



Editorial to the INTERCOH 2017 topical collection

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INTERCOH 2017 was the 14th meeting of the International Conference on Cohesive Sediment Transport Processes. The INTERCOH biannual meetings gather the international community of scientists and engineers who have chosen to embrace the challenge of studying processes and finding solutions related to fine sediment issues in fluvial, estuarine, and marine environments. In these environments, cohesive sediment dynamics are often closely related to associated hydrodynamics, chemistry, and biology.

INTERCOH 2017 was held at the Instituto de Mecánica de los Fluidos e Ingeniería Ambiental (IMFIA), Facultad de Ingeniería, Universidad de la República, Montevideo Uruguay. This was the second time that the INTERCOH Meeting came to South America; the previous time was in 2009 in the cities of Rio de Janeiro and Paraty, Brazil (Vinzon et al. 2011). The need for engineering solutions in the Rio de la Plata and Montevideo Bay led to the early study of cohesive sediments in Uruguay. The Montevideo Port is literally built on mud, and dredging and construction in the area required the study of cohesive sediments in the area as early as 1871 (Fernández Saldaña and García de Zúñiga 2010). The “recent” study of cohesive sediments in the Universidad de la República started with the experiences of Oscar Maggiolo in the late 1960s and early 1970s (Gradowczyk et al. 1968; Maggiolo and Guarga 1972).

Research on cohesive sediments largely stopped, as did most scientific studies in the country, in conjunction with the 11 years of political dictatorship, during which most of the research team that worked with Maggiolo was expelled from the University. With the return of democracy, cohesive sediment research at the Universidad de la República also returned in the newly reestablished IMFIA, and the work on cohesive sediments has continued for the following 30 years (Guarga et al. 1988; Piedra-Cueva 1993, 1995; Pedocchi and Piedra-Cueva 2005; Mosquera et al. 2014; Fossati et al. 2014; Groposo et al. 2015; Santoro et al. 2019).

More information on the past and future meetings and the activities of the cohesive sediment research community can be found at <http://www.intercoh.org/>. The book of abstracts of this edition can be found at <https://www.fing.edu.uy/imfia/intercoh>. From the 97 abstracts that were presented during INTERCOH 2017, nine full-length publications are included in this Topical Collection of Ocean Dynamics.

The papers in this Topical Collection summarize the current research of groups across the globe, covering the topics of:

- Mud rheology and fluid mud: Assessing rheological properties of fluid mud samples through tuning fork data (Fonseca et al. 2019); Detection of fluid mud layers using tuning fork, dual frequency echo-sounder, and chirp sub-bottom measurements (Castro Carneiro et al. 2020).
- Suspended matter and flocculation: Investigating suspended particulate matter in coastal waters using the fractal theory (Chapalain et al. 2019); Temporal and spatial changes in grain size on a macrotidal channel-flat complex: results from Kingsport, Nova Scotia, Bay of Fundy (Law et al. 2019).
- Bed shear, erosion, and bed exchange: Modeling dynamics of the estuarine turbidity maximum and local net deposition (Hesse et al. 2019).
- Siltation, dredging, and plumes: Mud dynamics in the Port of Zeebrugge (Vanlede et al. 2019); field investigation of

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siltation at a tidal harbor: North Port of Incheon, Korea (Lee et al. 2019);

- Coastal and estuarine hydrodynamics: The relative impact of future storminess versus offshore dredging on suspended sediment concentration in a shallow coastal embayment: Rødsand lagoon, western Baltic Sea (Forsberg et al. 2019).
- Coastal and estuarine morphodynamics: Influence of morphological changes on suspended sediment dynamics in a macrotidal estuary: diachronic analysis in the Seine Estuary—France—from 1960 to 2010 (Grasso and Le Hir 2019).

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