

14th International Conference on Cohesive Sediment Transport Processes

Program

13 to 17 November 2017
Montevideo URUGUAY

Courtesy of the U.S. Geological Survey

LOCATIONS



CONFERENCE SCHEDULE

	13 November Monday	14 November Tuesday	15 November Wednesday	16 November Thursday	17 November Friday
8:00	REGISTRATION (8:00 to 9:30)	REGISTRATION (8:00 a 8:50)			
8:50					
9:10		Session 4 Oral Presentations (08:50 to 10:30)	Session 8 Oral Presentations (08:50 to 10:30)	Session 10 Oral Presentations (08:50 to 10:30)	Session 14 Oral Presentations (09:10 to 10:30)
9:30	OPENING (9:30 to 10:30)				
10:00					
10:30	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
11:00	Session 1 Oral Presentations (11:00 to 12:40)	Session 5 Oral Presentations + 1 minute Oral Poster Presentations (11:00 to 12:40)	Session 9 Oral Presentations (11:00 to 12:40)	Session 11 Oral Presentations (11:00 to 12:40)	Session 15 Oral Presentations (11:00 to 12:00)
12:20					Krone Awards & Closing (12:00 to 12:40)
12:40	LUNCH (12:40 to 14:30)	LUNCH (12:40 to 14:30)	LUNCH (12:40 to 14:30)	LUNCH (12:40 to 14:30)	CONFERENCE CLOSING LUNCH (12:40 to 14:30)
14:30	Session 2 Oral Presentations (14:30 to 15:50)	Session 6 Oral Presentations + 1 minute Oral Poster Presentations (14:30 to 15:50)	EXCURSION (14:30 to 19:30)	Session 12 Oral Presentations (14:30 to 15:50)	
15:50	COFFEE BREAK	COFFEE BREAK		COFFEE BREAK	
16:20	Session 3 Oral Presentations (16:20 to 18:00)	Session 7 POSTER SESSION (16:20 to 18:30)		Session 13 Oral Presentations (16:20 to 17:20)	
17:20				Mehta Award Lecture (17:20 to 18:20)	
18:30	ICEBREAKER RECEPTION BAR TABARE (18:30 to 21:00)				
19:00					
20:00			Steering Committee Dinner (20:00 to 22:00)	CONFERENCE DINNER CLUB DE PESCADORES MONTEVIDEO (19:00 to ...)	
21:00					
22:00					
...					



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PROGRAM

REGISTRATION

Monday, 13 November, 08:00 - 09:30

WELCOME

Monday, 13 November, 09:30 - 10:30

Opening Ceremony

TECHNICAL SESSION 1:

Monday, 13 November, 11:00 - 12:40

Topic: Mud rheology and Fluid mud

5	Using rheological measurements to predict the flow behaviour of cohesive sediment gravity flows. Megan Baker, Jaco H. Baas, and Ricardo Silva Jacinto
6	Characterization of fluid mud layers for navigational purposes. Alex Kirichek, Claire Chassagne, Han Winterwerp, Ronald Rutgers, Arie Noordijk, Karoune Nipius, and Tiedo Velinga
11	The effect of initial conditions on the consolidation of mud. Maria Barciela Rial, Barend A.P. van den Bosch, Johan C. Winterwerp, Leon A. van Paassen, Jasper Griffioen, and Thijs van Kessel
13	Assessing rheological properties of fluid mud samples through tuning fork data. Diego Fonseca, Juliane Carneiro, Patrícia Marroig, Marcos Gallo, and Susana Vinzon
22	Flume experiment of fluid mud dynamics around navigation channel. Yasuyuki Nakagawa, and Futoshi Murayama



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TECHNICAL SESSION 2:

Monday, 13 November, 14:30 - 15:50

Topic: Suspended matter and Flocculation

3	Experimental Investigations of Vertical Turbulence in Concentrated Mud Suspensions. Oliver Chmiel, and Andreas Malcherek
7	Monitoring of the rapid variation of the suspended sediment concentration in an estuary with large tidal range. Dong-Young Lee, Jin-Soon Park, Guoxiang Wu, Kwang-Soo Lee, and Jun Seok Park
17	Turbulence and flocculation in an estuarine tidal channel. Steven Figueroa, Guan-Hong Lee, and Ho Kyung Ha
21	Sediment trapping in the Zeebrugge Coastal Turbidity Maximum. Bas van Maren, and Julia Vroom

TECHNICAL SESSION 3:

