

University of Groningen

Biophysical self-organization of coastal wetlands

van de Vijssel, Roeland Christiaan

DOI:
[10.33612/diss.160081233](https://doi.org/10.33612/diss.160081233)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2021

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):
van de Vijssel, R. C. (2021). *Biophysical self-organization of coastal wetlands: Unraveling spatial complexity on tidal flats and marshes, from the Precambrian to today*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen. <https://doi.org/10.33612/diss.160081233>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Curriculum Vitae

Roeland C. van de Vijzel conducted his PhD research at the NIOZ Royal Netherlands Institute for Sea Research, at the department of Estuarine and Delta Systems (EDS) and will defend his thesis at the University of Groningen. He received his bachelor's (Physics and Astronomy) and master's degree (Meteorology, Physical Oceanography and Climate) at Utrecht University. There, he became interested in biological-physical interactions, which brought him to NIOZ. In September 2020, Roeland started to work as a postdoctoral researcher at IFISC (Instituto de Física Interdisciplinar y Sistemas Complejos) in Palma de Mallorca, to mathematically model (amongst other things) the effects of hydrodynamics on the self-organization of seagrass ecosystems. He hopes to be able to visit NIOZ again soon for further collaborations.



Publications

van de Vijssel, R.C., van Belzen, J., Bouma, T.J., van der Wal, D., Cusseddu, V., Purkis, S.J., Rietkerk, M. & van de Koppel, J. (2020). Estuarine biofilm patterns: Modern analogues for Precambrian self-organization. *Earth Surface Processes and Landforms*, 45(5), 1141-1154. <https://doi.org/10.1002/esp.4783>

Manuscripts ready for submission:

van de Vijssel, R.C., van Belzen, J., Bouma, T.J., van der Wal, D., Borsje, B.W., Temmerman, S., Cornacchia, L. & van de Koppel, J. (ready for submission). Simple feedback explains complex channel patterns in coastal wetlands.

van de Vijssel, R.C., van Belzen, J., Bouma, T.J., van der Wal, D. & van de Koppel, J. (ready for submission). Algal-induced biogeomorphic feedbacks lay the groundwork for coastal wetland development.

van de Vijssel, R.C., van Belzen, J., Bouma, T.J., van der Wal, D., Rietkerk, M. & van de Koppel, J. (ready for submission). Tidal flat transitions signaled by self-organized algal patterns.

Awards

Award for best oral presentation, NCK Days 2019, Netherlands Centre for Coastal Research.

Selection of conference presentations

van de Vijssel, R.C., van Belzen, J., Bouma, T.J., van der Wal, D., van de Koppel, J. “*Do algae boost landscape formation?*” NCK Days (Conference of the Netherlands Centre for Coastal Research), Den Helder, The Netherlands. March 15-16, 2017. Oral presentation.

van de Vijssel, R.C., van Belzen, J., Bouma, T.J., van der Wal, D., Rietkerk, M.G., van de Koppel, J. “*Do algae create landscapes?*”. Netherlands Annual Ecology Meeting (NAEM). Lunteren, The Netherlands. February 13-14, 2018. Oral presentation.

van de Vijssel, R.C., van Belzen, J., van der Wal, D., Bouma, T.J. & van de Koppel, J. “*Intertidal drainage patterns as indicator for biostabilising ecosystem development*”. NAC (Netherlands Earth Sciences Congress). Utrecht, The Netherlands. March 14-15, 2019. Oral presentation.

van de Vijssel, R.C., van Belzen, J., van der Wal, D., Bouma, T.J. & van de Koppel, J. "*Intertidal drainage patterns as indicator for biostabilising ecosystem development*". NCK Days (Conference of the Netherlands Centre for Coastal Research). Enkhuizen, The Netherlands. March 20-22, 2019. Received "Award for best oral presentation".

van de Vijssel, R.C., van Belzen, J., van der Wal, D., Bouma, T.J., Borsje, B.W., Temmerman, S. & van de Koppel, J. "*Simple biogeomorphic feedbacks, complex channel networks*". 34th IAS Meeting of Sedimentology. Rome, Italy. September 10-13, 2019. Oral presentation.

van de Vijssel, R.C., van Belzen, J., Bouma, T.J., van der Wal, D., Rietkerk, M.G., van de Koppel, J. "*Do algae create landscapes?*". 10th Symposium on River, Coastal and Estuarine Morphodynamics (RCEM). Padova, Italy. September 17-22, 2017. Poster presentation.

Selection of other activities

"*Emergent patterns - from field to formulae*". Organized two symposia for scientists from Leiden University and scientists from NIOZ Yerseke, Utrecht University and Delft University, organised together with Robbin Bastiaansen. Mathematical Institute, Leiden University, The Netherlands. January 25 and April 5, 2019.

Supervision of Bachelor students Annabel R. Belliard and Ewout Kamp. Internship for the course "Marine Biology Research" of the University of Groningen. Supervised during field and laboratory experiment, which were conducted at NIOZ Yerseke. Project entitled: "*From fluid mud to intertidal flat: biofilms as a stabilizing factor*". April 18 - May 20, 2016.

Supervision of (graduated BSc) student Ian Chambers. Voluntary internship. Supervision during a numerical modelling project, conducted at NIOZ Yerseke. Project entitled: "*Modelling the effects of hydrodynamic leakage on mussel bed functioning*". January 8 - June 29, 2018.

Co-supervision (primary supervisor: Jim van Belzen) of Master student Matteo Mikos. Supervision during a numerical modelling project, conducted at NIOZ Yerseke. Project entitled: "*Are saltmarshes growing high and fast enough? Marsh elevation dynamics studied through a numerical scale-dependent feedbacks model*". September 1 - December 20, 2019.