

# Irina Overeem

*Community Surface Dynamics Modeling System  
INSTAAR and Department of Geological Sciences*

*University of Colorado Boulder*

*Boulder, CO, 80309-0450*

*irina.overeem@gmail.com*

*Phone: (303) 443-9662*

*Web: <https://instaar.colorado.edu/people/irina-overeem/>*

## Education

- 2002 Ph.D. Civil Engineering and Applied Earth Sciences, Delft University of Technology, The Netherlands.
- 1996 M.Sc. Summa Cum Laude, Environmental Engineering, Specialization in 'Soil, Water and Atmosphere', Wageningen University, The Netherlands.
- 1993 B.Sc. Soil, Water and Atmosphere, Wageningen University, The Netherlands.

## Professional Experience

- 2018 – present Associate Professor, Department of Geological Sciences and INSTAAR, University of Colorado at Boulder, USA.
- 2015 – present Owner Consulting Company, Terradyna LLC, Boulder, USA.
- 2009 – 2018 Research Scientist III at Community Surface Dynamics Modeling System, and INSTAAR Fellow, University of Colorado at Boulder, USA.
- 2007 – 2009 Research Scientist II at Community Surface Dynamics Modeling System, INSTAAR, University of Colorado at Boulder, USA.
- 2005 - 2007 Assistant Professor, Department of Geotechnology, Delft University of Technology.
- 2002 - 2005 Research Scientist I and II, INSTAAR, University of Colorado at Boulder, USA.
- 1997 - 2001 Junior Researcher, Civil Engineering and Applied Earth Sciences, Delft University of Technology, The Netherlands.
- 1995 Engineering Trainee, Water Resources NGO, Hyderabad, India.
- 1994 Graduate Research Assistant Hydrogeology, University of Oslo, Norway.

## Teaching

- 2018 Exploring Earth, GEOL 1010, 3 credits, 167 students.
- 2016/2017 Short Course on 'River and Coastal System Modeling', >35 students and postdoctoral fellows, NCED, University of Minnesota, August 2016 and 2017.
- 2015 Short Course on 'Numerical Modeling of River Basins and Coastal Systems', 40 students and postdoctoral fellows, NCED, Tulane University, August 2015.
- 2014 Short Course (4 days) on 'Numerical Modeling of River Basins and Coastal Systems', 15 students, Nanjing University of Technology, China, October 2014.
- 2014 Instructor in Fieldschool on 'Sedimentary Geology and Tectonic Processes of the Ganges-Brahmaputra River System', 32 students, Bangladesh, February 2014.

- 2010 – present Annual clinics on ‘Using Coupled Models in Earth Surface Dynamics’ at CSDMS Annual Meetings for upto 100 participants, clinics on the Regional Ocean Modeling System, TOPOFLOW, Permafrost Modeling. Development of online course material.
- 2010 – present ‘Surface Processes Modeling’, 2 credits, 5000-level lectures and labs, course joint between Department of Geology and Geography, University of Colorado.
- 2011 – 2014 Hands-on modeling Course on Surface Processes in National Center of Earth Surface Dynamics Summer Institute, University of Minnesota, MN.
- 2005 – 2008 Reservoir Engineering M.Sc. course ‘Geological Modeling’, 4 credits, Delft University.
- 2005 – 2008 M.Sc. Field course in Spain, ‘Reservoir Architecture’, 6 credits, Delft University.
- 2002 – present Training visiting researchers and students in applying numerical models of fluvial and coastal processes and stratigraphic models.
- 1998 – 2001 Teaching Assistant ‘Reservoir Geological Fieldwork’, 6 credits, Delft University.

## Advising

- 2008 – present (Co-)supervision 4 Ph.D., 2 M.Sc., 4 B.Sc. students, and 4 postdoctoral fellows at INSTAAR joint with CIRES, Departments of Geography and Geology, University of Colorado.
- 2005 – 2008 Supervisor of 2 B.Sc. thesis projects, 7 M.Sc. thesis projects at Civil Engineering and Applied Earth Sciences Department, Delft University.

## Professional Development related to Teaching

- 2019 Faculty Teaching Excellence Program, University of Colorado  
 1) Designing a syllabus for an effective & flexible course.  
 2) Short Course: Teaching in a Nutshell: strategies to enhance student learning.
- 2018 Faculty Teaching Excellence Program, University of Colorado  
 1) Authority, leadership, and practical action in tense moments – Maintaining your balance in the classroom.  
 2) Aligning course assignments with learning goals.
- 2005 ‘Learn to Teach’, semester long hands-on course on pedagogy, presentations, and teaching activity design for New Assistant Professors at Delft University of Technology, The Netherlands.

## Awards

- Science Communication Fellowship, University of Colorado, 2015.
- McNeill-Nott Award, American Alpine Club, 2014.
- National Oceanographic Partnership Program Award 2010.
- Denali Pro Award, for an independent mountain rescue in Denali NP, Alaska, 2009.

- Awards for student research and travel of 4 different organizations, 1994-2000.
- Outstanding Student Award, Vrijvrouwe van Renswoude, The Netherlands, 1996

## Funded Research Projects (>8.5 million USD total)

- **PI: Worldbank - Bangladesh Water Development Board.** Long Term Monitoring, Research and Analysis of Bangladesh Coastal Zone (Sustainable Polders Adapted to Coastal Dynamics), \$400 to CU, 2018-2021.
- **Co-PI: NSF-GEO, Community Facility Support: The Community Surface Dynamics Modeling System (CSDMS),** \$3.6 million to CU, 2018-2021.
- **PI: CU Research and Innovation Seed Grant.** Fertilizing the North Atlantic Ocean; how Greenland's Icebergs Raft Sediments into the Ocean, \$50k, 2018-2020.
- **Co-PI: NSF-PREEVENTS:** A transdisciplinary approach to next-gen natural hazard modeling: Improving accuracy and usability of earth surface process models for pre-event risk assessment, \$50k to CU, 2018-2019.
- **PI: "Coastal SEES Collaborative Research: Multi-scale modeling and observations of landscape dynamics, mass balance, and network connectivity for a sustainable Ganges-Brahmaputra delta"** \$398k to CU, 2016-2020.
- **PI: "Predicting the future of highly regulated deltas: a case-study of the Colorado River"** \$100k, **NCED-NSF PDF Fellowship program,** 2016-2018.
- **PI: "Towards a Tiered Permafrost Modeling Cyberinfrastructure"** \$900k, **NSF-Polar Cyberinfrastructure,** 2015-2018.
- **PI: "Belmont Forum-G8 Collaborative Research: DELTAS: Catalyzing action towards sustainability of deltaic systems with an integrated modeling framework for risk assessment"** \$185k to CU, **NSF-ICER/Belmont Forum,** 2013-2016.
- **Co-PI: "Impacts of Vegetation and Climate Change on Dryland Rivers: Lessons from the Rio Puerco, New Mexico".** \$300k, **NSF-EAR,** 2013-2016.
- **Co-PI: "Quantifying Accelerating Change in Arctic Ocean River Discharge Using Coupled Satellite- and Ground-based Measurements, 2002-Present",** \$195k, **NASA,** 2012-2014.
- **PI: "Modeling Floodplain Dynamics: Can the Ganges-Brahmaputra Delta keep up with 21st Century Sea Level Rise?"**. \$315k, **NSF-EAR,** 2011-2014.
- **PI: "Modeling and Exploring Floodplain Architecture",** **ConocoPhillips,** \$85k, 2010-2013.
- **PI: "Greenlandic River Plumes as an Indicator of Ice Sheet Melt"** **NSF- Office of Polar Programs,** \$358k, 2009-2014.
- **Co-PI: "Integration of Process Models to Predict Arctic Coastal Erosion",** **Office of Naval Research,** \$40k, 2010-2011.
- **Co-PI and PI: "Uniqueness of Arctic Sedimentary Systems",** **ConocoPhillips,** \$150k, 2007-2009.

