

Schleswig-Holstein. Der echte Norden.

Nature-based solutions to protect the Halligen Islands from rising sea levels

MANABAS COAST pilot project ECOHAL

Luisa Rieth | New Orleans, October 2025



Interreg
North Sea



Co-funded by
the European Union

 **MANABAS COAST**
NATURE-BASED SOLUTIONS

LKN.SH 

Landesbetrieb für Küstenschutz,
Nationalpark und Meeresschutz
Schleswig-Holstein

- 1 The North Frisian Halligen
- 2 Current challenges
- 3 First NbS ideas and small scale measures
- 4 Stakeholder process and NbS upscaling



The North Frisian Halligen

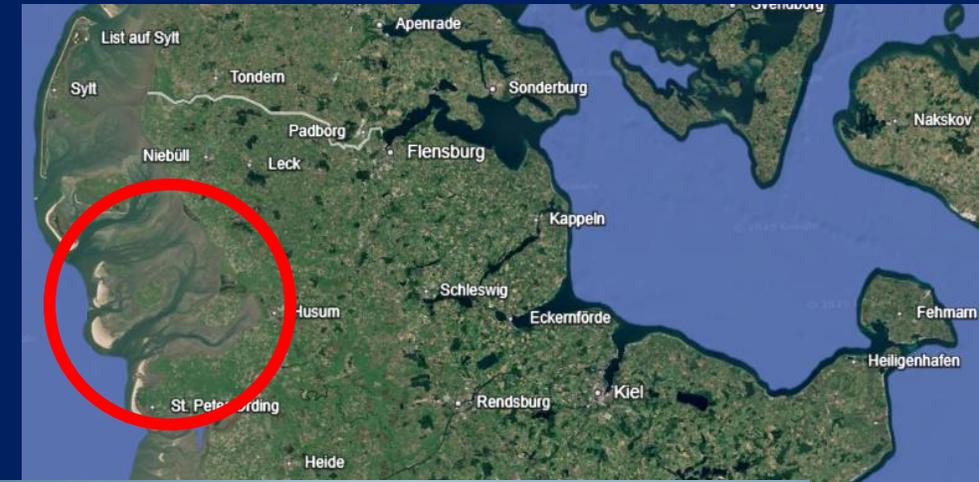
1

2

3

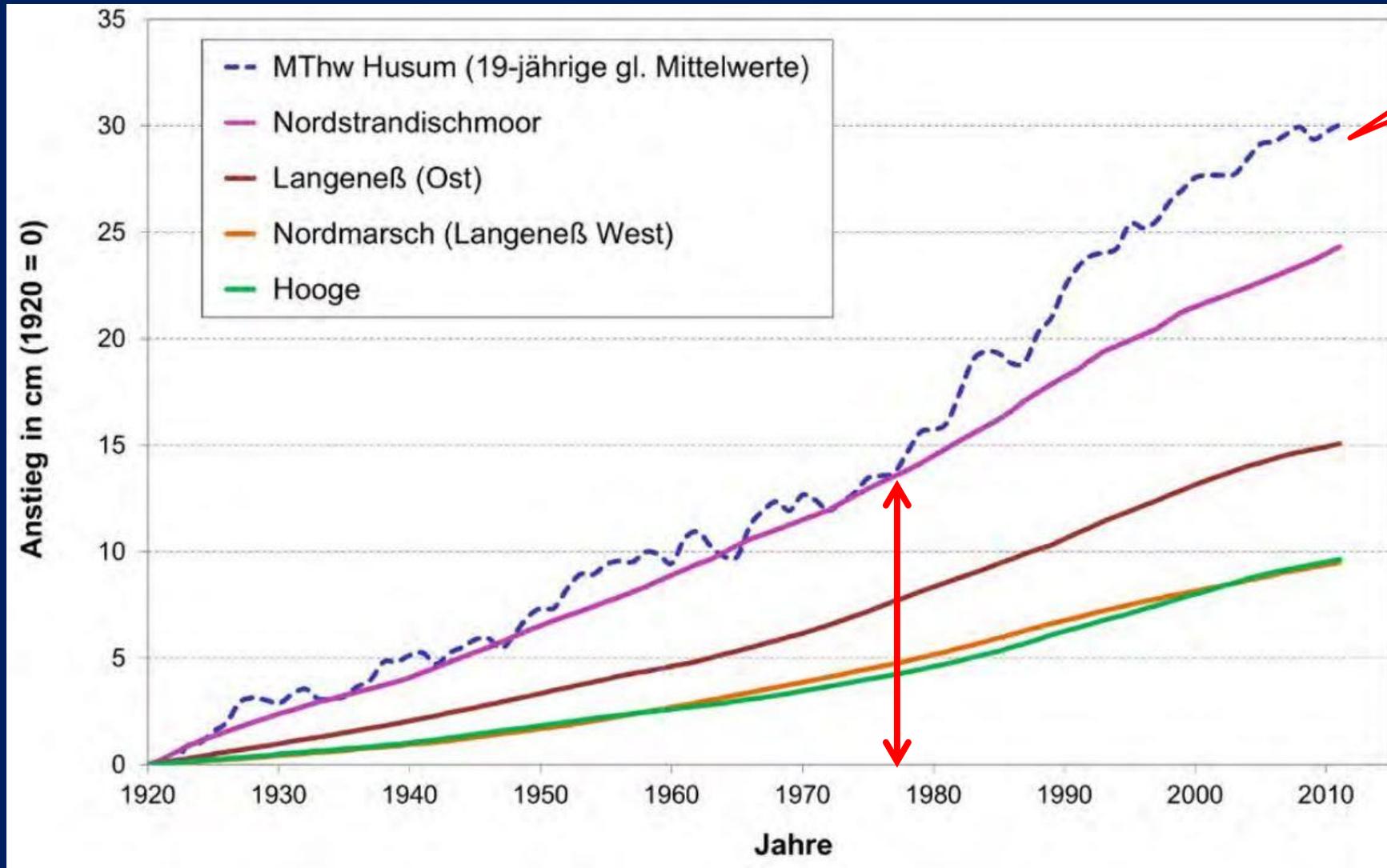
4

- 10 Halligen in total
- 5 of them are inhabited all over the year (~280 residents)
- Shorelines are protected by revetments and/ or summer dykes
- Regular inundation during „Land-under“ events
- High natural value



