	0	5
3037DGDs_sub.csv	6:20	-1	0	0	5	0	4
3039DGDt_sub.csv	6:32	-7	-4	0	0	0	-11
3041DGDs_sub.csv	6:46	-20	-8	0	-4	0	-33
3043DGDt_sub.csv	7:04	-15	-15	0	0	0	-30
3045DGDs_sub.csv	7:20	-22	-34	0	2	0	-53
3047DGDt_sub.csv	-5:18	-28	-40	0	-1	-1	-69
3049DGDs_sub.csv	-5:05	-43	-52	-1	3	1	-93
3051DGDt_sub.csv	-4:46	-59	-45	-1	-5	1	-110
3053DGDt_sub.csv	-4:31	-73	-33	-2	-2	0	-110
3055DGDt_sub.csv	-4:20	-61	-22	-1	0	0	-84
3057DGDs_sub.csv	-4:06	-63	-26	-1	0	0	-90
3059DGDt_sub.csv	-3:45	-55	-16	-1	0	1	-70
3061DGDs_sub.csv	-3:32	-57	-15	-1	1	0	-73
3063DGDt_sub.csv	-3:14	-27	-9	0	0	5	-31
3065DGDt_sub.csv	-3:01	-15	-6	0	0	0	-21
3067DGDt_sub.csv	-2:45	-32	-7	-1	0	-3	-42
3069DGDs_sub.csv	-2:32	-24	-1	0	0	-1	-26
3071DGDt_sub.csv	-2:14	-44	-11	-1	0	-5	-61
3073DGDs_sub.csv	-2:02	-22	-8	0	0	-1	-30
3075DGDt_sub.csv	-1:43	-42	-3	-1	0	-10	-56
3077DGDs_sub.csv	-1:31	-50	-4	-3	0	0	-57
3079DGDt_sub.csv	-1:14	-70	-10	-5	0	2	-83
3081DGDs_sub.csv	-1:03	-47	-8	-2	2	-2	-58

Filename	*Time to HW [hh:mm]*	*Fmid [kg/s]*	*Ftop [kg/s]*	*Fbottom [kg/s]*	*Fleft [kg/s]*	*Fright [kg/s]*	*Ftotal [kg/s]*
3083DGDt_sub.csv	-0:44	-56	-13	-1	1	13	-56
3085DGDs_sub.csv	-0:30	-40	-17	-1	2	-3	-58
3087DGDt_sub.csv	-0:16	-36	10	-1	2	19	-5
3089DGDs_sub.csv	-0:04	33	28	3	8	-2	70
3091DGDt_sub.csv	0:14	34	52	3	1	-11	78
3093DGDs_sub.csv	0:25	34	50	3	18	-1	104
3095DGDt_sub.csv	0:49	-	-	-	-	-	-
3097DGDt_sub.csv	1:03	50	49	6	2	0	107
3099DGDt_sub.csv	1:17	51	52	4	1	-1	107
3101DGDs_sub.csv	1:30	29	33	5	3	0	70
3103DGDt_sub.csv	1:41	11	32	3	2	-2	46