- Co-PI: “Towards a predictive model for Arctic Coastal Erosion, Beaufort Sea, AK”, **National Oceanographic Partnership Program (ONR/NSF)**, \$577k, 2007-2010.
- PI: “Sediment supply to the Arctic coastal zone”, **IPY-Dutch Science Foundation**, 235k EURO 2008-2012.
- Co-PI: “Reservoir Geology of Ten Boer Claystone, North Sea Basin”, **Shell, The Netherlands** 25k EURO, 2006-2008.
- PI: “Modeling sediment delivery and related stratigraphy in a tidal dominated delta, the Fly River, Papua New Guinea”, \$69k, **NSF-Ocean Sciences** 2003-2005.
- Co-PI: “Modeling the sediment flux of the Ganges-Brahmaputra River”, **NSF EAR**, \$25k, 2006.
- PI: “Channel switching in fluvio-deltaic systems draining land-ice”, **NSF-Office of Polar Programs**, \$62k, 2004-2005.
- PDF and Co-PI: “Modeling seabed variability and its influence on acoustic prediction uncertainty”, **Office of Naval Research**, 2002-2005.

## Publications

\* Notes student authors.

### Pending

- Wang, K, Zhang, T., Zhang, X., Clow, G., **Overeem, I.**, Jafarov, E., (submitted 2018). State-Dependent Quantification of Climate Warming Amplification, *Environmental Research Letters*.
- Bendixen, M., Overeem, I., Rosing, M., Anker Bjørk, A., Kjær, K., Kroon, A., Zeitz, G., Lønsmann Iversen, L., (accepted 2018). Promises and perils of sand exploitation in Greenland. *Nature Sustainability*.
- Lintern, G., Blais-Stevens, A., Bobrowsky, P., Conway, K., **Overeem, I.**, Shaw, J., Stacey, C., Hill, P. (accepted., 2018). Providing Multidisciplinary Science Advice for Coastal Planning in Kitimat Arm, British Columbia.: To GSL Special Publ. Subaqueous Mass Movements and Their Consequences: Assessing Geohazards, Environmental Implications.
- Moustafa, S., Rennermalm, A., van As, D., **Overeem, I.**, Tedesco, M., Mote, T., Koenig, L., Smith, L., Hagedorn, B., Sletten, R., Mikkelsen, A., Hasholt, B., Fettweis, X., Pitcher, L., Hubbard, A., (in rev. 2018). Comparison of modelled runoff with observed proglacial discharge across the western margin of the Greenland ice sheet. *Journal of Geophysical Research*.
- **Overeem, I.**, Briner, J.P., Kettner, A.J., Syvitski, J.P.M., (in press. 2016). High-Latitude Valley Fills: A case-study of Clyde fjordhead, Baffin Island, Arctic Canada. In: *SEPM Spec. Publ.*, Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts.
- Syvitski, J., Kettner, A.J., **Overeem, I.**, Brakenridge, G.R., Cohen, S., (in press. 2016). Latitudinal controls on Siliciclastic Sediment Production and Transport. In: *SEPM Spec. Publ.*, Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts.

Peer-Reviewed Papers (54 total)

1. Wang, K., Jafarov, E., **Overeem, I.**, Romanovsky, V., Schaefer, K., Clow, G., Urban, F., Cable, W., Piper, M., Schwalm, C., Zhang, T., Kholodov, A., Sousanes, P., Loso, M., Swanson, D., Hill, K., 2018, A synthesis dataset of permafrost-affected soil thermal conditions for Alaska, USA, *Earth System Science Data*, 10, 2311-2328.
2. **Overeem, I.**, Jafarov E., Wang, K., Schaefer K., Stewart S., Clow, G., Piper M., Elshorbany Y., 2018, A modeling toolbox for permafrost landscapes, *Eos*, 99, DOI: [10.1029/2018EO105155](https://doi.org/10.1029/2018EO105155).
3. Chen, Y., **Overeem, I.**, Kettner, A., Gao, S., Syvitski, J., Wang, Y., 2018. Quantifying sediment storage on the floodplains outside levees along the lower Yellow River during the years 1580-1849. *Earth Surface Processes and Landforms*. DOI:10.1002/esp.4519
4. Kettner, A.J., Cohen, S., **Overeem, I.**, Fekete, B., Brakenridge, R., Syvitski, J., 2018. Increases in flood frequency by the 21st century: A global modeling assessment. In: Schuman, G, Bates, P, (eds.), *Global Flood Hazard: Applications in Modeling, Mapping, and Forecasting*. DOI:10.1002/9781119217886, 2018 American Geophysical Union
5. Higgins, S., **Overeem, I.**, Rogers, K., Kalina, E., 2018. River linking in India: Downstream impacts on water discharge and suspended sediment transport to deltas. *Elementa*, 6, 1:20
6. Rogers K.G., **Overeem I.** 2017. Doomed to drown? Sediment dynamics in the human-controlled floodplains of the active Bengal Delta. *Elementa*. 5:65.
7. **Overeem, I.**, Hudson, B., Syvitski, J., Mikkelsen A., Hasholt, B., van der Broeke, M., Noel, B., Morlighem, M., 2017. Substantial export of suspended sediment to the global oceans from glacial erosion in Greenland. *Nature Geoscience* 10, 859–86.
8. Bendixen, M., Lonsman-Iversen, L., Bjork, A., Elberling, B., Westergaard-Nielsen, A., **Overeem, I.**, Barnhart, K, Khan, S., Box, J., Abermann, J., Langley, K., Kroon, A., 2017. Delta Progradation in Greenland driven by glacial mass loss. *Nature* 55, 101–104.
9. Tessler, Z., Vorosmarty, C., Syvitski, J., **Overeem, I.**, 2017. A model of water and sediment balance as determinants of relative sea-level rise in contemporary and future deltas. *Geomorphology*. <https://doi.org/10.1016/j.geomorph.2017.09.040>
10. Wang, K., Zhang, T., Zhang, X., Clow, G., Jafarov, E., Overeem, I., Romanovsky, V., 2017. Continuously Amplified Warming in the Alaskan Arctic: Implications for the Uncertainty in Estimating a Global Warming Hiatus. *Geophysical Research Letters* 44, 9029-9038. doi:10.1002/2017GL074232
11. Brakenridge, G.R., Syvitski, J., Niebuhr, E., **Overeem, I.**, Kettner, A., Higgins, S., Prades, L., 2017. Design with nature: Causation and avoidance of catastrophic flooding, Myanmar. *Earth-Science Reviews*, 165, 81–109.
12. Hudson, B\*, **Overeem, I.**, Syvitski, J., 2016. A novel technique to detect turbid water and mask clouds in Greenland fjords. *International Journal of Remote Sensing* 37,7, 1730-1746.
13. Barnhart, K\*, Miller, C.R., **Overeem, I.**, Kay, J., 2015. Mapping the future expansion of Arctic open water. *Nature Climate Change*. 2 November 2015.

14. **Overeem, I.**, Hudson, B.\*, Welty, E.\*, Mikkelsen, A.\*, Pedersen, D., LeWinter, A., Hasholt, B., 2015. River Inundation Suggests Ice Sheet Runoff Variations, *Journal of Glaciology*, 61, 228, 776-788.
15. Chen, Y., **Overeem, I.**, Kettner, A.J., Gao, S., Syvitski, J.P.M., 2015. Modeling Flood Dynamics along the Super-elevated Channel Belt of the Yellow River over the Last 3,000 years. *Journal of Geophysical Research*, 120, 7, 1321-1351.
16. Barnhart, K.\*, **Overeem, I.**, Anderson, R.S. 2014. The effect of changing sea ice on the physical vulnerability of Arctic coasts. *The Cryosphere* 8, 1777-1799.
17. Higgins, S.\*, **Overeem, I.**, Steckler, M., Syvitski, J., Seeber, L., Akhter, H. 2014. InSAR Measurements of Compaction and Subsidence in the Ganges-Brahmaputra Delta, Bangladesh. *Journal of Geophysical Research*, 119, 8, 1768-1781.
18. Hudson, B.\*, **Overeem, I.**, McGrath, D., Syvitski, J., Mikkelsen, A. \*, Hasholt, B., 2014. MODIS observed increase in duration and spatial extent of sediment plumes in Greenland fjords. *The Cryosphere*. 8, 1161-1176.
19. Barnhart, K.\*, Anderson, R., **Overeem, I.**, Wobus, C., Clow, G., Urban, F. 2014. Modeling erosion of ice-rich permafrost bluffs along the Alaskan Beaufort Sea coast. *Journal of Geophysical Research*, 119, 5, 1155-1179.
20. Syvitski, J.P.M., Kettner, A.J., **Overeem, I.**, Giosan, L., Brakenridge, R., Hannon, M. \*, Bilham, R., 2013. The Anthropocene Metamorphosis of the Indus Delta and Lower Floodplain. *The Anthropocene*. 3, 24-35.
21. Higgins, S.A.\*, **Overeem, I.**, Tanaka, A., Syvitski, J.P.M., 2013. Land Subsidence at Aquaculture Facilities in the Yellow River Delta, China. *Geophysical Research Letters*. 40, 15, 3898-3902.
22. Brakenridge, G.R., Syvitski, J.P.M., **Overeem, I.**, Higgins, S. A.\*, Kettner, A.J., Stewart-Moore, J.A.\*, Westerhoff, R., 2013. Global Mapping of Storm Surges and the Assessment of Delta Vulnerability. *Natural Hazards*. 66, 1295-1312.
23. Matell, N.\*, Anderson, R.S., **Overeem, I.**, Wobus, C., Urban, F.E., Clow, G.D., 2013. Modeling the subsurface thermal impact of Arctic thaw lakes in a warming climate. *Computers and Geosciences*, 53,69-79.
24. Campbell, K., **Overeem, I.**, Berlin, M., 2013. Taking it to the Streets: the Case for Modeling in the Geosciences Undergraduate Curriculum. *Computers and Geosciences*, 53, 123-128.
25. **Overeem, I.**, Berlin, M., Syvitski, J.P.M., 2013. Strategies for Integrated Modeling: the Community Surface Dynamics Modeling System Example. *Environmental Modeling & Software*, 39, 314-321.
26. De Winter, I.\*, Storms, J., **Overeem, I.**, 2012. Numerical modeling of glacial sediment production and transport during deglaciation. *Geomorphology* 167-168, 102-104.
27. Storms, J.E.A. de Winter, I.\*, **Overeem, I.**, Drikkoningen, G.G., Bakker, M., Lykke-Andersen, H., 2012. The Holocene sedimentary history of the Kangerlussuaq Fjord-valley fill, West Greenland. *Quaternary Science Reviews*, 35, 29-50.

