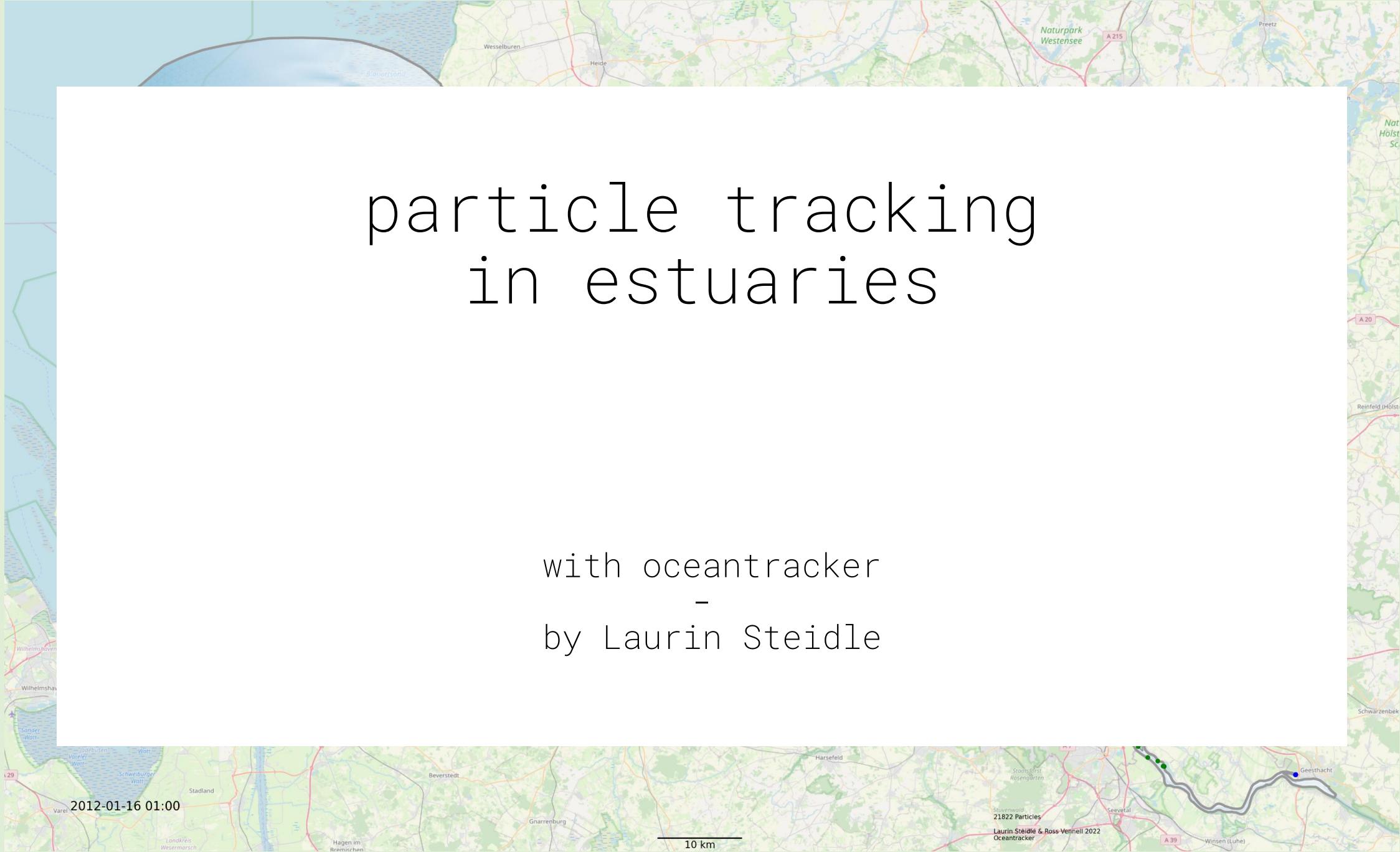


# particle tracking in estuaries

with oceantracker

—  
by Laurin Steidle





# particle tracking in estuaries

- or -

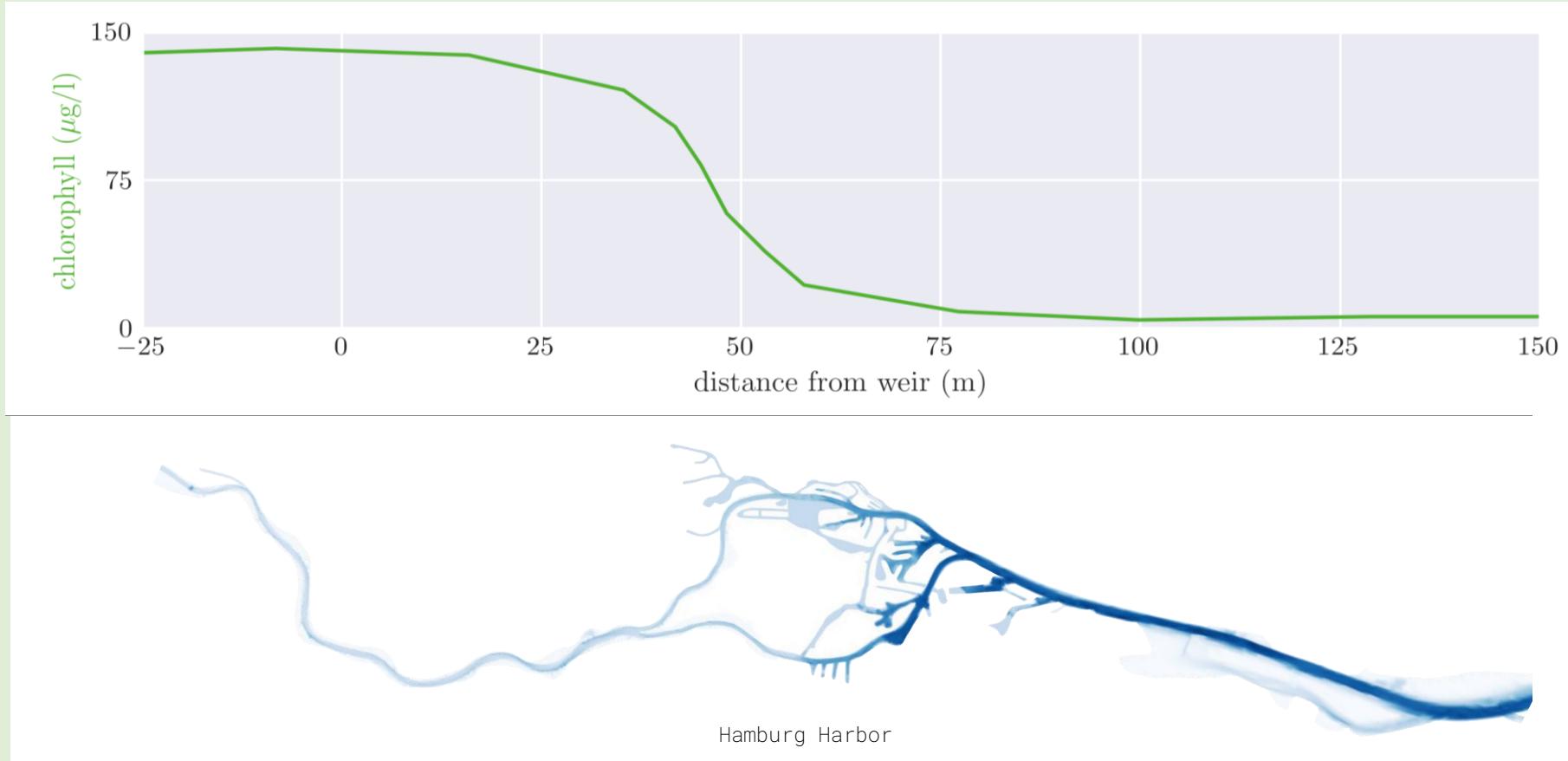
# phytoplankton collapse in the Elbe estuary

