Accepted Manuscript

The spatial heterogeneity of micro- and meio-organisms and their significance in understanding coastal system dynamics

Kelly L. Kirsten, Jessica Fell, Peter Frenzel, Stephanie Meschner, Thomas Kasper, Michael Wündsch, Michael Meadows, Torsten Haberzettl

PII: S0272-7714(17)30954-X

DOI: 10.1016/j.ecss.2018.08.011

Reference: YECSS 5939

To appear in: Estuarine, Coastal and Shelf Science

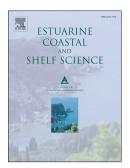
Received Date: 4 October 2017

Revised Date: 23 July 2018

Accepted Date: 15 August 2018

Please cite this article as: Kirsten, K.L., Fell, J., Frenzel, P., Meschner, S., Kasper, T., Wündsch, M., Meadows, M., Haberzettl, T., The spatial heterogeneity of micro- and meio-organisms and their significance in understanding coastal system dynamics, *Estuarine, Coastal and Shelf Science* (2018), doi: 10.1016/j.ecss.2018.08.011.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



ACCEPTED MANUSCRIPT

1	The spatial heterogeneity of micro- and meio-organisms and their significance in
2	understanding coastal system dynamics
3	
4	Kelly L. Kirsten ^{1,2} *, Jessica Fell ¹ , Peter Frenzel ³ , Stephanie Meschner ³ , Thomas Kasper ² , Michael
5	Wündsch ² , Michael Meadows ¹ , Torsten Haberzettl ⁴
6	
7	¹ Department of Environmental and Geographical Science, University of Cape Town, South Africa
8	² Department of Physical Geography, Institute of Geography, Friedrich Schiller University Jena, Germany
9	³ Institute of Geosciences, Friedrich Schiller University Jena, Germany
10	⁴ Institute of Geography and Geology, University of Greifswald, Germany
11	
12	*corresponding author: kelly.l.kirsten@gmail.com, tel: +27216503798, fax: +27216503456
13	
14	Abstract
15	An array of sediment surface samples collected from the coastal lake Eilandvlei and its bar-built estuary,
16	on the southern Cape coast, South Africa were analysed for their micro- and meio-organism diversity to
17	understand the complexity in their distribution in relation to their habitat and in response to
18	physicochemical parameters. The variation in the diatom community proved to be a useful proxy in
19	tracking the movement of various source waters, namely riverine inputs and marine throughflow.
20	Particularly, the transport and deposition of freshwater diatom species are shown to represent the inflow
21	of riverine waters into the lake, revealing internal current flow and a dispersal pattern of inputs. A
22	comprehensive documentation of ostracods and foraminifera was undertaken for the system. Habitat-
23	specific factors, such as pH, macrophyte extent and water depth, are the primary determinant for these
24	species distribution. The combination of these organisms provides information on the provenance of the
25	organisms and assists in distinguishing allochthonous versus autochthonous assemblages. This study
26	shows that biological assemblages are useful indicators of system functionality, even in the most complex
27	environments, when recorded environmental data is absent.

Download English Version:

https://daneshyari.com/en/article/8884593

Download Persian Version:

https://daneshyari.com/article/8884593

Daneshyari.com