Monday, 13 November, 16:20 - 18:00

Topic: Siltation, Dredging and plumes

9	Reduction in Sediment Accumulation at a Coastal Marina by Entrance Modifications. Ashish Mehta, Neelamani Subramaniam, and Earl Hayter
24	Plume measurements in the AMORAS underwater cell. Bart De Maerschalck, Styn Claeys, Erwin De Backer, and Stefaan Ides
34	Mud dynamics in the harbor of Zeebrugge. Joris Vanlede, Arvid Dujardin, and Michael Fettweis

Topic: Biological and ecological controls

32	Seasonal variation of sediment flocculation and the modeling thereof as function of biochemical factors. Zhirui Deng, Qing He, Claire Chassagne, and Han Winterwerp
96	Impact of tidal variation in vertical mixing and SPM concentrations on primary production and oxygen concentrations. Tom Cox, and Thijs van Kessel



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REGISTRATION

Tuesday, 14 November, 08:00 - 08:50

TECHNICAL SESSION 4:

Tuesday, 14 November, 08:50 - 10:30

Topic: Suspended matter and Flocculation

26	A tri-modal flocculation model coupled with TELEMAC for suspended cohesive sediments in the Belgian coastal zone. Xiaoteng Shen, Erik Toorman, and Michael Fettweis
33	Revealing suspended sediments variability in highly-turbid estuaries through spectral methods: a comparison of observations and model predictions. Isabel Jalón-Rojas, Sabine Schmidt, Aldo Sottolichio, and Katixa Lajaunie-Salla
35	On best practice for in situ high-frequency long-term observations of suspended particulate matter concentration using optical and acoustic systems. Michael Fettweis, Rolf Riethmüller, Romaric Verney, Marius Becker, Joan Backers, Matthias Baeye, Marion Chapalain, Stijn Claeys, Jan Claus, Tom Cox, Julien Deloffre, Davy Depreiter, Flavie Druine, Götz Flöser, Steffen Grünler, Frederic Jourdin, Robert Lafite, Janine Nauw, Bouchra Nechad, Rüdiger Röttgers, Aldo Sottolichio, Wim Vanhaverbeke, Thomas Van Hoestenbergh, and Hans Vereecken
39	On the homogeneity of suspended matter concentration data in an integrated coastal ocean observing system. Goetz Floeser, Rolf Riethmueller, and Wolfgang Schoenfeld
59	Assessment of the spatio-temporal variability of sediment fluxes on the French continental shelf under the influence of natural and anthropogenic forcings. Baptiste Mengual, Pierre Le Hir, Florence Cayocca, and Thierry Garlan



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TECHNICAL SESSION 5:

Tuesday, 14 November, 11:00 - 12:40

1-minute oral poster presentations (submission numbers: 4, 43, 61, 67, 68, and 73)

Topic: Mud rheology and Fluid mud

45	Mud rheology in the North-Western Persian Gulf by contrast with sediment constituents. Farzin Samsami, Samane Ahmadi, S. Abbas Haghshenas, Abbasali Aliakbari Bidokhti, and Michael John Risk
54	Study of dimensionless wave attenuation rate on fluid mud beds. Sima Ghobadi, and Mohsen Soltanpour
80	Laminar, intermittent and turbulent fluid mud flow. Erik Toorman
91	Detection of fluid mud layers using tuning fork and acoustic measurements. Juliane Carneiro, Marcos Gallo, and Susana Vinzon

1-minute oral poster presentations (submission numbers: 90, 97, 8, 74, 14, 31, 86 and 47)



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TECHNICAL SESSION 6:

Tuesday, 14 November, 14:30 - 15:50

Topic: Mud rheology and Fluid mud

94	Fluidization in consolidated mud beds under water waves. Mohsen Soltanpour, Mohammad Hadi Jabbari, Tomoya Shibayama, Kourosh Hejazi, Shinsaku Nishizaki, and Tomoyuki Takabatake
95	Comparative rheological characterization of fluid mud from different regions in Brazil. Caio Manganeli, Diego Fonseca, and Susana Vinzon

Topic: Sediment characterization

10	Flocculation Behavior of Sediments from a Mining Dam Collapse: Before and After Rio Doce Disaster. Caroline Grilo, Gabriella Amorim, and Valéria Quaresma
65	In situ response of optical turbidity sensors to suspended sediment characteristics in turbid estuarine system. Flavie Druine, Romaric Verney, Julien Deloffre, Jean-Philippe Lemoine, and Robert Lafite