APPENDIX I. AVERAGE SEDIMENT CONCENTRATION FOR THE TOTAL CROSS-SECTION

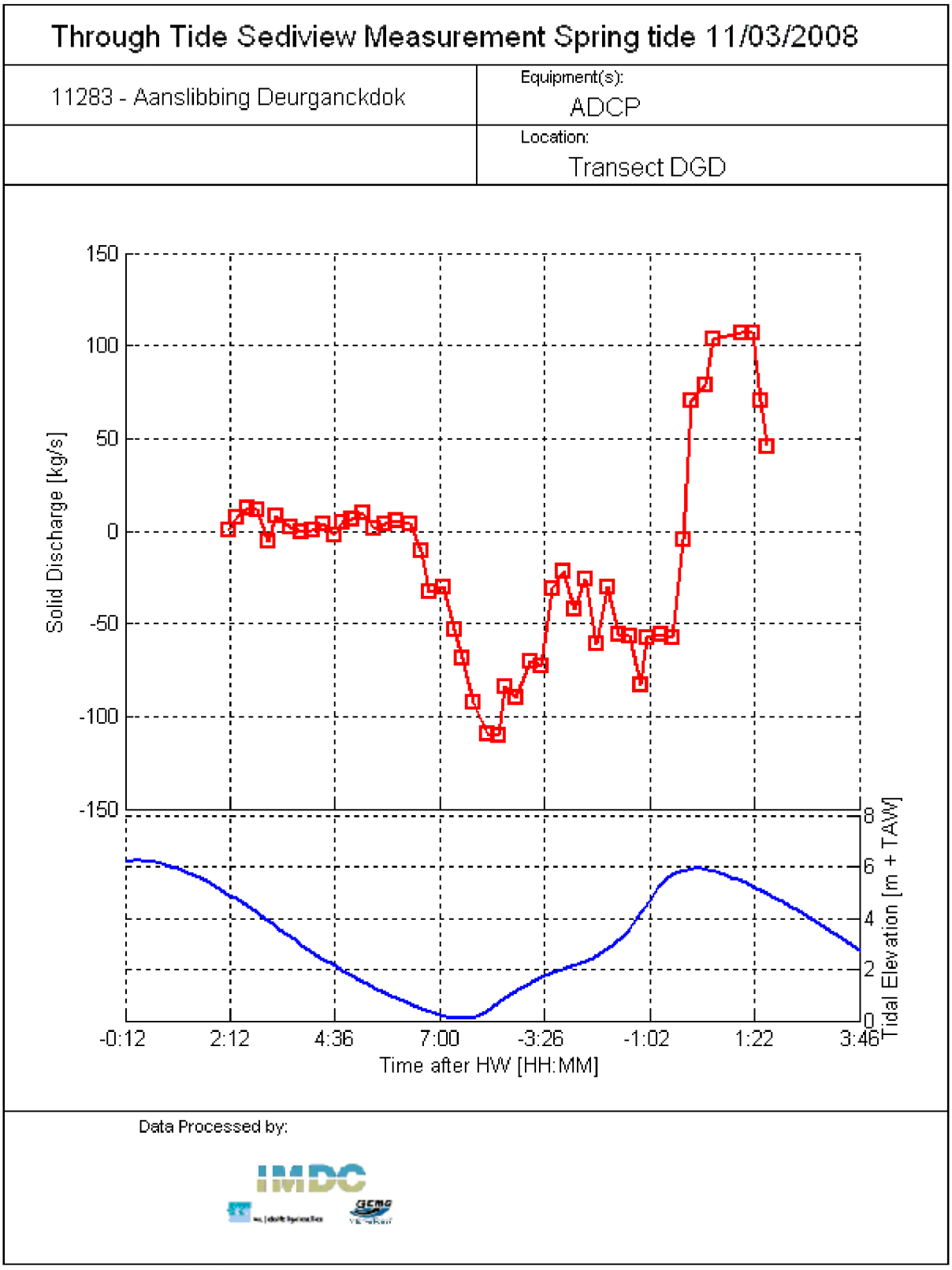
Transect name	*Time [hh:mm MET]*	*Time after HW [hh:mm]*	*Average measured SS Concentration [mg/l]*
3003DGDt_sub.csv	7:06	2:08	64
3005DGDs_sub.csv	7:19	2:21	58
3007DGDt_sub.csv	7:34	2:36	53
3009DGDs_sub.csv	7:49	2:51	58
3011DGDt_sub.csv	8:02	3:03	73
3013DGDs_sub.csv	8:14	3:16	79
3015DGDt_sub.csv	8:33	3:35	69
3017DGDs_sub.csv	8:45	3:48	73
3019DGDt_sub.csv	9:04	4:05	59
3021DGDs_sub.csv	9:17	4:20	62
3023DGDt_sub.csv	9:33	4:35	59
3025DGDs_sub.csv	9:44	4:46	61
3027DGDt_sub.csv	9:58	5:00	47
3029DGDs_sub.csv	10:11	5:13	50
3031DGDt_sub.csv	10:28	5:30	41
3033DGDs_sub.csv	10:41	5:43	46
3035DGDt_sub.csv	10:58	6:00	41
3037DGDs_sub.csv	11:18	6:20	42
3039DGDt_sub.csv	11:30	6:32	46
3041DGDs_sub.csv	11:44	6:46	48
3043DGDt_sub.csv	12:02	7:04	58
3045DGDs_sub.csv	12:18	7:20	74
3047DGDt_sub.csv	12:29	-5:18	77
3049DGDs_sub.csv	12:42	-5:05	95
3051DGDt_sub.csv	13:01	-4:46	128
3053DGDt_sub.csv	13:16	-4:31	124
3055DGDt_sub.csv	13:27	-4:20	123
3057DGDs_sub.csv	13:41	-4:06	123
3059DGDt_sub.csv	14:01	-3:45	113
3061DGDs_sub.csv	14:15	-3:32	122
3063DGDt_sub.csv	14:33	-3:14	108
3065DGDt_sub.csv	14:46	-3:01	103
3067DGDt_sub.csv	15:02	-2:45	96
3069DGDs_sub.csv	15:15	-2:32	108
3071DGDt_sub.csv	15:33	-2:14	110
3073DGDs_sub.csv	15:45	-2:02	125
3075DGDt_sub.csv	16:04	-1:43	121
3077DGDs_sub.csv	16:16	-1:31	95
3079DGDt_sub.csv	16:33	-1:14	87
3081DGDs_sub.csv	16:44	-1:03	89
3083DGDt_sub.csv	17:03	-0:44	98