28. Syvitski, J.P.M., **Overeem, I.**, Brakenridge, R., Hannon, M.\*, 2012. Floods, floodplains, delta plains — A satellite imaging approach. Review Article. *Sedimentary Geology*, 267–268, 1-14.
29. Chen, Y.\*, Syvitski, J.P.M., Gao, S., **Overeem, I.**, Kettner, A.J. 2012. Socio-economic Impacts on Flooding: a 4000 year History of the Yellow River, China. *AMBIO*, 41, 7, 682-689.
30. **Overeem, I.**, Anderson, R.S., Wobus, C., Clow, G.D., Urban, F.E., Matell, N.\*, 2011. Sea Ice Loss Enhances Wave Action at the Arctic Coast. *Geophysical Research Letters*, 38, L17503.
31. **Overeem, I.**, Kettner, A.J., Syvitski, J.P.M. 2011. Management and human effects. In: Wohl, E., (ed.), 2011. *Treatise of Geomorphology: Fluvial Geomorphology*.
32. Wobus, C., R.S. Anderson, **I. Overeem**, N. Matell\*, G. Clow, F. Urban, 2011. Thermal Erosion of a Permafrost Coastline: Improving Process-Based Models Using Time-Lapse Photography. *Journal of Arctic Antarctic and Alpine Research*, 43, 3, 474–484.
33. Chen, Y.\*, **Overeem, I.**, Syvitski, J.P.M., Gao, S., Kettner, A.J. 2011. Controls of levee breaches on the Lower Yellow River during the years 1550-1855. *IAHS Publ River, Coastal and Estuarine Morphodynamics: RCEM 2011, Tsinghua University Press, Beijing*, 617-633.
34. Donselaar, R., Visser, C., **Overeem, I.**, 2011. Mapping of Fluvial Fairways in the Ten Boer Member, Southern Permian Basin. In: Grottsch, J., Gaupp, R., (eds.), 2011. *Permian Rotliegend of the Netherlands. SEPM Special Publ.* 98, 105-118.
35. **Overeem, I.**, Syvitski, J.P.M., 2010. Shifting Discharge Peaks in Arctic Rivers, 1977-2007, *Geografiska Annaler* 92, 285-296.
36. **Overeem, I.**, Syvitski, J.P.M., 2010. Experimental exploration of the stratigraphy of fjords fed by glaciofluvial systems, In: Howe, J., Austin, W., Forwick, M., Paetzel, M., 2010. *Fjords Systems and Archives, Geological Society Spec. Publ.* 344, 125-142.
37. McGrath, D.\*, Steffen, K., **Overeem, I.**, Mernild, S., Hasholt, B., van den Broeke, M., 2010. Sediment plumes as a proxy for local ice sheet runoff in Kangerlussuaq Fjord, West Greenland. *Journal of Glaciology* (09)116).
38. Syvitski, J.P.M., Kettner, A.J., **Overeem, I.**, Hutton, E.W.H., Hannon, M. T.\*, Brakenridge, G.R., Day, J., Vörösmarty, C., Saito, Y., Giosan, L., Nicholls, R.J., 2009. Sinking Deltas due to Human Activities. *Nature Geoscience* 2, 681 - 686.
39. **Overeem, I.**, Syvitski, J.P.M., 2009. Dynamics and Vulnerability of Delta Systems. *Land Ocean Interactions in the Coastal Zone - LOICZ Reports and Studies* No. 35. Germany.
40. Donselaar, M.E., **Overeem, I.**, 2008. Connectivity of fluvial point-bar deposits: An example from the Miocene Huesca Fluvial Fan, Ebro Basin, Spain. *AAPG Bulletin* 92, 1109 – 1129.
41. Hoogendoorn, R.M., **Overeem, I.**, Storms, J.E.A., 2008. Process response modeling of fluvial deltaic systems, simulating evolution and stratigraphy on geological timescales. *Computers & Geosciences*, 34, 10, 1394-1416.

42. **Overeem, I.**, Syvitski, J.P.M., 2008. Changing Sediment Supply in Arctic Rivers. Sediment Dynamics in Changing Environments, *IAHS Publ. 325*, 2008.
43. Fagherazzi, S., **Overeem I.**, 2007. Models of deltaic and inner continental shelf evolution. *Annual Review of Earth and Planetary Science Reviews*, 35, 685-715.
44. Briner, J.P., **Overeem, I.**, Miller, G., Finkel, R., 2007. The deglaciation of Clyde Inlet, northeastern Baffin Island, Arctic Canada. *Journal of Quaternary Science*, 22, 3, 223-232.
45. Wong, T.E., de Lugt, I.R., Kuhlmann, G., **Overeem, I.**, 2007. Tertiary. In: Wong, T.E., Batjs, D.A.J., de Jager, J., (eds.), 2007. *Geology of the Netherlands*. 151-171. Royal Netherlands Academy of Arts and Sciences.
46. Kraft, B.J., **Overeem, I.**, Holland, C.W., Pratson, L.F., Syvitski, J.P.M., Mayer, L.A., 2006. Stratigraphic Model Predictions of Geoacoustic Properties. *Journal of Ocean Engineering*.
47. Kroonenberg, S.B., Simmons, M. D., Alekseevski, N. I., Aliyeva E., Allen, M.B., Aybulatov, D.N., Baba-Zadeh, A., Badyukova, E.N, Hinds, D.J., Huseynov D., Ibrahimov B., Mamedov P., **Overeem I.**, Povalishnikova, E.N., Rusakov, G.V. †, Suleymanova, S., Svitoch A.A., 2005. Two deltas, two basins, one river, one sea; The modern Volga delta in the North Caspian Basin as an analogue of the Neogene Paleo-Volga delta, Productive Series, South Caspian Basin. *SEPM Spec Publ.*, 83. 'River Deltas: concepts, models and examples'. 231-256.
48. **Overeem, I.**, Syvitski, J.P.M., Hutton, E.W.H., 2005. Three-dimensional numerical modeling of deltas. *SEPM Spec. Publ.*, 83. 'River Deltas: concepts, models and examples'. 13-30.
49. **Overeem, I.**, Syvitski, J.P.M., Hutton, E.W.H., Kettner, A.J., 2005. Stratigraphic variability due to uncertainty in model boundary conditions: a case study of the New Jersey Shelf over the last 40,000 years. *Marine Geology*, 224, 23-41.
50. **Overeem, I.**, Kroonenberg, S.B., Veldkamp, A., Groenesteijn, K., Rusakov, G. V.†, Svitoch, A.A., 2003. Small-scale stratigraphy in a large ramp delta: recent and Holocene sedimentation in the Volga delta, Caspian Sea. *Sedimentary Geology* 159, 133-157.
51. **Overeem, I.**, Veldkamp, A., Tebbens, L., Kroonenberg, S.B., 2003. Modelling Holocene stratigraphy and depocentre migration of the Volga delta due to Caspian Sea-level change. *Sedimentary Geology* 159, 159-175.
52. **Overeem, I.** 2002. *Process-response simulation of fluvio-deltaic stratigraphy*. Delft University of Technology Ph.D. thesis. ISBN 90 6464 859X.
53. **Overeem, I.**, Bishop, C., Weltje, G.J., Kroonenberg, S.B., 2001. The Late Cenozoic Eridanos delta system in the Southern North Sea Basin: a climate signal in sediment supply? *Basin Research* 13, 3, 293-312.
54. Steeghs, P., **Overeem, I.**, Tigrek, S.\*, 2000. Seismic Volume Attribute Analysis of the Cenozoic Succession in the L08 Block (Southern North Sea). *Global and Planetary Change* 27, 245-262.