with oceantracker

—  
by Laurin Steidle

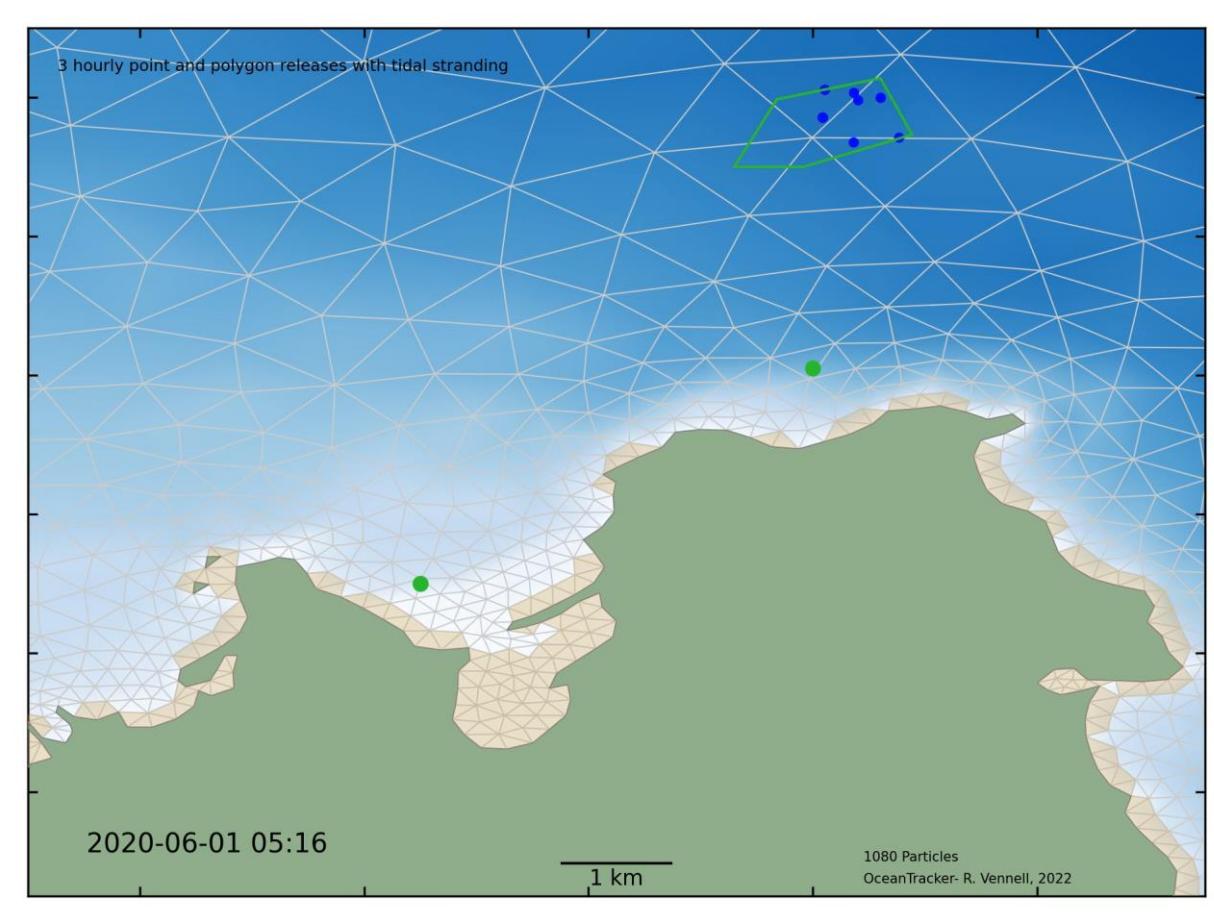


# phytoplankton collapse



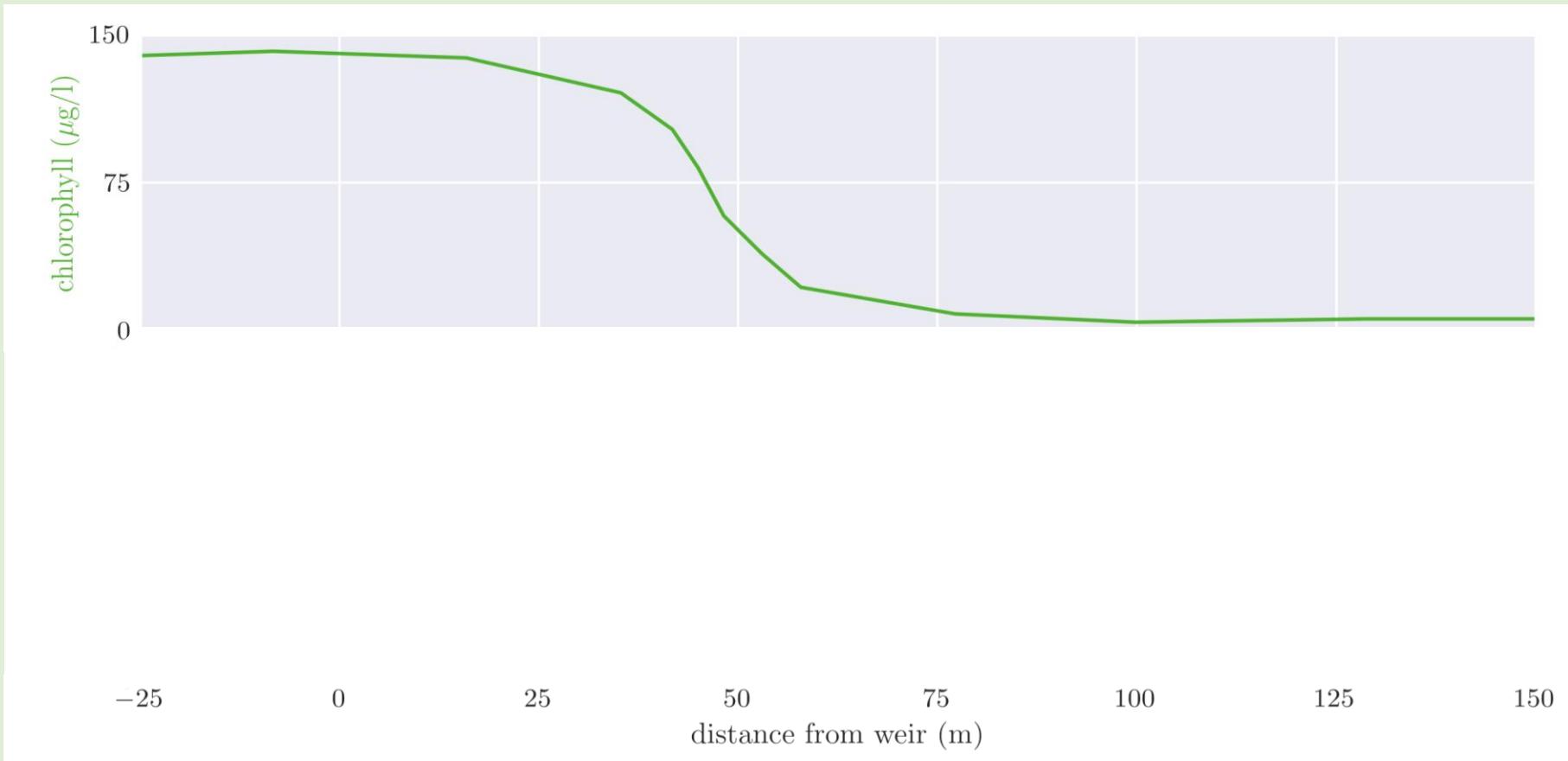
chlorophyll: Schöl et al (2014)