3085DGDs_sub.csv	17:17	-0:30	109
3087DGDt_sub.csv	17:31	-0:16	120
3089DGDs_sub.csv	17:43	-0:04	154
3091DGDt_sub.csv	18:02	0:14	161
3093DGDs_sub.csv	18:13	0:25	164
3095DGDt_sub.csv	18:37		-
3097DGDt_sub.csv	18:50	0:49	166
3099DGDt_sub.csv	19:05	1:03	137
3101DGDs_sub.csv	19:17	1:17	115
3103DGDt_sub.csv	19:30	1:30	103

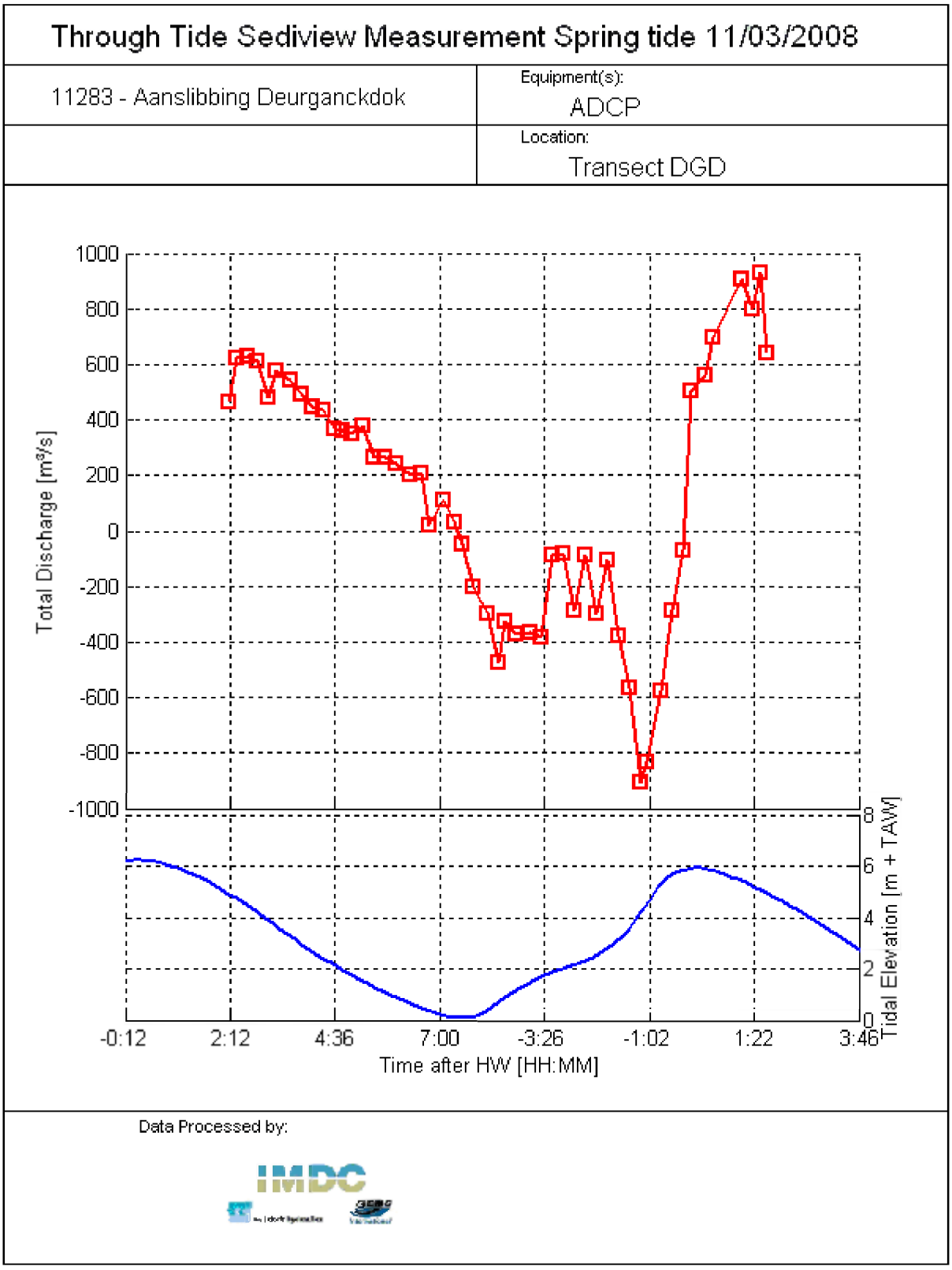
Tide	***Concentration [mg/l]***		
	Average	***Minimum***	***Maximum***
Ebb			
Flood			