**Extended Abstracts and Published Contributions (26 total)**

1. Kettner, A. J., **I. Overeem**, and G. Tucker, 2018. Can we build useful models of future risk from natural hazards? EOS, 99, <https://doi.org/10.1029/2018EO105239>.
2. **Overeem, I.**, 2018. Greenland's growing deltas: Combining historical and modern imagery to decode change in a telltale Arctic landscape, *Earth Magazine*, February 2018.
3. Bendixen, M., Iversen, L., **Overeem, I.**, 2017. Greenland: built an economy on Sand. *Science* 358, 6365, 879. DOI: 10.1126/science.aar3388.
4. Tedesco, M., Bell, R., Rennermalm, A., Hannah, E., Alexander, P., Briggs, K., MacFerrin, M., **Overeem, I.**, Koenig, L., 2016. Understanding the fundamental processes controlling the surface mass balance of the Greenland ice sheet and improving estimates, NASA Workshop Report, Lamont-Doherty, Sept 2016.
5. Kettner, A.J., Syvitski, J.P.M., **Overeem, I.**, Brakenridge, R., 2015. Morphological changes due to flooding: the Indus River. Short Paper for RCEM 2015, Iquitos, Peru, 4p.
6. Del Castillo, C, and writing team. 2015. Arctic – COLORS- Arctic-COastal Land Ocean inteRactionS Scoping Study Report for NASA, August 2015, 65p.
7. **Overeem, I.**, 2014. Arctic Permafrost Loss. *Earth Magazine*, April 2014. 24-31.
8. Hutton, E., Piper, M., **Overeem, I.**, Kettner, A.J., 2014. BUILDING SUSTAINABLE SOFTWARE - THE CSDMS APPROACH, Working towards Sustainable Software for Science: Practice and Experiences, WSSPE2, November 16, 2014, New Orleans, USA.
9. Syvitski, J.P.M., Hutton, E., Piper, M., **Overeem, I.**, Kettner, A.J., 2014. Plug and Play Component Modeling — The CSDMS2.0 Approach. International Environmental Modelling and Software Society (iEMSs), Extended abstract for 7th International Congress on Environmental Modelling and Software, San Diego, California, USA.
10. **Overeem, I.**, Hudson, B. \*, Mikkelsen, A., van der Broeke, M., Rennermalm, A. 2014. Response of Greenlandic Rivers to Ice Sheet Melt. Extended Abstract to the 44<sup>th</sup> International Arctic Workshop 15-16<sup>th</sup> of March, 2014.
11. Hudson, B. \*, **Overeem, I.**, Syvitski, J., Mikkelsen, A., 2014. The Greenland Ice Sheet's Role In Setting River And Fjord Suspended Sediment Concentration: A Test Case From Two West Greenland Rivers. Extended Abstract to the 44<sup>th</sup> International Arctic Workshop 15-16<sup>th</sup> of March, 2014.
12. Eggerink, K.\*, Hudson, B.\*, Andrews, J., **Overeem, I.**, 2014. A Pilot Study Of The Extent And Variations In Meltwater Plumes And Icebergs Emanating From Northeast Greenland Tidewater Glaciers. Extended Abstract to the 44<sup>th</sup> International Arctic Workshop 15-16<sup>th</sup> of March, 2014.
13. Barnhart, K., Anderson, R.S., **Overeem, I.**, 2014. The Effect of Changing Sea Ice On The Vulnerability Of Arctic Coast. Extended Abstract to the 44<sup>th</sup> International Arctic Workshop 15-16<sup>th</sup> of March, 2014.
14. Rogers, K., Syvitski, J., **Overeem, I.**, Higgins, S.\*, 2013. Farming Practices and Anthropogenic Delta Dynamics. IAHS Extended Abstract, Gothenburg, Sweden, July 2013.

15. Foufoula-Georgiou, E., **Overeem, I.**, Saito, Y., et al., 2013. A vision for a coordinated international effort on delta sustainability. IAHS Extended Abstract, Gothenburg, Sweden, July 2013.
16. Berlin, M., **Overeem, I.**, McGrath, D.\*, Rick, U., 2010. Regional Runoff Season Duration From Sediment Plume Analysis In The Kangerlussuaq Area, Greenland. Extended Abstract, 40th Arctic Workshop, Winterpark, CO, March 2010.
17. **Overeem, I.**, 2010. Arctic Coastal Erosion along the Beaufort Sea. Contribution to "A Science Plan for Regional Arctic System Modeling". In: Roberts et al., (eds.), 2010. A report by the Arctic Research Community for the National Science Foundation Office of Polar Programs.
18. **Overeem, I.**, Syvitski, J.P.M., Kettner, A.J. 2008. Are Arctic Rivers Unique and Are They Changing? Extended Abstract, 38<sup>th</sup> Arctic Workshop, Boulder, Colorado, 5-7<sup>th</sup> of March 2008.
19. Perillo, G.M.E, Syvitski, J.P.M., Amos, C.L., Depetris, P., Milliman, J., Pejrup, M., Saito, Y., Snoussi, M., Wolanski, E., Zajaczkowski, M., Stallard, R., Hutton, E., Kettner, A., Meade, R., **Overeem, I.**, Peckham, S., 2007, Estuaries and their Sediments: How They Deal with Each Other. Inprint Newsletter of the IGBP/IHDP Land Ocean Interaction in the Coastal Zone 2007/3: 3-5.
20. De Winter, I.\*, **Overeem, I.**, Storms, J.E.A., 2008. Sedimentary Architecture of a glacio-fluvial valley fill; West-Greenland Case-Study. Extended Abstract 38<sup>th</sup> Arctic Workshop, Boulder, Colorado, USA, 5-7<sup>th</sup> of March 2008.
21. **Overeem, I.**, Briner, J.P., Kettner A.J., 2004. How dynamic are fluvial-deltaic systems draining land-ice? A case-study of Clyde River, Baffin Island. Extended Abstract 34<sup>th</sup> Annual Arctic Workshop. March 11<sup>th</sup>-13<sup>th</sup> 2004, INSTAAR, University of Colorado at Boulder.
22. Kroonenberg, S.B., J.F. Boels, R.M. Hoogendoorn, **I. Overeem**, E. Aliyeva, D. Huseynov, E.M. Badyukova, A.A. Svitoch, D. Hinds, M.D. Simmons. 2004. Modern Caspian deltas as analogues for the productive series, Azerbaijan. Proc. AAPG Hedberg conference "Sandstone deposition in lacustrine environments: Implications for exploration and reservoir development", May 28-21, 2004, Baku, Azerbaijan, 44-48.
23. **Overeem, I.**, Kroonenberg, S.B., 2002. De Amazone in de Noordzee. *Natuur & Techniek*, Januari 2002.
24. **Overeem, I.**, Drijkoningen, G.G., Steeghs, T.P.H., van de Bilt, B.D.\*, 2001. Modelling mass-movements along Cenozoic delta lobes, 3D seismic data analysis of the F09 block, North Sea, Expanded abstract, EAGE Amsterdam, The Netherlands, June 2001.
25. Van Spaendonck, R.L.C., Steeghs, T.P.H., **Overeem, I.**, Fernandes, F.C.A., Fokkema, J.T., 2001. Wavelet based volume attributes for seismic interpretation, Expanded abstract, EAGE Amsterdam, The Netherlands, June 2001.
26. **Overeem, I.** Weltje, G.J., van Dijke, J.J., Kroonenberg, S.B., 1999. Nested process response models of fluvio-deltaic sedimentation. Proceedings of IAMG 1999, Lippard, S.J., Sinding-Larsen (eds.), Trondheim, Norway, 6-11 August 1999.