# particle tracker



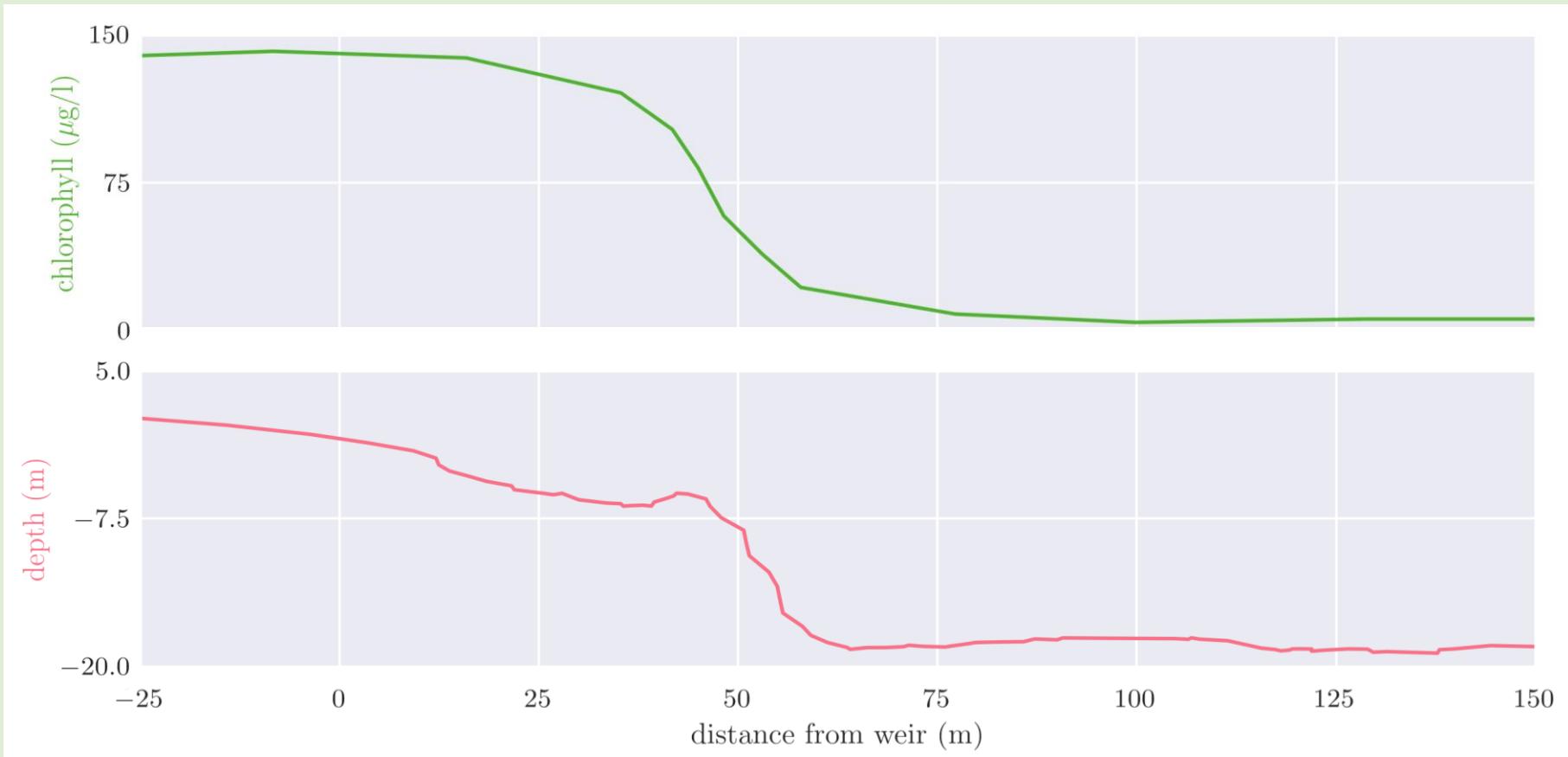
- \* full 3d
- \* unstructured
- \* fast!
- \* flexible
- \* dyn. dispersion
- \* resuspension
- \* stranding