APPENDIX J.

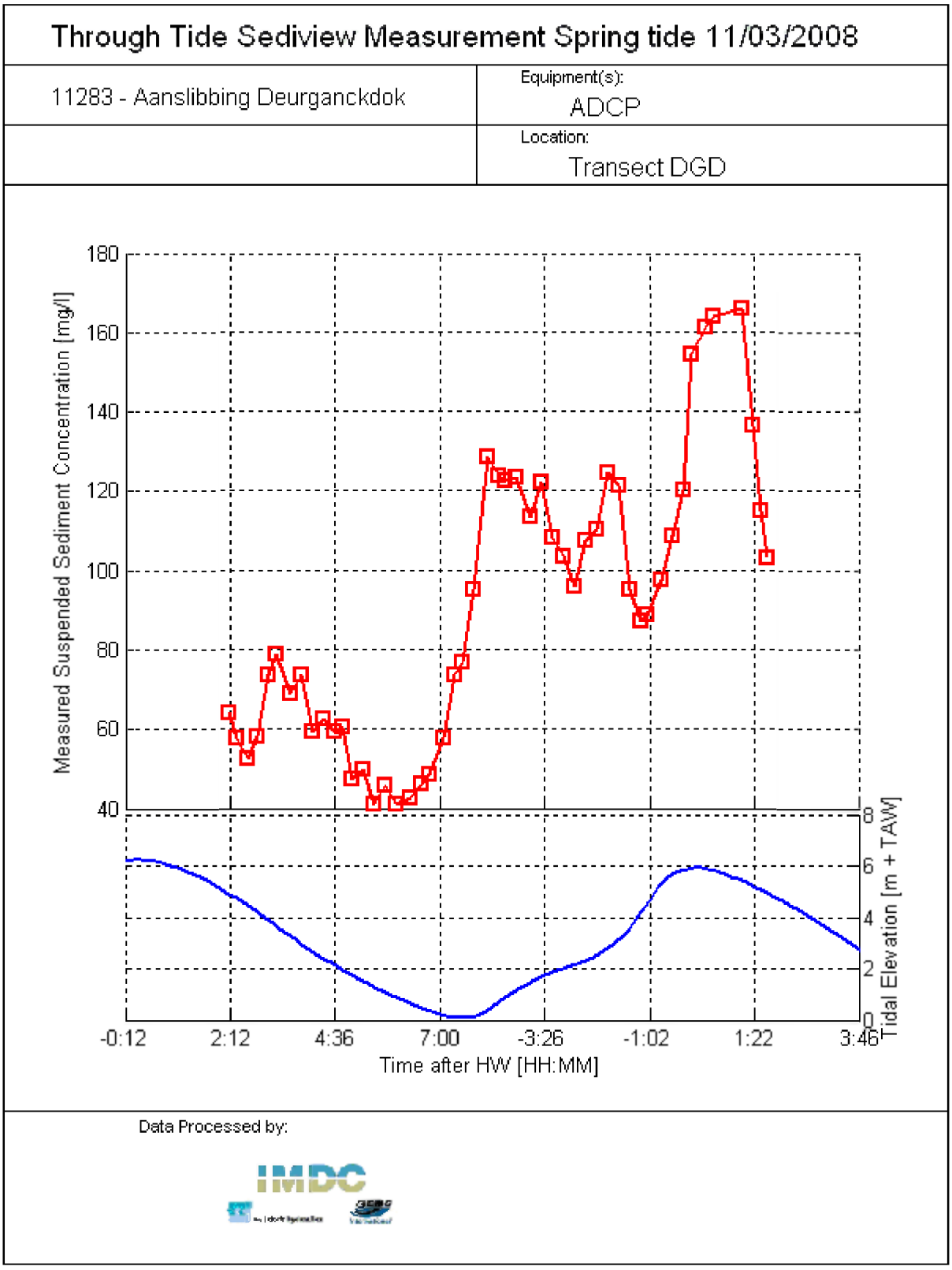
TEMPORAL VARIATION OF TOTAL FLUX, TOTAL DISCHARGE AND SUSPENDED SEDIMENT CONCENTRATION