Current challenges – surface growth

- 1
- 2
- 3
- 4

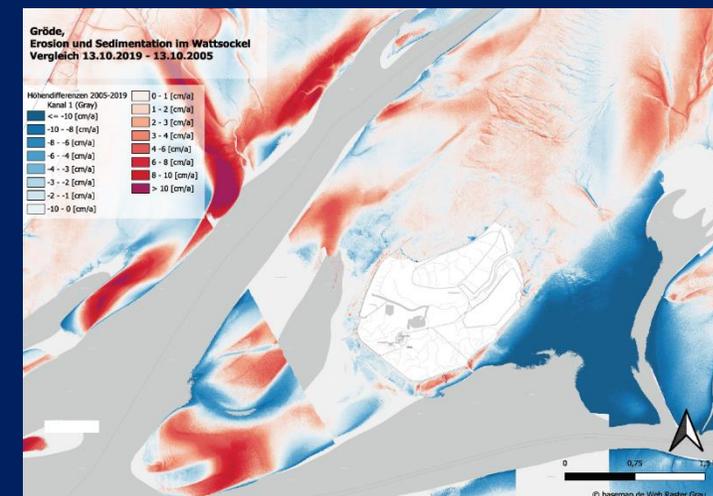
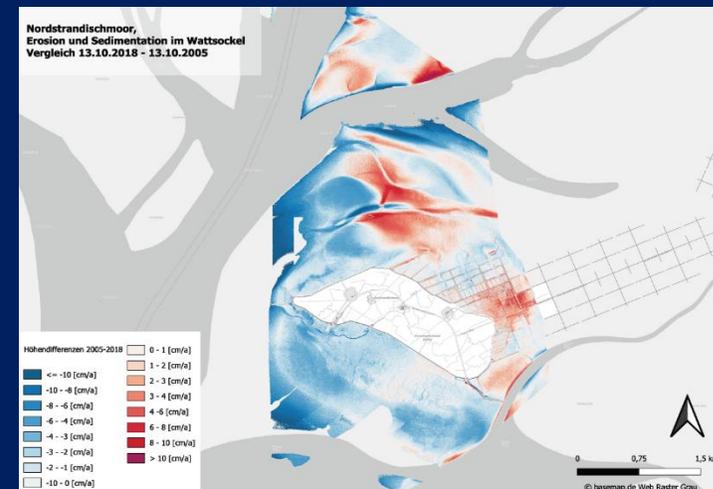
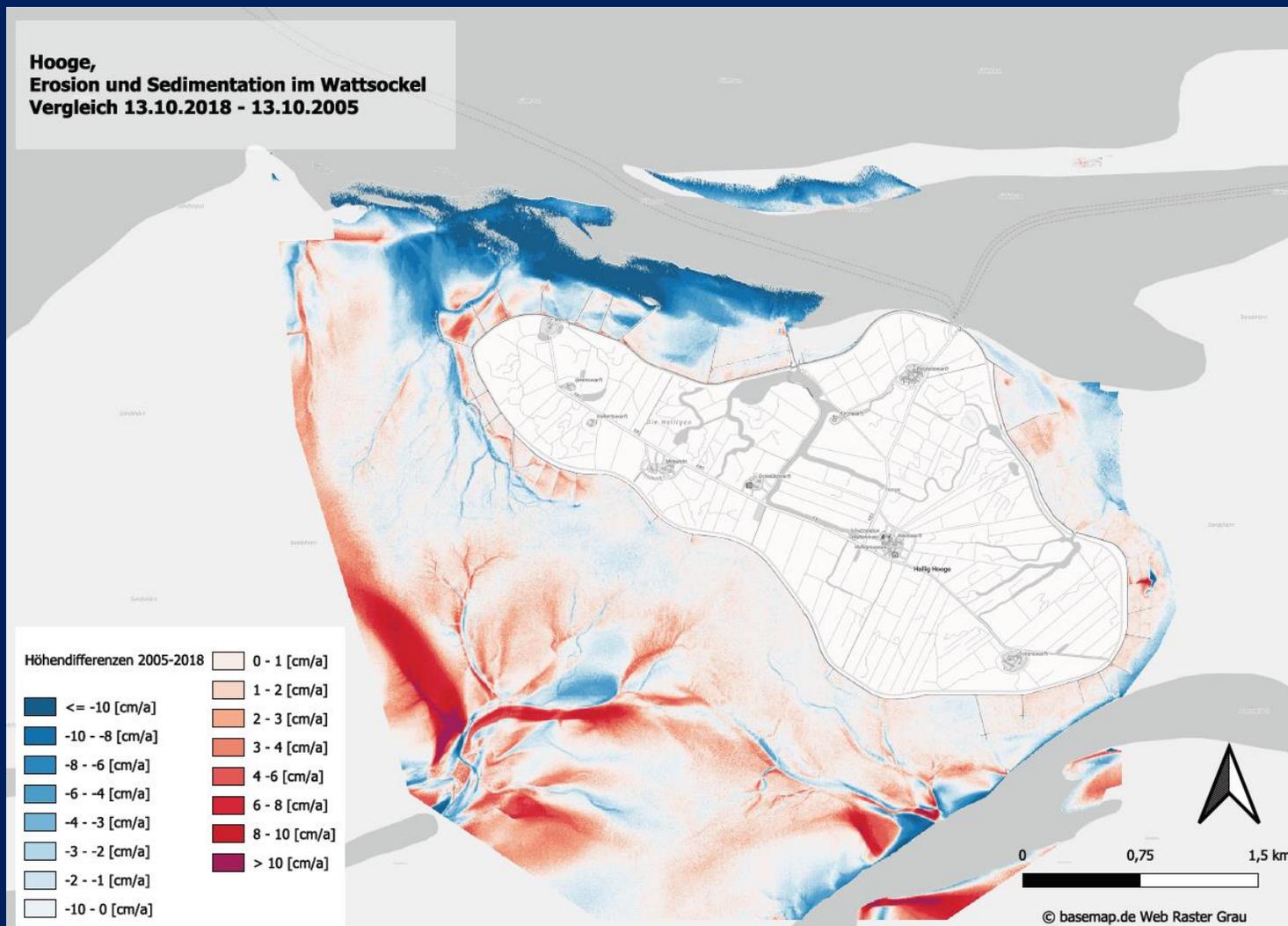