# collapse



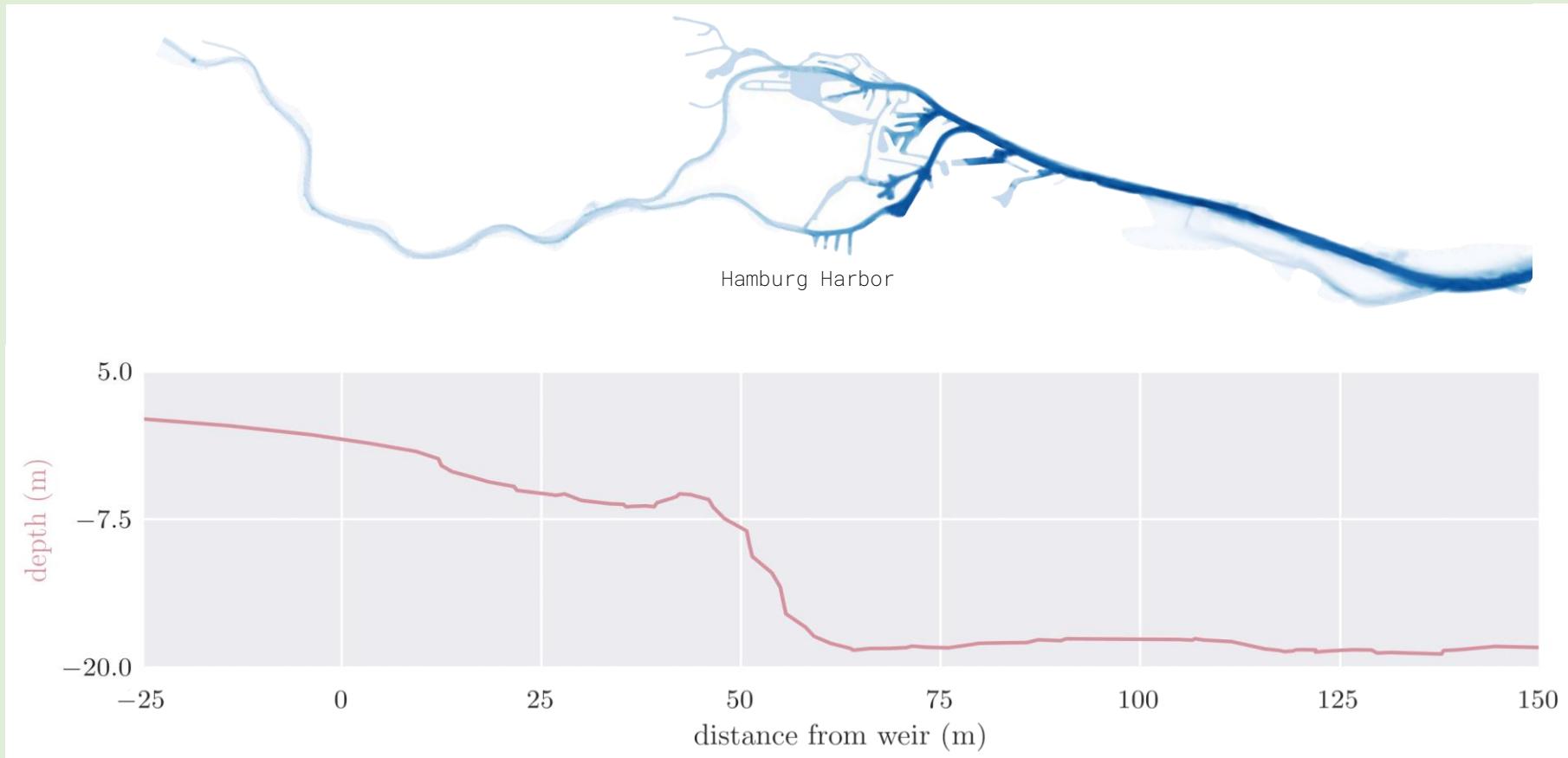
chlorophyll: Schöl et al (2014)