Total discharge through the measured cross section, positive is from dock to river



Total flux through the measured cross section, positive is from dock to river



Suspended sediment concentration through the measured cross section

APPENDIX K.

OVERVIEW OF HCBS2 AND AANSLIBBING DEURGANCKDOK REPORTS

Report	Description of HCBS2
Ambient Conditions Lower Sea Scheldt	
5.3	Overview of ambient conditions in the river Scheldt – January-June 2006 (I/RA/11291/06.088/MSA)
5.4	Overview of ambient conditions in the river Scheldt – July-December 2006 (I/RA/11291/06.089/MSA)
5.5	Overview of ambient conditions in the river Scheldt : RCM-9 buoy 84 & 97 (1/1/2007 -31/3/2007) (I/RA/11291/06.090/MSA)
5.6	Analysis of ambient conditions during 2006 (I/RA/11291/06.091/MSA)
Calibration	
6.1	Winter Calibration (I/RA/11291/06.092/MSA)
6.2	Summer Calibration and Final Report (I/RA/11291/06.093/MSA)
Through tide Measurements Winter 2006	
7.1	21/3 Scheldewacht – Deurganckdok – Salinity Distribution (I/RA/11291/06.094/MSA)
7.2	22/3 Parel 2 – Deurganckdok (I/RA/11291/06.095/MSA)
7.3	22/3 Laure Marie – Liefkenshoek (I/RA/11291/06.096/MSA)
7.4	23/3 Parel 2 – Schelle (I/RA/11291/06.097/MSA)
7.5	23/3 Laure Marie – Deurganckdok (I/RA/11291/06.098/MSA)
7.6	23/3 Veremans Waarde (I/RA/11291/06.099/MSA)
HCBS Near bed continuous monitoring (Frames)	
8.1	Near bed continuous monitoring winter 2006 (I/RA/11291/06.100/MSA)
INSSEV	
9	Settling Velocity - INSSEV summer 2006 (I/RA/11291/06.102/MSA)
Cohesive Sediment	
10	Cohesive sediment properties summer 2006 (I/RA/11291/06.103/MSA)
Through tide Measurements Summer 2006	
11.1	Through Tide Measurement Sediview and Siltprofiler 27/9 Stream - Liefkenshoek (I/RA/11291/06.104/MSA)
11.2	Through Tide Measurement Sediview 27/9 Veremans - Raai K (I/RA/11291/06.105/MSA)
11.3	Through Tide Measurement Sediview and Siltprofiler 28/9 Stream - Raai K (I/RA/11291/06.106/MSA)
11.4	Through Tide Measurement Sediview 28/9 Veremans - Waarde(I/RA/11291/06.107/MSA)
11.5	Through Tide Measurements Sediview 28/9 Parel 2 - Schelle (I/RA/11291/06.108/MSA)
11.6	Through Tide measurement 26/9 Scheldewacht – Deurganckdok – Salinity Distribution (I/RA/11291/06.161/MSA)