1-minute oral poster presentations (submission numbers: 19, 20, 52, 88, 15, 48, 83 and 12)



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TECHNICAL SESSION 7: POSTERS

Tuesday, 14 November, 16:20 - 18:30

Topic: Suspended matter and Flocculation (1-minute oral presentation in Session 5)

4	Modelling river hydro-sedimentaries fluxes during a high flood event. Jérémy Lepesqueur, Renaud Hostache, and Christophe Hissler
43	Mixing tank experiments on floc size distributions of suspended cohesive sediment in Yangtze River Estuary. Yuyang Shao and Xiaoteng Shen
61	Using real time monitoring networks for investigating sediment dynamics in estuaries: a step beyond turbidity time series analysis. Romaric Verney, Florent Grasso, Flavie Druine, Julien Deloffre, and Jean Philippe Lemoine
67	Modelling the dispersal of microplastic particles: anthropogenic cohesive particles and their fate in coastal waters. Erik Toorman, Qilong Bi, Xiaoteng Shen, Annika Jahnke, and Jaak Monbaliu
68	Validation of satellite remote sensing for coastal turbidity monitoring by sediment transport modelling. Qilong Bi, Jonas Royackers, Nitin Bhatia, Sindy Sterckx, Els Knaeps, Erik Toorman, and Jaak Monbaliu
73	Investigating Rhone river plume dynamics using innovative metrics: ocean color satellite data Vs 3D sediment transport model results. Aurélien Gangloff, Romaric Verney, and Claude Estournel
90	Sediment resuspension and flocculation processes in a transverse mudflat-channel. Guan-Hong Lee, Steven Figueroa, Hyun-Jung Shin, Jongwi Chang and Adonis Gallentes
97	Evaluation of the artificial intelligence techniques for estimating suspended sediment concentration in a regularized river. Marcelo Di Lello Jordão, Susana Beatriz Vinzon, and Marcos Nicolas Gallo



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Topic: Bed shear, Erosion and bed exchange (1-minute oral presentation in Session 5)

8	Laboratory and numerical studies on the sediment transport processes for the sand-mud mixed bed. Bingchen Liang, Jun Wang, Zhaoyan Xu, Zhipeng Qu, Dongyoung Lee and Earl Hayter
74	Michael Ramirez and Jarrell Smith. Mississippi River salt wedge estuary: observations of fluid shear and its effect on sedimentary processes

Topic: Sediment characterization (1-minute oral presentation in Session 5)

14	Characterization of bottom sediments in the Río de la Plata estuary. Diego Moreira, and Claudia Simionato
31	Quantitative clay mineralogy as provenance indicator for the recent muds in the southern North. Rieko Adriaens, Edwin Zeelmaekers, Michael Fettweis, Elin Vanlierde, Joris Vanlede, Peter Stassen, Jan Elsen, Jan Śródoń, and Noël Vandenberghe

Topic: Siltation, Dredging and plumes (1-minute oral presentation in Session 5)

86	Analytical model for the prediction of sedimentation rates in Montevideo navigation channels. Francisco Pedocchi, Sebastián Solari, and Monica Fossati
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Topic: Biological and ecological controls (1-minute oral presentation in Session 5)

47	Field investigations of effects of macro flora on fine-grained sediment transport. Ulrik Lumborg
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Topic: Coastal and estuarine hydrodynamics (1-minute oral presentation in Session 6)

19	Wave attenuation by brushwood dams in a mud-mangrove coast. Alejandra Gijón Mancheño, S.A.J. Tas, P.M.J. Herman, A.J.H.M. Reniers, W.S.J. Uijttewaai, and J.C. Winterwerp
20	Wave transformation on the mangrove-mud coast of Demak, Indonesia. S.A.J. Tas, A. Gijón Mancheño, P.M.J. Herman, A.J.H.M. Reniers, W.S.J. Uijttewaai, and J.C. Winterwerp



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52	Dynamics of the suspended particle matter transport in an estuary with morphology strongly modified by human. Beatriz M. Marino, Luis P. Thomas, Ricardo N. Szupiany and Manuel A. Gutierrez
88	Temporal and Spatial variability of the La Plata and Patos Lagoon Coastal Plumes. Paulo Lisboa and Elisa Fernandes

Topic: Coastal and estuarine morphodynamics (1-minute oral presentation Session 6)

