

Wadden Sea ‘Sediment solutions’ Community of Understanding

March 19, 2021 webinar: summary and future prospects



Participation

The webinar which was organised within the Sediment Solutions ‘Community of Understanding’ on March 19, 2021 showed a high interest from the trilateral Wadden Sea community. In total, including moderators, presenters and organisers, 62 persons participated. The distribution over the Wadden Sea countries and trilateral organisations was as follows:

- Trilateral: 4
- Germany: 25
- Denmark: 3
- Netherlands: 30

There was a wide distribution over interest groups, with Science, Government and Administration/Management represented most.

Presentation of the report ‘Where mud matters’

First point of the agenda was the presentation of the report ‘Where mud matters’ (<https://rijkewaddenzee.nl/en/sedimentsolutions/where-mud-matters/>) with a brief explanation by Bas van Maren (Deltares) and the handing over of the report by Piet Hoekstra to Bernd Scherer. A summary of their messages:

Piet Hoekstra (Wadden Academy):

The report is an important milestone. Mostly we are focusing on sandy coasts or muddy coasts, where the Wadden Sea is typically a mixed system. This study was done in a short period of time, so it is not the end, but the beginning of work. Follow-up research is useful. But this report shows the important role of mud in adapting to Sea Level Rise. Mud can react more rapidly than sand. Improvements in our understanding can be foreseen in the interaction along the mudflow from the Netherlands to Denmark. And in the interaction between the tidal basins. And, as mentioned earlier, the interaction between sand and mud, and the fact that if a certain percentage of mud is contained in the sand, the overall sediment behavior tends to become similar to mud.

Bernd Scherer (chair of the Trilateral Scientific Agenda Committee) made 2 personal comments: At first, this study is a major step forward on meta study level. But I would favor a broader perspective: the biological aspect is also essential, especially with silt and mud. This applies not only to the origin, but also to the ecological significance of mud. Mud seems to be a little too often

presented as a problem. The characteristics and function of mud as an ecological element should receive more attention in the future. So, please move on with a more balanced view.

The second remark is about the development of the Community of Understanding itself. Started in 1998 the Trilateral Expert Group on Climate and its predecessors has been installed to inform the trilateral network about climate and sediment issues. One should be reluctant about forming a new parallel structure alongside already existing ones, since it carries a risk that resources might be wasted. In this respect, I advise to coordinate the establishment of the community very closely with the trilateral Expert Group on Climate and the Wadden Sea Board.

Summary of the 'Mud management of Wadden sea harbours' session

The presentations by Jesper Jørgensen and Thijs van Kessel gave a combined insight in the harbour management of the Port of Esbjerg and the bigger 'mud management' picture. The time was too short for a broad discussion, so we had to leave it to some questions. Most were about the planned extension of the port on the border of the World Heritage Site and the (positive) reaction of de UNESCO. The main topic of the presentation was sediment management, so the extension discussion was skipped for now. But it is a topic participants appeared to be interested in: 'How to deal with harbour extensions in the Wadden Sea region?'

An important topic in the presentation of Jesper was the management of (historical) contamination. A cleaning operation is running, but should one take out all the contaminated mud in the harbour sediment while deepening? Or do we have to leave it and will that dictate the maximum depth?

Thijs van Kessels main message: Each harbour needs its own mud management strategy, due to its location in the system. And 'size matters': there is an optimum between depth of shipping channels and harbours, and mud management.

In both presentations the question arose: what is the optimum size of ships and harbour depth? And how to deal with that issue? It could be part of the SIMP Shipping, the connection between harbour mud management and shipping size. Which brought up the question: "Are green port initiatives also dealing with the hydro-morphological elements of sustainable management?" And also in this session it was stated that the ecological role of mud should be higher on the agenda.

Summary of the 'Sediment dynamics of the German Wadden Sea' session

Also in this session, time was too short for discussion, hence we give a summary of the presentations:

Gerald Herrling presented an analysis of overall morphological changes in the German Wadden Sea, for the period 1998 to 2016. It appears that the sedimentation rate on the tidal flats supersedes the sea level rise in this period. There are remarkable similarities as well as differences with the morphological changes in the Dutch Wadden Sea and Herrling as well as participants commented that these are important points for further comparison and (model-based) analysis. Tidal as well as wind-driven water movement should be taken into account to understand sedimentation rates and patterns.