# collapse



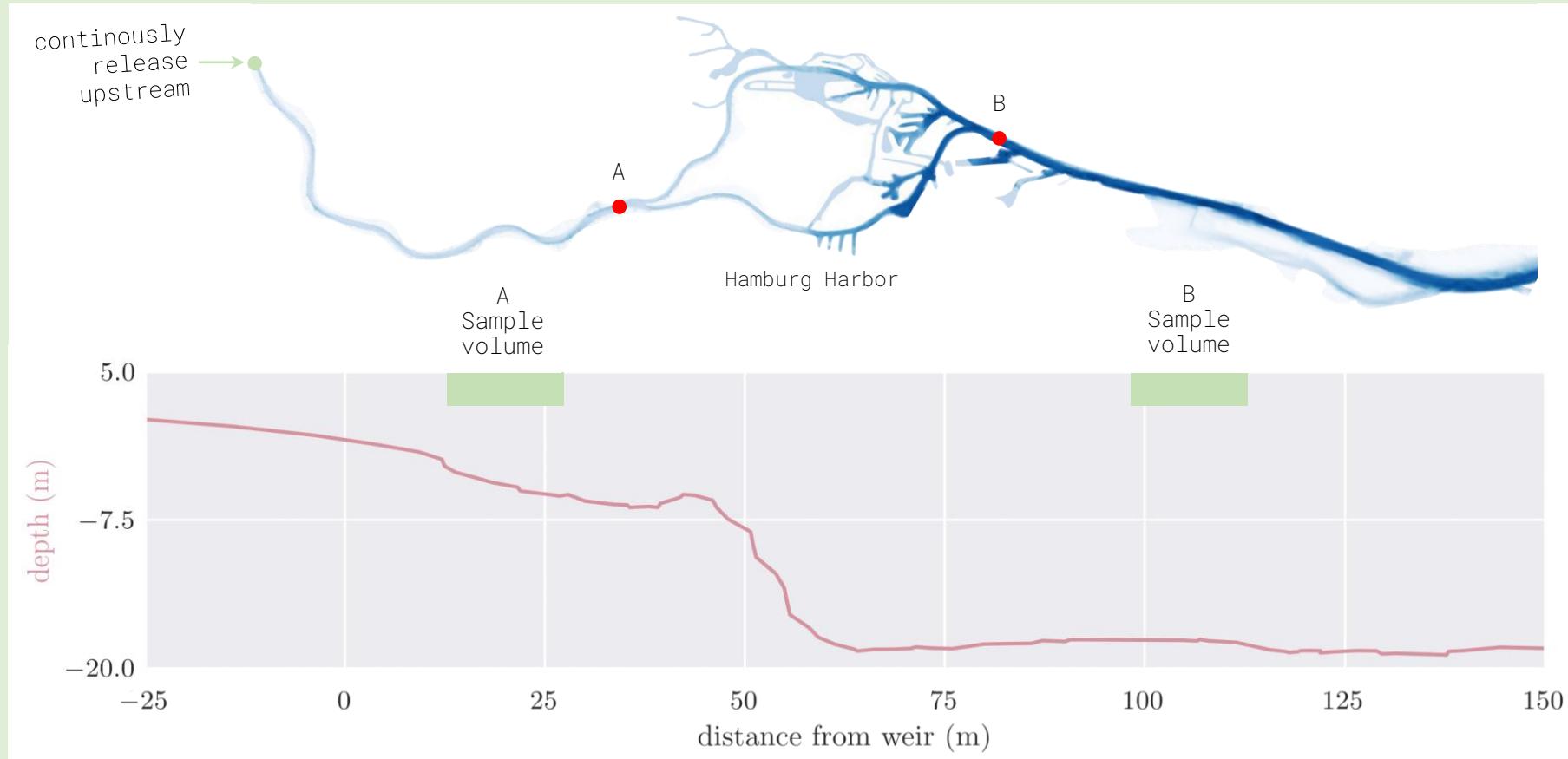
chlorophyll: Schöl et al (2014)  
depth: FGG Elbe