~ 4,6 mm/a



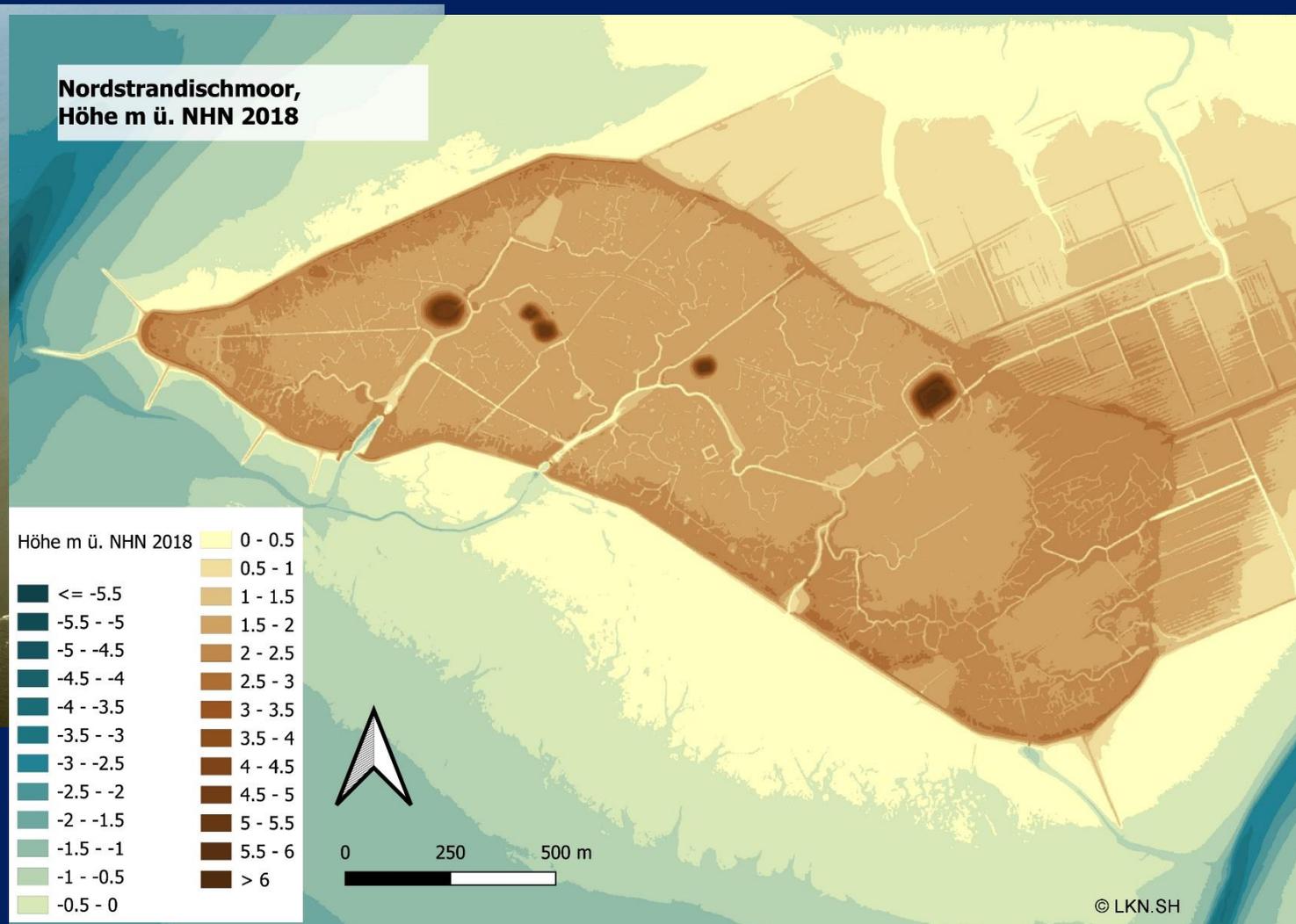
Current challenges – shoreline and shelf erosion