15	On the processes that determine the fine sediments transport in the Rio de la Plata estuary. Diego Moreira, and Claudia Simionato
48	Modelling net-deposition of cohesive sediments within the ETM. Roland Hesse
83	Implementation of a high resolution 3D wave-current-sediment transport model for the Río de la Plata and Montevideo Bay. Pablo Santoro, Monica Fossati, Pablo Tassi, Nicolas Huybrechts, Damien Pham Van Bang, and Ismael Piedra-Cueva

Topic: Wetlands dynamics (1-minute oral presentation in Session 6)

12	Modelling unsteady flow and sediment deposition in large lowlands rivers: An application to the Paraná River. Marina Laura Garcia, Pedro Abel Basile and Gerardo Adrián Riccardi
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TECHNICAL SESSION 8:

Wednesday, 15 November, 08:50 - 10:30

Topic: Siltation, Dredging and plumes

56	Impacts of maintenance dredging on suspended sediment dynamics in the Seine estuary. Jean-Philippe Lemoine, Pierre Le Hir, and Florent Grasso
81	Sediment measures during dredging operations near Montevideo's coast. Rodrigo Mosquera, Teresa Sastre, Juliane Castro, Pablo Santoro, and Francisco Pedocchi
92	Modelling Patos Lagoon dredging suspended sediment plume dispersion. Elisa Helena Fernandes, Caio Stringari, Roberto Valente, Pablo Silva, and Paulo Victor Lisboa

Topic: Suspended matter and Flocculation

60	Fractal flocs: "primary particles" variability and consequences on floc characteristics. Romaric Verney, Aurelien Gangloff, Marion Chapalain, Flavie Druine, David Le Berre, and Matthias Jacquet
63	Size and settling velocity of suspended mud in the Mississippi River mouth estuary. Jarrell Smith, Kelsey Fall, and Michael Ramirez



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TECHNICAL SESSION 9:

Wednesday, 15 November, 11:00 - 12:40

Topic: Suspended matter and Flocculation

64	Dynamics of suspended particulate matter in coastal waters (Seine Bay). Marion Chapalain, Romaric Verney, Michael Fettweis, Pascal Claquin, Matthias Jacquet, David Le Berre, and Pierre Le Hir
71	The controls on flocculation and suspended sediment concentrations in a muddy subtropical mangrove forest. Iain MacDonald, Nicola Lovett, and Julia Mullarney
76	Evidence of muddy aggregates as resilient pellets in suspension throughout the water column using traps and a Particle Image Camera System (PICS) in a tidal estuary. Grace Massey, Kelsey Fall, Carl Friedrichs, and S. Jarrel Smith
77	Fractal floc properties in the surface waters of a partially-mixed estuary: insights from video settling, LISST, and pump sampling. Kelsey Fall, Carl Friedrichs, Grace Cartwright, David Bowers, and Jarrell Smith
84	Temporal and spatial changes in floc fraction on a macro-tidal channel-flat complex: Results from Kingsport, Nova Scotia, Bay of Fundy. Brent Law, Paul Hill, Timothy Milligan, and Vanessa Zions

EXCURSION

Wednesday, 15 November, 14:30 - 19:30

Meeting Point: Conference Building Lobby



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TECHNICAL SESSION 10:

Thursday, 16 November, 08:50 - 10:30

Topic: Coastal and estuarine morphodynamics

1	Numerical modelling of Montevideo Bay hydrodynamics and cohesive sediment dynamics. Pablo Santoro, Mónica Fossati, Pablo Tassi, Nicolas Huybrechts, Damien Pham Van Bang, and Ismael Piedra-Cueva
2	An efficient consolidation model for morphodynamic simulations in low SPM-environments. Johan C Winterwerp, Zeng Zhou, Guilia Battista, Thijs van Kessel, Bert Jagers, Bas van Maren, and Mick van der Wegen
16	Estuarine morphodynamic adaptation to sediment supply and human activities: a case study of turbidity maximum. Chunyan Zhu, Leicheng Guo, Bo Tian, Qing He, and Zheng Bing Wang
30	Diachronic numerical modelling of the turbidity maximum dynamics in the macrotidal Seine estuary (France) from 1960 to 2010. Florent Grasso, Pierre Le Hir, and Nicolas Chini
44	A three dimensional coupled wave-current model for mud transport simulations in the Persian Gulf. Afshan Khaleghi, and S. Abbas Haghshenas