# collapse



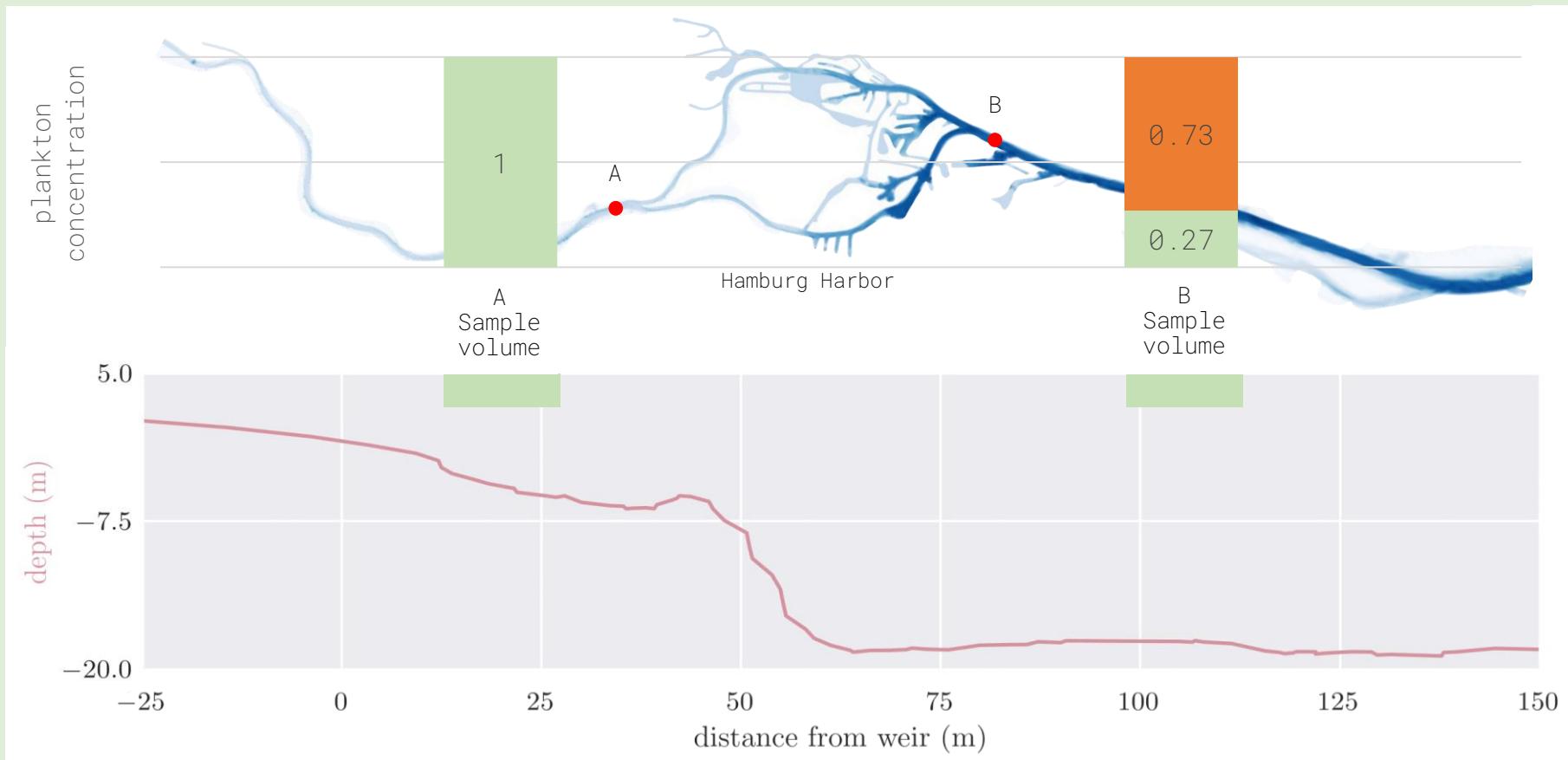
hydro: Pein et al. (2021)  
depth: FGG Elbe