- 1
- 2
- 3
- 4



Current challenges – surface growth

- 1
- 2
- 3
- 4



First ideas and small scale measures

- 1
- 2
- 3
- 4



First ideas and small scale measures – Pipe Polder

1

2

3

4



First ideas and small scale measures

1

2

3

- Controllable via external flap

4

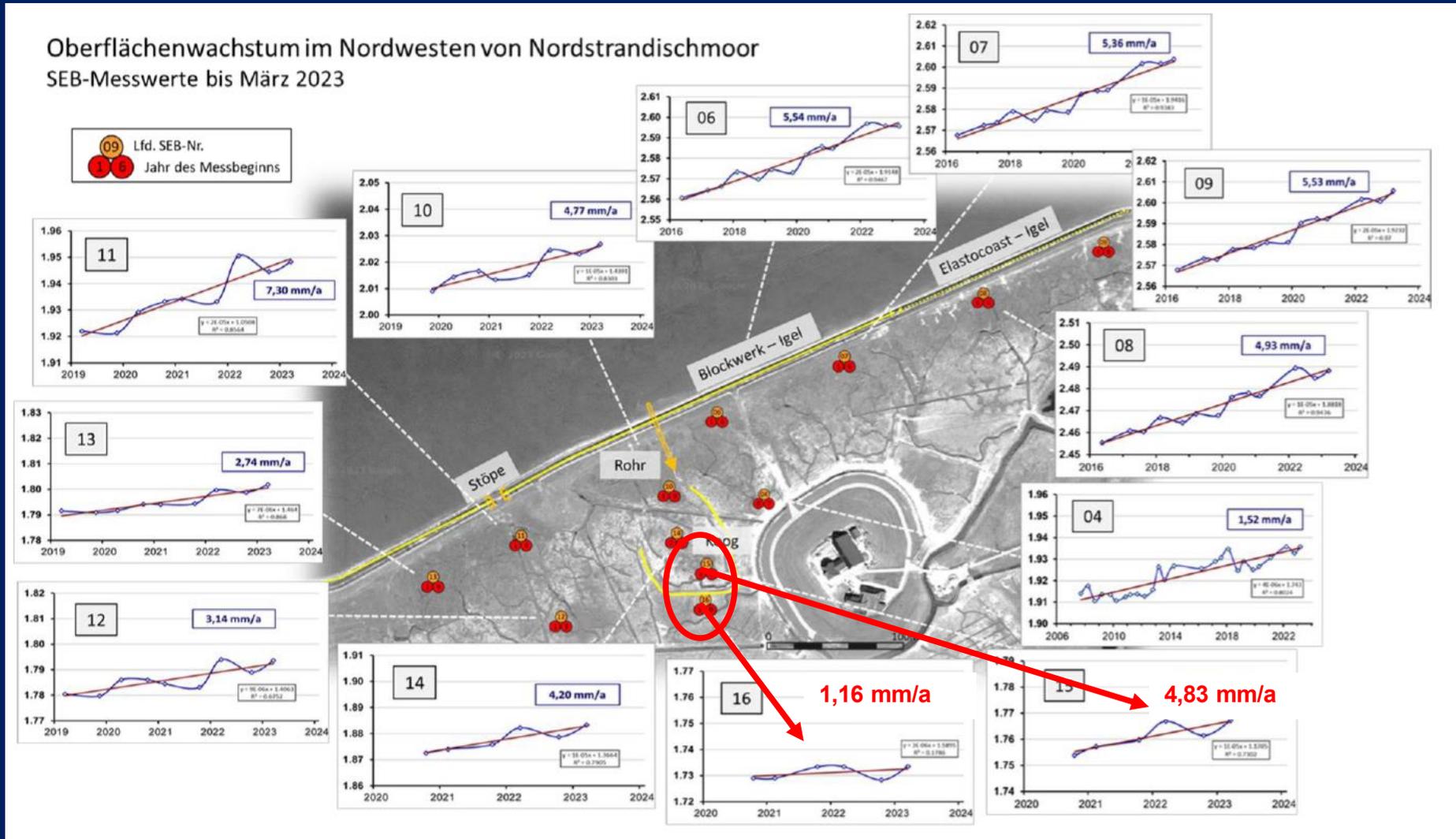
- Active from October to March
- Inundation at elevated water levels
- Polder fills from the middle to the edge
- This increases the sedimentation in the lower center of the Hallig