**Book Reviews (6 total)**

1. **Overeem, I.**, 2015. Book Review: 'North by Degree: New Perspectives on Arctic exploration' Edited by Susan A. Kaplan and Robert McCracken Peck, 2013. *Arctic, Antarctic, and Alpine Research*, 47, 2, 211–212.
2. **Overeem, I.**, 2013. Book Review: 'Polar Bears: The Natural History of a Threatened Species' by Ian Stirling, 2011. *Arctic, Antarctic and Alpine Research*.
3. **Overeem, I.**, 2010. Book Review: 'Arctic Scientist, Gulag Survivor: the biography of Mikhail Mikhailovich Ermolaev 1905–1991', by A. M. Ermolaev and V. D. Dibner, translated and edited by W. Barr reviewed work, *Arctic, Antarctic and Alpine Research*. 42, 4, 504.
4. **Overeem, I.**, 2010. A Field Guide to Ice, by James H. C. Fenton reviewed work, *Arctic, Antarctic and Alpine Research*. 42, 4, 132.
5. **Overeem, I.**, 2004. Book Review. Rivers and Floodplains: forms, processes and sedimentary record. *Journal of Quaternary Science*, 19, 6, 618-619.
6. **Overeem, I.**, 2003. Book Review. Sea Ice- an introduction to its physics, chemistry, biology and geology. *Arctic, Antarctic and Alpine Research*, 35, 4, 130-131.

## Presentations (first-authored are listed, >170 incl. co-authored abstracts)

- Overeem, I., Goodbred, S., Steckler, M., 2019. Sedimentation Dynamics and Subsidence in the Ganges-Brahmaputra Delta System. Bangladesh Water Development Board and Ministry of Water Resources Inception Workshop on Longterm Monitoring, Research and Analysis of the Bangladesh Coastal Zone, Dhaka, Bangladesh, January 9<sup>th</sup>, 2019.
- Overeem, I., Piper, Harris, C., M., Hutton, E., Kettner, A., 2018. Teaching with Numerical Models in the Earth Surface Processes, AGU Annual Meeting, Washington DC, Dec 9-14, 2018.
- INVITED: Overeem, I., Zheng, L., Clow, G., Wang, K., 2018. How Changing Fluvio-deltaic Systems Affect Permafrost, AGU Annual Meeting, Washington DC, Dec 9-14, 2018.
- INVITED: Overeem, I. 2018. Using High Resolution Topography Data in Numerical Models. NSF-EarthCube RCN on A2 HRT Workshop, Broomfield, CO, August 2018.
- Overeem, I., 2018. Modeling Sedimentation Patterns in the GBMD Using a Network Connectivity Approach. Institute for Water Modeling, Dhaka, Bangladesh, July 2<sup>nd</sup>, 2018.
- INVITED: Overeem, I., 2018. Fjords in Flux – downstream impacts of Greenland Ice Sheet melt. Arctic System Change Workshop, NCAR, Boulder, CO, April 11<sup>th</sup>, 2018.
- INVITED: Overeem, I., 2018. Sedimentation Patterns in the Ganges-Brahmaputra Delta System. EAFIT, Medellin, Colombia, March 23<sup>rd</sup>, 2018.
- INVITED: Overeem, I., 2018. Dynamic Arctic Coasts: developing process models for a frozen environment, Frontiers in Science Seminar, Los Alamos National Laboratory, March 5<sup>th</sup>, 2018.
- INVITED: Overeem, I., 2017. How rapid change affects deltas in the Arctic region, AGU ESPL, New Orleans, December 2017.
- Overeem, I., Lintern, G., 2017. Redefining Thresholds of River Sediment Concentrations and the Triggering of Turbidity Currents. International Conference on Fluvial Sedimentology, Calgary, Canada, July 15th-21th 2017.
- INVITED Overeem, I., 2017. Fjords in Flux: how climate change affects the Arctic Coast. Rutgers

- University, New Brunswick, March 31<sup>th</sup>, 2017.
- INVITED Overeem, I., 2017. Fjords in Flux: how rapid change affects deltas in the Arctic regions. Tulane University, New Orleans, March 10<sup>th</sup>, 2017.
  - INVITED Overeem, I. 2017. How High-Amplitude Sedimentary Signals are Transferred in Arctic Systems, Department of Geological Sciences, University of Colorado, Boulder, March 1, 2017.
  - Overeem, I., Lintern, G., Hill, P., 2016. A Sensitivity Analysis of Triggers and Mechanisms of Mass Movements in Fjords, AGU Annual Meeting, December 11-16<sup>th</sup>.
  - Overeem, I., Wang, K., Jafarov, E., Schaefer, K., 2016. Development of a permafrost modeling toolbox. AGU Annual Meeting, December 11-16<sup>th</sup>.
  - Overeem, I., Hutton, E., Kettner, A., Piper, M., Syvitski, J., Tucker, G., 2016. Community Surface Dynamics Modeling System: Opportunities for Interaction. Forum for Arctic Modeling & Observational Synthesis Meeting, Woodshole, MA November 1-4<sup>th</sup>.
  - Overeem, I., Barnhart, K., Kay, J., 2016. Modeling Sea Ice Decline and Impacts on Coastal Processes, Forum for Arctic Modeling & Observational Synthesis Meeting, Woodshole, MA November 1-4<sup>th</sup>.
  - Overeem, I., Higgins, S., 2016. Impacts of the Inter-River Linkages project on Sediment Transport to Deltas. Belmont Forum DELTAS Synthesis WS, CUNY, September 12-15<sup>th</sup>.
  - Overeem, I., Hudson, B., Bendixen, M., 2016. Downstream Impacts of Greenland Ice Sheet Melt, NASA Surface Mass Balance WS, Lamont-Doherty, NY, September 7-8<sup>th</sup>
  - Overeem, I. 2016. Sediment Grainsize Trends in Delta Networks. JpGU Annual Meeting, Tokyo, Japan, May 24-27<sup>th</sup>, 2016.
  - INVITED: Overeem, I., 2016. Community Surface Dynamics Modeling System, International Soil Modeling Workshop, March 29-30<sup>th</sup>, Austin TX,
  - Overeem, I., 2016. Numerical Modeling grounded in Field Observations, ONE-DELTA Steppe Workshop, January 20-23<sup>th</sup>, 2016, Nashville, TN.
  - Overeem, I., Brakenridge, B., Hudson, B., 2015. Satellite-based Observation of Arctic River Dynamics, AGU Annual Meeting, San Francisco, December 2015.
  - INVITED: Overeem, I., 2015. What's new in the Arctic Coastal Zone? Arctic Observing Open Science Meeting, Seattle, November 17-19<sup>th</sup> 2015.
  - INVITED: Overeem, I. 2015. Sedimentation Patterns in the Ganges-Brahmaputra Delta System, Colorado Geomorphology Organization, Denver, CO, September 24<sup>th</sup>, 2015.
  - Overeem, I., 2015. Greenlandic Rivers and Ice Sheet Melt, Greenland Institute of Natural Resources Seminar, Nuuk, Greenland, June 19<sup>th</sup>, 2015.
  - Overeem, I., Borkowski, L., Kettner, A.J., Rusell, B., Peddicord, H., 2015. Bringing earth surface processes simulations to large audiences. CSDMS Annual Meeting, Boulder, CO, May 26<sup>th</sup>-28<sup>th</sup>, 2015.
  - Overeem, I., 2015. Greenlandic Rivers and Ice Sheet Melt. NSF-Office of Polar Programs, Washington DC, May 8<sup>th</sup>, 2015.
  - INVITED: Overeem, I., 2015. Arctic Coastal Zone Processes Reflect Rapid Warming Polar Center, Applied Physics Lab, University of Washington, March 17<sup>th</sup> 2015.
  - INVITED: Overeem, I., Higgins, S., Syvitski, J., Kettner, A.J., Brakenridge, R., 2014. The Impacts of Armoring Our Deltas: Mapping and Modeling Large-Scale Deltaplain Aggradation, AGU Fall Meeting, 2014, San Francisco, CA, December 15-19<sup>th</sup>, 2014.
  - INVITED: Overeem, I., 2014. Arctic Coasts Reflect Rapid Warming. University of Montana, Missoula, MT, December 2014.
  - INVITED: Overeem, I., 2014. Frozen Coasts Reflect Rapid Warming. Virginia Institute of Marine Sciences seminar, NASA Arctic Colors Meeting, Gloucester Point, VA, November 2014.