TECHNICAL SESSION 11

Thursday, 16 November, 11:00 - 12:40

Topic: Bed shear, Erosion and bed exchange

25	Local study of erosion with a transparent model cohesive sediment. Zaynab Tarhini, Sebastien Jarny, and Alain Texier
36	Response of SPM concentrations to storms in the North Sea: investigating the water-bed exchange of fine sediments. Erik Hendriks, Bram van Prooijen, Han Winterwerp, Stefan Aarninkhof, Carola van der Hout, and Rob Witbaard
46	An application of Artificial Neural Network for analyzing sediment erodibility data. Ebrahim Hamidian J., S. Abbas Haghshenas, Lawrence P. Sanford, and Farhang Ahmadi Givi
85	Biological-Physical Interactions In Fine Sediment Environments. Lawrence Sanford
89	Multi-vegetation feedbacks affecting flow routing and sediment distributions in Everglades wetland. William Nardin, and Laurel Larsen



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TECHNICAL SESSION 12

Thursday, 16 November, 14:30 - 15:50

Topic: Coastal and estuarine hydrodynamics

23	SPM dynamics in a mud bank area crossing an estuary mouth. The case of Kaw mud bank in the Mahury Estuary (French Guiana). Noelia Abascal Zorrilla, Nicolas Huybrechts, Vincent Vantrepotte, Antoine Gardel, Sylvain Orseau, Sylvain Morvan, and Sandric Lesourd
29	Reoccurrence of high-energy events: how is a shallow coastal lagoon impacted? A study based on in situ and numerical investigations. Pernille L. Forsberg, Verner B. Ernstsen, Ulrik Lumborg, Nils Drønen, Thorbjørn J. Andersen, and Aart Kroon
50	Influence of Salinity on the Coastal Turbidity Maximum in the Southern Bight of the North Sea. Diem Nguyen, Joris Vanlede, and Bart De Maerschalck
55	How settling velocity impacts modeled intratidal ssc patterns and residual sediment fluxes. Anna Zorndt, Steffen Grünler, Frank Kösters, and Marius Becker

TECHNICAL SESSION 13

Thursday, 16 November, 16:20 - 17:20

Topic: Coastal and estuarine hydrodynamics

57	Mud-induced periodic stratification in the hyperturbid Ems estuary. Marius Becker, and Christian Winter
69	Wave effects on hydrodynamics and sediment transport in a deep channel of the Changjiang Estuary. Jie Jiang, Qing He, and Chao Guo
87	Fine Sediment Dynamics in the 'Río de la Plata' river-estuarine-ocean system. Monica Fossati, Pablo Santoro, Rodrigo Mosquera, Francisco Pedocchi, and Ismael Piedra-Cueva

MEHTA AWARD LECTURE

Thursday, 16 November, 17:20 - 18:20



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TECHNICAL SESSION 14:

Friday, 17 November, 09:10 - 10:30

Topic: Coastal and estuarine morphodynamics

37	Regime shifts in a D3D schematized Scheldt model: recent progress. M A de Lucas Pardo, Y Dijkstra, B van Maren, J Vroom, T van Kessel, and J C Winterwerp
66	Modelling morphodynamics in the sand/mud context of the Seine estuary mouth: methodology, validation and questions. Pierre Le Hir, Jean Philippe Lemoine, Florent Grasso, and Bénédicte Thouvenin
70	Fine-sediment transfer and accumulation in the Amazon dispersal system: from the beginning of tides to the edge of the shelf. Charles Nittrouer, Andrea Ogston, Aaron Fricke, Daniel Nowacki, Nils Asp, Pedro Souza Filha, Alberto Figueiredo, Steven Kuehl, and Odete Silveira
72	Numerical modeling of cohesive sediment transport along a mud dominated coast. Samor Wongsoredjo, Gerben Ruessink, Sieuwath Naipal, Jaak Monbaliu, and Erik Toorman

TECHNICAL SESSION 15:

Friday, 17 November, 11:00 - 12:00

Topic: Wetlands Dynamics

27	The Importance of Wind-induced Sediment Fluxes on Tidal Flats. Irene Colosimo, Bram C. van Prooijen, Dirk S. van Maren, Johan C. Winterwerp, and Ad J.H.M. Reniers
41	The influence of turbulence on suspended sediment concentrations within a rapidly prograding mangrove forest. Julia Mullarney, Erik Horstman, and Karin Bryan
62	Equilibria and Evolution of Estuarine Fringing Intertidal Mudflats. Bram van Prooijen, Florent Grasso, Pierre Le Hir, Lodewijk de Vet, Zheng Bing Wang, Brenda Walles, and Tom Ysebaert

KRONE AWARDS

Friday, 17 November, 12:00 - 12:40