# collapse

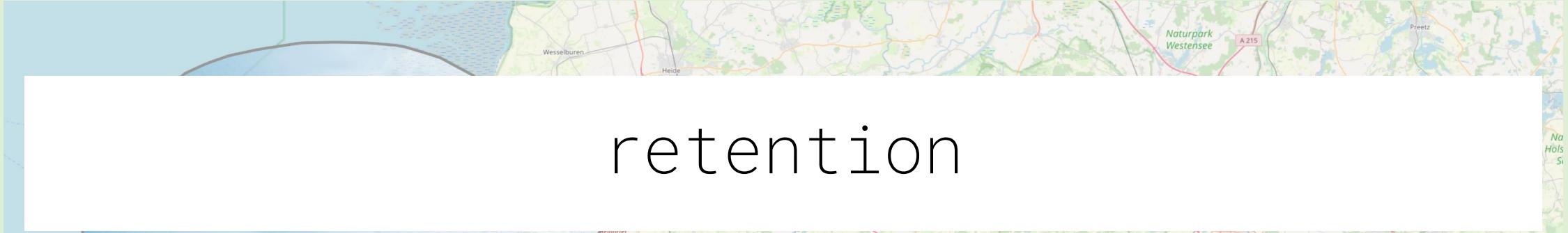


hydro: Pein et al. (2021)  
depth: FGG Elbe

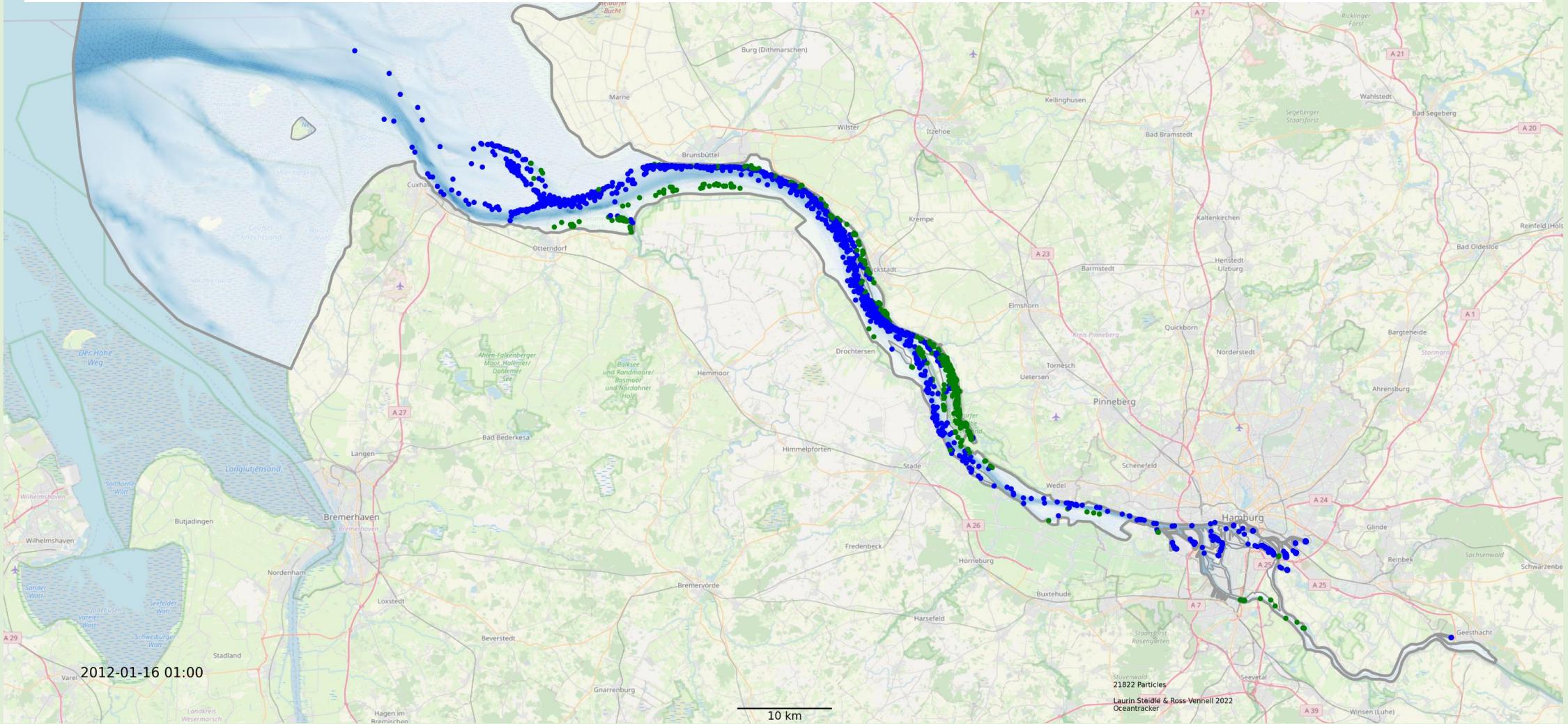