- Overeem, I., 2014. Sedimentation in Fluvio-Deltaic Plains, Department of Coastal and Oceanography Science Seminar, Nanjing University, China.
- Overeem, I., Rogers, K., Goodbred, S., Passalacqua, P. 2014. Sedimentation in the Ganges-Brahmaputra Delta: natural mangrove forest and embanked polders. Deltas in times of Climate Change II, International Conference, Rotterdam, The Netherlands, 24-26<sup>th</sup> of September, 2014.
- Overeem, I., Hudson, B., 2014. The Response of Greenlandic Rivers to Ice Sheet Melt, IMAU, Utrecht University, The Netherlands, September 2014.
- INVITED: Overeem, I., 2014. Sedimentation Rates in the Ganges-Brahmaputra Delta, Joint seminar for UNESCO-IHE and Deltares, Delft, The Netherlands
- INVITED: Overeem, I., Anderson, R.S., Clow, G. 2014. The Impact of Sea-Ice Loss on Wave Dynamics and Coastal Erosion Along the Arctic Coast. Meeting with Chief of Naval Operations Strategic Study Group, Boulder, CO, April 16<sup>th</sup>, 2014.
- Overeem, I., Hudson, B. \*, Mikkelsen, A., van der Broeke, M., Rennermalm, A. 2014. Response of Greenlandic Rivers to Ice Sheet Melt. 44th International Arctic Workshop 15-16<sup>th</sup> of March, 2014.
- Overeem, I., Rogers, K., Passalacqua, P., Canestrelli, A., Cohen, S., Matin, K., 2014. Sedimentation Patterns in the Ganges-Brahmaputra Delta System. AAPG International Meeting, Houston, TX, April 6-9<sup>th</sup>, 2014.
- Overeem, I., K. Rogers, C. Thorne, Sarker, M., M. Steckler, S. Goodbred, C. Wilson, C. Small, M. van der Wegen, D. Roelvink, J. Atkinson, M. Zahid, N. Seeber, S. Nooner, J. Davis. 2014. Monitoring, Research and Analysis of the Bangladesh Coastal Zone, Worldbank Coastal Embankment Improvement Project Division, Dhaka, Bangladesh, March 2, 2014.
- Overeem, I., Hudson, B.\*, Welty, E.\*, LeWinter, A., Mikkelsen, A.\*, 2013. River Channel Expansion Reveals Ice Sheet Runoff Variations. AGU Annual Meeting, San Francisco, Dec 9-13, 2013.
- INVITED: Overeem, I., Kim, W., 2013. Understanding coupled earth-surface processes through experiments and models. AGU Annual Meeting, San Francisco, Dec 9-13, 2013..
- Overeem, I., Brakenridge, B., 2013. Arctic Rivers: Quantifying Discharge Changes Using AMSR-E. NASA NEWS Science Team Meeting, NASA Goddard, May 1-2, 2013.
- INVITED: Overeem, I., On the Use of Models in Geoscience Education. WORKSHOP: The Art and Science of Reduced-Complexity Modeling in the Environmental Sciences, Boulder CO, March 27-29<sup>th</sup> 2013.
- Overeem, I., Barnhart, K. \*, Anderson, R., 2013. Modeling of Waves and Storm Surge along the Coast of Alaska, CSDMS Annual Meeting, Boulder, CO, March 23-25<sup>th</sup>, 2013.
- INVITED: Overeem, I., Arctic Coastal Erosion. Van Tuyl lecture, Colorado School of Mines, Golden, CO, March 22<sup>nd</sup>, 2013.
- INVITED: Overeem, I., Boyd, R., Kettner, A.J., Syvitski, J.P.M., 2012. Modeling Floodplain Depositional Patterns under Variable Flood Regimes. AGU Annual Meeting, San Francisco, Dec 3-7, 2012.
- INVITED: Overeem, I., Hutton, E., Kettner, A.J., Peckham, S.P., Syvitski, J.P.M., 2012. The Community Surface Dynamics Modeling System: Experiences on Building a Collaborative Modeling Platform. AGU Annual Meeting, San Francisco, Dec 3-7, 2012.
- Overeem, I., Syvitski, J.P.M., Kettner, A.J., 2012. Modeling Floodplain Deposits. AAPG Annual Meeting, Long Beach, CA, April 22-25, 2012.
- INVITED: Overeem, I., 2012. The Community Surface Dynamics Modeling System. Talk for Chevron International Technical Seminar Series, Houston, TX, January 19, 2012.

- INVITED: Overeem, I., 2012. Process modeling of Fluvio-Deltaic Stratigraphy. Talk for Conoco Phillips Reservoir Modeling, Houston, TX, January 20, 2012.
- Overeem, I., Hudson, B.\*, Berlin, M., McGrath, D.\*, Syvitski, J., Mernild, S., 2010. Fjord Sediment Plumes as Indicators of West Greenland Ice Sheet Freshwater Flux. Presentation and abstract at AGU Chapman Conference, Source to Sink Sedimentary Systems, January 2011.
- INVITED: Overeem, I., Syvitski, J., Kettner, A.J., Hutton, E., Brakenridge, B., 2011. Sinking Deltas due to Human Activities, Talk for Tulsa Geological Society, March 2011, In: AAPG Search and Discovery #70094.
- INVITED: Overeem, I., Anderson, R.S., Wobus, C., Matell, N.\*, Urban, F., Clow, G., 2010. The impact of sea ice loss on wave dynamics and coastal erosion along the Arctic Coast. AGU Annual fall meeting 2010, San Francisco, 12-18 December.
- INVITED: Overeem, I., 2010, Controls of Delta Sedimentation; A Delicate Balance. Keynote at Symposium on behalf of Prof. Kroonenberg, March 2010.
- Overeem, I., Climatic Influences on Stratigraphy – Applications of Numerical Models. AAPG 2010 Abstract Vol, New Orleans, LA.
- INVITED: Overeem, I., 2010, Sea Ice Loss Induces Arctic Coastal Erosion. Program and Abstracts of the American Polar Society Meeting 2010, Institute of Arctic and Alpine Research, Univ. of Colorado at Boulder.
- Overeem, I., Donselaar, R., 2009. Outcrop Characteristics of a Gradual Avulsion, AAPG Annual Conference, Denver, CO, 7-10 June 2009.
- Overeem, I., McGrath, D.\*, Mernild, S., Hasholt, B., Steffen, K., Syvitski, J., 2009. Sediment Plumes as a proxy for Greenland Ice Sheet Runoff. SEDIBUD workshop. Sediment Budgets in Changing High-Latitude and High-Altitude Cold Environments, Kingston, Canada, 13-14 October 2009.
- Overeem, I., Wobus, C.W., Anderson, R. S., Clow, G.D., Urban, F.E., Stanton, T. P., 2009. Quantifying Sea-Ice Loss as a Driver of Arctic Coastal Erosion. AGU Fall Meeting, San Francisco, December 2009.
- Overeem, I., Changing Circum-Arctic Sediment Supply. I.A.G./A.I.G. Working Group SEDIBUD workshop. Sediment Budgets in Changing High-Latitude and High-Altitude Cold Environments, Boulder, CO, September 9-13, 2008.
- INVITED: Overeem, I. 2007. Sediment Supply to the Arctic Ocean. International Polar Year start-up meeting, Groningen, March 8-9, the Netherlands.
- INVITED: Overeem, I., 2007. Modeling river response to deglaciation; using clues from Baffin Island, Arctic Canada. University Center in Svalbard, Norway, February 2008.
- INVITED: Overeem, I., 2007. Exploring sheet sandstone geometries with numerical process modeling, Van Tuyl Lecture, Colorado School of Mines, Golden, November 2008.
- Overeem, I., 2007. Resilient deltas, a case-study report on the Volga and Ganges delta systems. Dynamics and vulnerability of River Deltas. LOICZ-CSDMS Workshop, 26-28 September 2007.
- Overeem, I., Briner, J.P., Kettner, A.J., Syvitski, J.P.M., 2007. Modeling river response to deglaciation; using clues from Baffin Island, Arctic Canada. AGU, 85 (47), Fall Meet. Suppl., Abstract H53E-04.
- INVITED: Overeem, I., Briner, J.P. Miller, G., Syvitski, J.P.M. 2006. Sediment supply to the Arctic coastal zone. Wageningen University, The Netherlands, November 2006.
- INVITED: Overeem, I., Wobus, C., Anderson, R.S., Clow, G., 2005. Toward a predictive model of Arctic coastal retreat in a warming climate, Beaufort Sea, Alaska. Meeting on Longterm Coastal Modeling, Department of Civil Engineering, November 2006, Delft, The Netherlands.