Pipe polder fills during an upcoming land-under →

First ideas and small scale measures - results

- 1
- 2
- 3
- 4



© Lütmoor-Projekt



Stakeholder process and upscaling

1

2

3

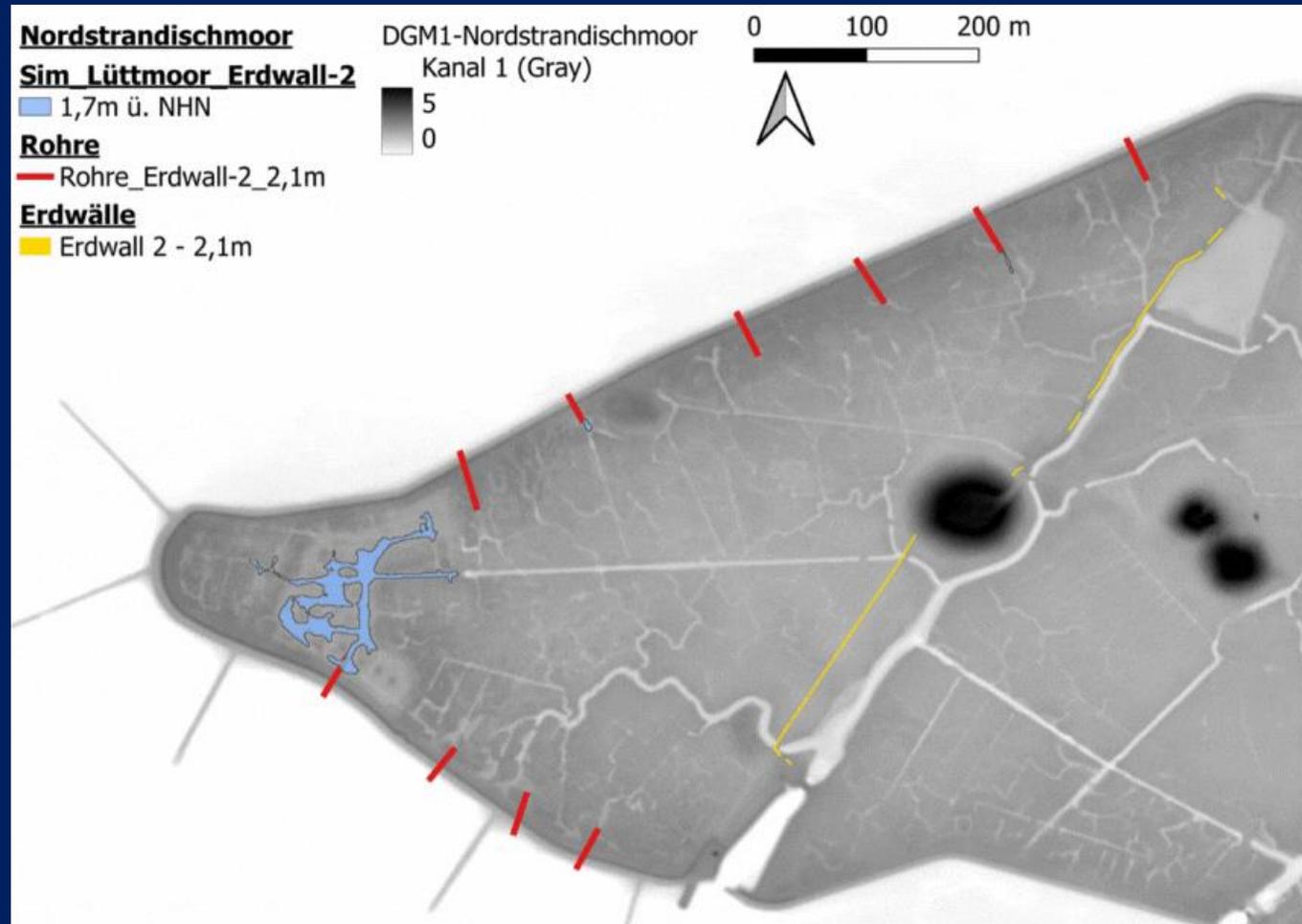
4



- Involve all relevant stakeholders from the beginning
 - Participation in project meetings and on-site workshops
 - Opportunity of co-developement
 - Reinforce networks and exchange
- ➔ Greater acceptance for the implementation of new, alternative measures