Jacobus Hofstede outlined the Schleswig-Holstein strategy against increased sea level rise. He showed that the tidal flats in the Wadden Sea respond to sea level rise with increased sedimentation and therefore have a natural 'resilience' in this respect. Hence, sediment should be conserved within the system. For example, sand needed for strengthening of sea

embankments and dwelling mounds should come from the North Sea or from the mainland. If dredging becomes necessary, the material should be redeposited in the system. Although there was too little time for discussion, participants recognized that currently there are differences in sea level strategies between Wadden Sea countries and that a trilateral strategy exchange is therefore important.

Moderator Robert Zijlstra summarized the proceedings as follows: 'Both presentations showed us that there is a lot of detailed insight on how the morphological system works and that there are regional differences in how the system responds to sea level rise. In general we are far from completing this exchange of knowledge. Many people are working on it. There is a wide interest in trilateral knowledge sharing in this field of interest.'

The following link provides the presentations:

<https://rijkewaddenzee.nl/en/sedimentsolutions/webinar-19-march-2021/>.

The future of the Community of Understanding: Mentimeter results and next steps by organisers

We closed the webinar with a Mentimeter enquiry on how to proceed with the 'Community of Understanding'. Overall results are presented in the Appendix. Main results:

- The majority of participants are interested in continuing the CoU-process, with a total of 4 participants also volunteering to play a role in its future organisation.
- It was often suggested to merge the CoU with the current trilateral organisation structure.
- It was recognised that the 'sediment' topic contains an extremely wide variety of subtopics, so that topic selection for future webinars/meetings will be an important challenge.

Though the group of participants is, of course, not a random cross-section of trilateral interest groups, we – as organisers - consider the broad interest as a support for further development of the community and, indeed, to investigate the opportunities for linking it to the existing trilateral structure. We will also intend to set up an 'Agenda Committee' with those who volunteer to assist in the organisation and, with this committee, select topics for new meetings.

In the meanwhile we intend to organise a 3rd webinar before the summer and to organise an excursion in the autumn (selected dates: October 7-9, 2021).

We will let you know once we have set further steps.

Michiel Firet, Wim Schoorlemmer and Hein Sas

April 12, 2021



Appendix

Summary of results of the 'Mentimeter' poll during Community of Understanding 'Sediment Solutions', March 19, 2021

- 1) **Do you want to proceed with this Community of Understanding?**
42 reactions. 75% mentioned that a CoU has added value for them, almost all others are interested in sediment information.
- 2) **A living community depends on co-responsibility. What are the topics you want to have on the CoU agenda?**
35 reactions with the following topics:
 - a) Related to harbours: 4
 - b) Related to sediment management: 11
 - c) Related to science: 19
 - d) Related to the CoU: 1
- 3) **What kind of support does the CoU need?**
34 reactions. The most prominent words were:
 - a) Funding,
 - b) Agenda committee,
 - c) Capacity, coordination,
 - d) Engagement,
 - e) Political,
 - f) Clear aims.
- 4) **A community needs professional support. What are your ideas about organizational support and how to arrange in means of capacity and funding?**
24 reactions:
 - a) Related to trilateral corporation: 9
 - b) Related to finance: 2
 - c) Related to organisation: 11
 - d) Related to content: 1
 - e) Related to conditions: 1
- 5) **Is there interest in a third webinar between now and the excursion 7-9 October 2021?**
36 reactions:
 - Yes, I like to participate if possible: 21
 - Yes I want to help organize it: 4
 - No, heading to a real life meeting this autumn is fine: 11
- 6) **What could be of value for you as topic for an optional 3rd webinar? What can be your involvement?**
31 reactions:
 - a) Related to science/ecology: 6
 - b) Related to science/sediment: 2
 - c) Related to science/SLR: 4
 - d) Related to science/mixed: 6
 - e) Related to management: 9
 - f) Other: 2