- Overeem, I., Goodbred, Jr., S.L., 2005. Numerical modeling of the impact of an enhanced monsoon on the Ganges-Brahmaputra River System. 8<sup>th</sup> International Conference on Fluvial Sedimentology, August 7-12, 2005, Delft, The Netherlands.
- INVITED: Overeem, I., Briner, J.P., Miller, G., Syvitski, J.P.M., Finkel, R., 2006. Pleistocene Glacial Deposits of Clyde Fjord, Baffin Island, Talk at Shell Research Meeting on Glacigenic Reservoir Strategies, Rijswijk, the Netherlands. November 2005.
- Overeem, I., Storms, J.E.H., Hutton, E.W.H., 2004. High-magnitude low-frequency events in stratigraphic simulation models. 32<sup>nd</sup> IGC, August 20-28<sup>th</sup> 2004, Florence, Italy.
- Overeem, I., 2004. Unraveling Forcing Factors of Shallow Shelf Stratigraphy With Numerical Modeling. *Eos Tans. AGU*, 85 (47), Fall Meet. Suppl., Abstract H53E-04. San Francisco, USA.
- Overeem, I., Storms, J.E.H. 2003. Upscaling the time parameter in stratigraphic simulation models: efficient use of high-magnitude low-frequency events, Numerical and Physical Modelling of Sedimentary Systems; from understanding to prediction. 9-11 October 2003. Utrecht, The Netherlands
- Overeem, I., Syvitski, J.P.M., 2003. Stratigraphic Variability Due To Uncertainty In Model Boundary Conditions 8-12 Dec AGU 2003 Annual Conference, San Francisco, USA.
- Overeem, I., Kroonenberg, S.B., 2002. Modeling Holocene stratigraphy and depocenter migration of the Volga delta due to Caspian sea level change. Science at the highest level, Denver 2002. GSA Abstracts with programs, Vol 34, No 6, 2002, Geological Society of America, Denver, USA.
- Overeem, I., Weltje, G.J., 2001. Conditioning channel switching for a 3-D fluvio-deltaic process model, IAMG 2001, 6-12 September 2001, Cancun, Mexico.
- Overeem, I., van Amstel, W.\*, Weltje, G.J., 2000. AquaTellus; a process-response model of fluvio-deltaic sedimentation. British Sedimentological Research Group Meeting, Abstract Volume, 11-12 Sept 2000, London, UK.
- Overeem, van Dijke, J.J., Weltje, G.J., Kroonenberg, S.B. 1999. A process response model of fluvio-deltaic sedimentation; the case of the late Cenozoic delta in the southern North Sea. Geophysical Research Abstracts, Volume 1, Number 1 1999 European Geophysical Society, 24<sup>th</sup> General Assembly, Society Symposium, Solid Earth Geophysics & Geodesy.
- Overeem, I., Weltje, G.J., Drijkoningen, G.G., van Spaendonck, R.L.C., 1998. Geological reconstruction of Cenozoic delta deposits using 2D and 3D seismic data, Nederlands Aardwetenschappen Congres 1998, Eindhoven, The Netherlands.
- Overeem, I., Groenensteijn, K., Veldkamp, T., van Dijke, J.J., Kroonenberg, S.B., 1998. Holocene erosion and sedimentation history of the Volga delta related to sea-level changes. Annual Meeting International Association of Sedimentologists, April 1998, Alicante, Spain.
- INVITED: Overeem, I., 1997. The Late Cenozoic delta in the southern North Sea: imaging morphology and architecture using 2D/3D seismic data. Dutch Sedimentological Society, Annual meeting 31 October 1997, Delft, The Netherlands.
- Overeem, I., Groenensteijn, K., Veldkamp, T., van Dijke, J.J., 1996. Holocene development of the Volga delta, Nederlands Aardwetenschappen Congres 1996, Eindhoven, The Netherlands.

### Active Students Projects (1 Ph.D.)

- Zheng, L., 2018 - present. Modeling the Impact of Floodplain Inundation on Permafrost Thermal State. Joint Ph.D. project between Wuhan University, China, and INSTAAR, University of Colorado.

## Completed Students Projects (3 B.Sc., 12 M.Sc., 4 Ph.D.)

- Barnhart, K., 2015. Erosion of icy coastlines in the face of changing sea ice. Co-supervision with R.S. Anderson. Joint Ph.D. project between INSTAAR and Department of Geological Sciences, University of Colorado.
- Hudson, B., 2014. Towards Understanding the Flux of Freshwater and Sediment from the Greenland Ice Sheet to the Coastal Ocean with MODIS, Joint Ph.D. project between INSTAAR and Department of Geological Sciences, University of Colorado.
- Higgins, S., 2014. Anisotropic Delta Subsidence Measured with Interferometric Synthetic Aperture Radar (InSAR). Co-supervision with J. Syvitski. Joint Ph.D. project between INSTAAR and Department of Geological Sciences, University of Colorado.
- Hossain, A. 2013. Assessing Morphological Changes due to Hydrometeorologic Influences in Mehendiganj Island, Meghna Estuary, Bangladesh. M.Sc. Thesis for Faculty of Earth and Environmental Sciences, University of Dhaka, Bangladesh joint with University of Colorado, Boulder.
- Chen, Y., 2013. Application of numerical models to the study of the formation of the Holocene stratigraphy over the Bohai and Yellow Seas, in response to sediment input from the Yellow River. Joint Ph.D. project between INSTAAR, University of Colorado and Nanjing University, China.
- McGrath, D., 2009. Sediment Plumes in Kangerlussuaq, West Greenland, as a proxy for runoff from the Greenland Ice Sheet. Co-supervisor with K. Steffen. M.Sc. Thesis. Department of Geography, University of Colorado.
- Matell, N., 2009. Shoreline erosion and thermal impact of thaw lakes in a warming landscape, Arctic Coastal Plain, Alaska. Co-supervisor with R.S. Anderson. M.Sc. Thesis. Department of Geology, University of Colorado.
- Holmes, C., 2009. Focused Temporal and Spatial Study on Sea Ice Location in the Beaufort Sea, Alaska, and its Role in Coastal Erosion. Co-supervisor with R.S. Anderson. B.Sc. Honors Thesis. Department of Geology, University of Colorado.
- De Winter, I. 2008. Modeling 3D Sedimentary Architecture of Glacio-Fluvial Valley Fills. M.Sc. Thesis Delft University of Technology.
- Eikelenboom. 2008. Vertical Sorting in Outcrop Bedforms. B.Sc. Thesis Delft University of Technology.
- Reichwein, J.H.C. 2008. Reservoir potential of the Ten Boer Claystone Member (ROCLT) in the Southern Permian Basin. M.Sc. Thesis, Delft University of Technology, Co-supervisor with M.E. Donselaar.
- Sheombarsing, N.R., 2006. Modeling Sediment Storage in a Tidal-Dominated Delta, the Fly River, Papua New Guinea. M.Sc. Thesis Delft University of Technology.
- Ernens, F. 2006. The quantitative geometry of deposited sand bodies and the preservation potential of point bars in the Irtys River System. B.Sc. Thesis, Delft University of Technology. Co-supervisor with S. Luthi.
- Alfaro, E.M., 2006. Modelling of planimetric/historical changes of the Geul river (The Netherlands). M.Sc. Thesis Civil Engineering, Delft University of Technology. Co-supervisor with A. Crosato and H. de Vriend.
- Van Der Bilt, B. D., 2000. The architectural evolution of Late Cenozoic delta lobes in the F09 Block, North Sea. M.Sc. Thesis, Free University, Amsterdam, The Netherlands.



- Van Amstel, W., 1999 Process-response modelling of delta slopes. M.Sc. Thesis Delft University of Technology.
- Tigrek, S., 1998. 3D seismic interpretation and attribute analysis of the L08 block, Southern North Sea Basin, M.Sc. Thesis, Delft University of Technology. Co-supervised with G. Drijkoningen.
- Bron, A.W. 2006. Sediment mass balance study of the Late-Holocene prodelta on the Northern Adriatic Shelf, M.Sc. Thesis Delft University of Technology. Committee Member.
- Hannon, M., 2011. Exploring Predictive Relationships of Fluvial Morphology: Using Shuttle Radar Topography Mission Data. M.Sc. Thesis, Department of Geology, University of Colorado, Committee Member.
- Best, U.N., 2018. Advancing Adaptation Measures for Fringing Mangrove-MudflatCoastlines under Climate Change Impacts: Sea Level Rise & Storms, UNESCO Institute for Water Education, Delft, The Netherlands. Comprehensive Exam Committee.