Stakeholder process and upscaling

- 1
- 2
- 3
- 4



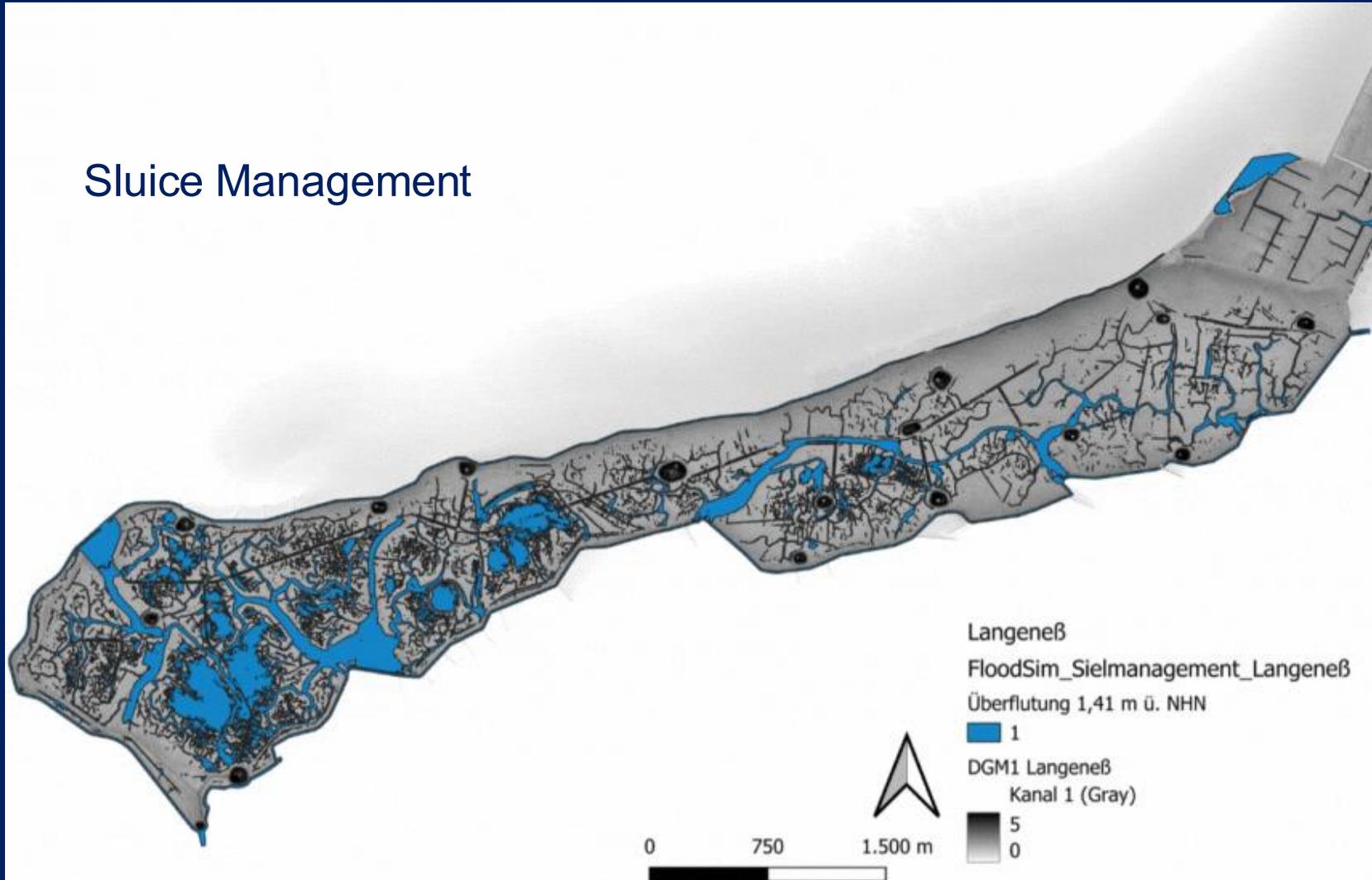
Upscaling the
pipe polder



Stakeholder process and upscaling

- 1
- 2
- 3
- 4

Sluice Management



- ➔ Nature-based solutions can be a promising answer to sea level rise
- ➔ Nature-based solutions can support hard coastal defence structures, but can also work on their own
- ➔ Nature-based solutions can connect and combine coastal protection with nature conservation and climate adaption



2024-02-26 14:17:46
18.64040 104.64071

Thank you for your attention!

Schleswig-Holstein
Der echte Norden



Interreg
North Sea



Co-funded by
the European Union

MANABAS COAST



Luisa Rieth

State Agency for coastal protection,
national park and marine conservation
Schleswig-Holstein (LKN.SH)

luisa.rieth@lkn.landsh.de

← [ECOHAL website](#)