Analysis	
12	Report concerning the presence of HCBS layers in the Scheldt river (I/RA/11291/06.109/MSA)

Report	Description of Opvolging aanslibbing Deurganckdok between April 2006 till March 2007
Sediment Balance: Bathymetry surveys, Density measurements, Maintenance and construction dredging activities	
1.1	Sediment Balance: Three monthly report 1/4/2006 – 30/06/2006 (I/RA/11283/06.113/MSA)
1.2	Sediment Balance: Three monthly report 1/7/2006 – 30/09/2006 (I/RA/11283/06.114/MSA)
1.3	Sediment Balance: Three monthly report 1/10/2006 – 31/12/2006 (I/RA/11283/06.115/MSA)
1.4	Sediment Balance: Three monthly report 1/1/2007 – 31/03/2007 (I/RA/11283/06.116/MSA)
1.5	Annual Sediment Balance (I/RA/11283/06.117/MSA)
1.6	Sediment balance Bathymetry: 2005 – 3/2006 (I/RA/11283/06.118/MSA)
Factors contributing to salt and sediment distribution in Deurganckdok: Salt-Silt (OBS3A) & Frame measurements, Through tide measurements (SiltProfiling & ADCP)	
2.1	Through tide measurement Siltprofiler 21/03/2006 Laure Marie (I/RA/11283/06.087/WGO)
2.2	Through tide measurement Siltprofiler 26/09/2006 Stream (I/RA/11283/06.068/MSA)
2.3	Through tide measurement Sediview spring tide 22/03/2006 Veremans (I/RA/11283/06.110/BDC)
2.4	Through tide measurement Sediview spring tide 27/09/2006 Parel 2 (I/RA/11283/06.119/MSA)
2.5	Through tide measurement Sediview average tide 24/10/2007 Parel 2 (I/RA/11283/06.120/MSA)
2.6	Salt-Silt distribution & Frame Measurements Deurganckdok 13/3/2006 – 31/05/2006 (I/RA/11283/06.121/MSA)
2.7	Salt-Silt distribution & Frame Measurements Deurganckdok 15/07/2006 – 31/10/2006 (I/RA/11283/06.122/MSA)
2.8	Salt-Silt distribution & Frame Measurements Deurganckdok 12/02/2007 – 18/04/2007 (I/RA/11283/06.123/MSA)
2.9	Calibration stationary equipment autumn (I/RA/11283/07.095/MSA)

Report	Description of Opvolging aanslibbing Deurganckdok between April 2006 till March 2007
Boundary Conditions: Upriver Discharge, Salt concentration Scheldt, Bathymetric evolution in access channels, dredging activities in Lower Sea Scheldt and access channels	
3.1	Boundary conditions: Three monthly report 1/1/2007 – 31/03/2007 (I/RA/11283/06.127/MSA) including HCBS 2 report 5.5
~~3.2~~	~~Boundary condtions: Annual report (I/RA/11283/06.128/MSA)~~[1]
Analysis	
4.1	Analysis of Siltation Processes and Factors (I/RA/11283/06.129/MSA)

[1] considered in report 5.6 'Analysis of ambient conditions during 2006' (I/RA/11291/06.091/MSA) in the framework of the study 'Extension of the study about density currents in the Beneden Zeeschelde'