## Advised Postdoctoral Fellows

- Bendixen, M, 2018-present.
- Adams, J., 2017-present.
- Wang, K., 2016-present.
- Perignon, M. 2015-2017.
- Higgins, S., 2014-2016.
- Rogers, K., 2012-2014.
- Berlin, M., 2012.

## Field Skills

- Geological, geomorphological and soil mapping.
- Design and deployment of remote time-lapse-cameras, telemetered meteorological stations.
- River discharge gauging, hydraulic surveying in remote rivers.
- Water Level, Temperature Sensor Technology and SET tables for Delta-Floodplain Sedimentation and Inundation Observations.
- Ground-Penetrating Radar Surveying for Shallow Fluvial Stratigraphy.
- Hammer and Plate Seismics, Airgun Seismics for Sediment Volume Reconstructions
- Small-boat oceanographic surveying with Conductivity Temperature Depth (CTD) casts, laser in-situ particle size sensor (LISST), attenuation, bathymetry, and wave data collection.

## Outreach Activities

- First-authored an article for general public in Earth Magazine Article: 'Greenland's growing deltas: Combining historical and modern imagery to decode change in a telltale Arctic landscape', February 2018.
- Interviews with 3 papers, a.o. the Washington Post, on Greenland sediment dynamics, October 2017.
- Science Discovery Fellow, hands-on science activities in Public Libraries, October 2015.
- Interactive Workshop for K6-12 teachers on River and Vegetation Dynamics, August 2015.
- Dataset contributor to Science on a Sphere (SOS) animations, documentation and lesson material on river dams and reservoirs, global wave and energy modeling. These animated globes are featured in >100 museums, over 33 million visitors see SOS every year.
- Expert Panel for the Worldbank –IDA on Coastal Embankment Improvement Project Phase I, People's Republic of Bangladesh, September 2013 and February 2014.
- Invited Lecture on Arctic Coastal Erosion and hands-on mapping activities, 11<sup>th</sup> grade earth science students, Denver School of Science and Technology, March 2013.
- Advisor to Worldbank, Washington DC, on Meghna Estuary Sediment Dynamics/Crossdam Feasibility Study, August 2012.
- Lectures and hands-on field science activity in Greenland Education Tour for 23 international high-school students on 'Greenlandic Rivers as Indicators for Ice Sheet Melt', July 2011.
- Interviews with 3 national papers & Magazines on "Eroding Coast of Northern Alaska", December 2009-March 2011. Science News reported 'Collapsing Coastlines', July 2011.
- Interviews with over 20 national and international papers and magazines on 'Sinking Deltas due to Human Activities' 2009-2010.
- Invited Keynote talk on "World Deltas Dialogues Scoping Session", for international group of policy makers, consulting firms and Louisiana State Senator, Mrs. Mary Landrieu, Washington DC, 3-4 November 2009.
- Participated in 'IPY Dispatches from the field', discussing Arctic coastal erosion with participating teachers, 2009.
- Contributed a movie on Arctic Coastal Erosion to Andrew Revkin's DotEarth Blog of the New York Times, resulting of collaborative project between INSTAAR and CIRES, Sept. 2008.
- IPY science correspondent for Dutch Science Television during polar fieldwork 2007 and 2008.
- Coordinated 5 days fieldwork participation of the science editor of the Dutch Magazine 'Intermediar' resulting in a cover story on 'Ice Cold Research: How the climate changes in Greenland', May 2008.
- Authored and collected online educational resources for CSDMS undergraduate education.
- Worked with several (Dutch and international) popular science magazines to publish results of Ph.D. research. Resulted in 5 newspaper articles and a 1-hour TV documentary in 2002.
- Judge on the Regional Highschool Students Science Fair, Boulder County, 2003-2012.
- Climbing instructor for Dutch Alpine Club and Colorado Mountain Club, 1999-2013.
- Photography and short articles for several Dutch Outdoor magazines, 1997-2007.

## Service Activities

- Departmental and Institute Service AY 2018-2019: Search committee for Assistant Professor Surface Processes Modeling, Undergraduate quantitative skills education committee, Graduate education committee, Graduate student admission committee.
- Associate Editor Nature Special Reports 2016-present.
- Steering Committee of NSF funded Initiative ‘Study of Arctic Environmental Change’, SEARCH, 2017-present.
- Panel Review for the US National Science Foundation, December 2016, March 2018.
- Convener of Session on ‘Exploration, Observation and Modeling of Fast-moving glaciers, Ice Sheets and Permafrost Landscapes’, AGU Annual Meeting, San Francisco, Dec 11-16, 2016.
- Editor of Elementa Special Feature Issue ‘Deltas in the Anthropocene’, Oct 2016-March 2017.
- Submitted a Science brief entitled “Imperatives for sustainable delta futures” as a contribution to the UN Global Sustainable Development Report 2016.
- Convener of Session on ‘Deltas as Complex Systems’, JpGU, Tokyo, Japan, May 2016.
- Convener of Session on ‘Sustainable Deltas’, AGU Annual Meeting, San Francisco, Dec 2015.
- Panel Review for the US National Science Foundation, Washington DC, May 2015.
- Co-proposer of the ‘Sustainable Deltas 2015 Initiative’, this initiative has been endorsed by ICSU and launched in September 2014.
- Convener of Session on ‘Floodplain Dynamics Through Space and Time’, AGU Annual Meeting, San Francisco, Dec 14-19, 2014.
- Convener of Session on ‘Glacier, Icesheet and Icecap Hydrology’, AGU Annual Meeting, San Francisco, Dec 9-13, 2013.
- Chair of INSTAAR Web and Outreach Committee, 2013- present.
- Panel Review for NSF Coastal SEES program, 28 proposals, March 2013.
- Regular reviewer for Nature Climate Change, GRL, Nature Geoscience, Sedimentary Geology, Marine Geology, Journal of Coastal Research, Geology, Journal of Geophysical Research, The Cryosphere.
- Regular Reviewer for US National Science Foundation, Dutch National Science Foundation
- Panel Review for Icelandic Research Fund, 48 proposals, December 2011.
- Community Surface Dynamics Modeling System (CSDMS), Education and Knowledge Transfer (EKT) Specialist. Realize EKT objectives of the CSDMS project, develop an online library of Educational Modeling Material. Supervision of software engineer responsible for the easy-to-use CSDMS Modeling software tool.
- Working Group Chair of Education and Knowledge Transfer, CSDMS, 2011-2013.
- Steering Committee Member of BanglaPIRE project: Life in a Tectonically Active Delta, Bangladesh (<http://www.banglapire.org/>) 2011-present.
- Contributor to Strategic Plan to NSF-OPP. “Development of an Arctic System Model”, 2010.
- Session Chair “Climate Controls on Sediment Supply”, AAPG Annual Meeting 2010.
- INSTAAR outreach and information technology committee 2009-2013.
- Lead Editor on White Paper for Policy Makers on “Dynamics and Vulnerability of Delta Systems”, published with international team of 19 scientists in July 2009. Published by LOICZ core project of International Geosphere-Biosphere Programme (IGBP).
- Session Chair “Arctic Coasts at Risk”, AGU Annual Meeting 2009.
- Selection Committee Community Surface Dynamics Modeling System Annual Student Modeler Award, 2009-present.
- Steering Group Member of the International Organization of Geomorphologists, IAG, Working Group on Sediment Budgets in Cold Environments (2007 - present).
- Co-coordinator of the 2008 SEDIBUD meeting at the INSTAAR Mountain Research Station.

- Associate Editor of Arctic, Antarctic and Alpine Research 2007-present.
- Organizer of Symposium, “Numerical Sedimentary Systems: Limits to Upscaling?” March 2007, Delft University of Technology.
- Member of Advisory Board to Dean of the Faculty of Civil Engineering and Geotechnology on ‘Advancing female faculty careers in technical sciences’ 2005-2007.
- Chair of INSTAAR biannual report committee 2004-2005.
- INSTAAR Seminar Organizer in 2003.
- Graduate Student Representative, Faculty of Mining and Petroleum Engineering, 1998-2000.
- Curriculum Committee Student Member, Environmental and Earth System Sciences, Wageningen University, The Netherlands, 1994-1996.