# collapse



hydro: Pein et al. (2021)  
depth: FGG Elbe

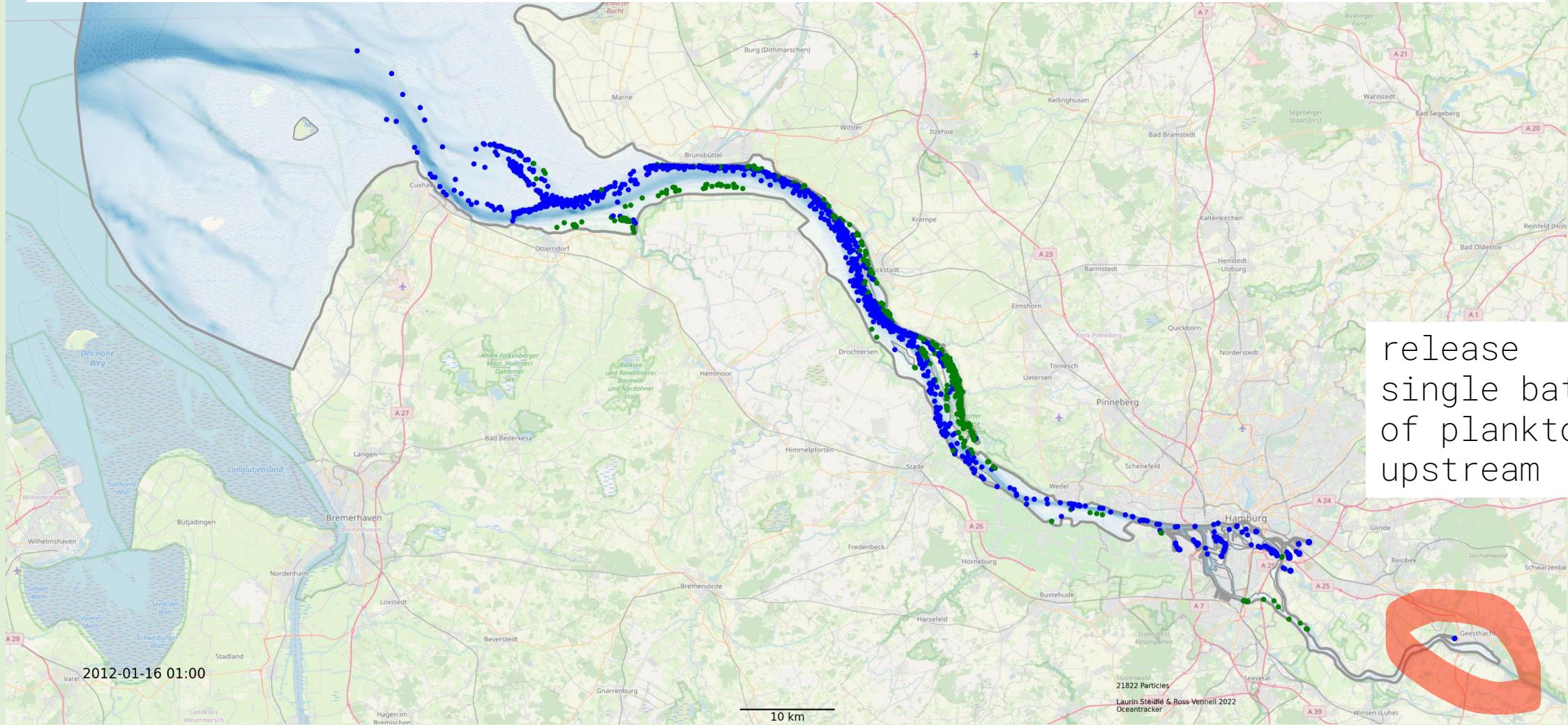


retention



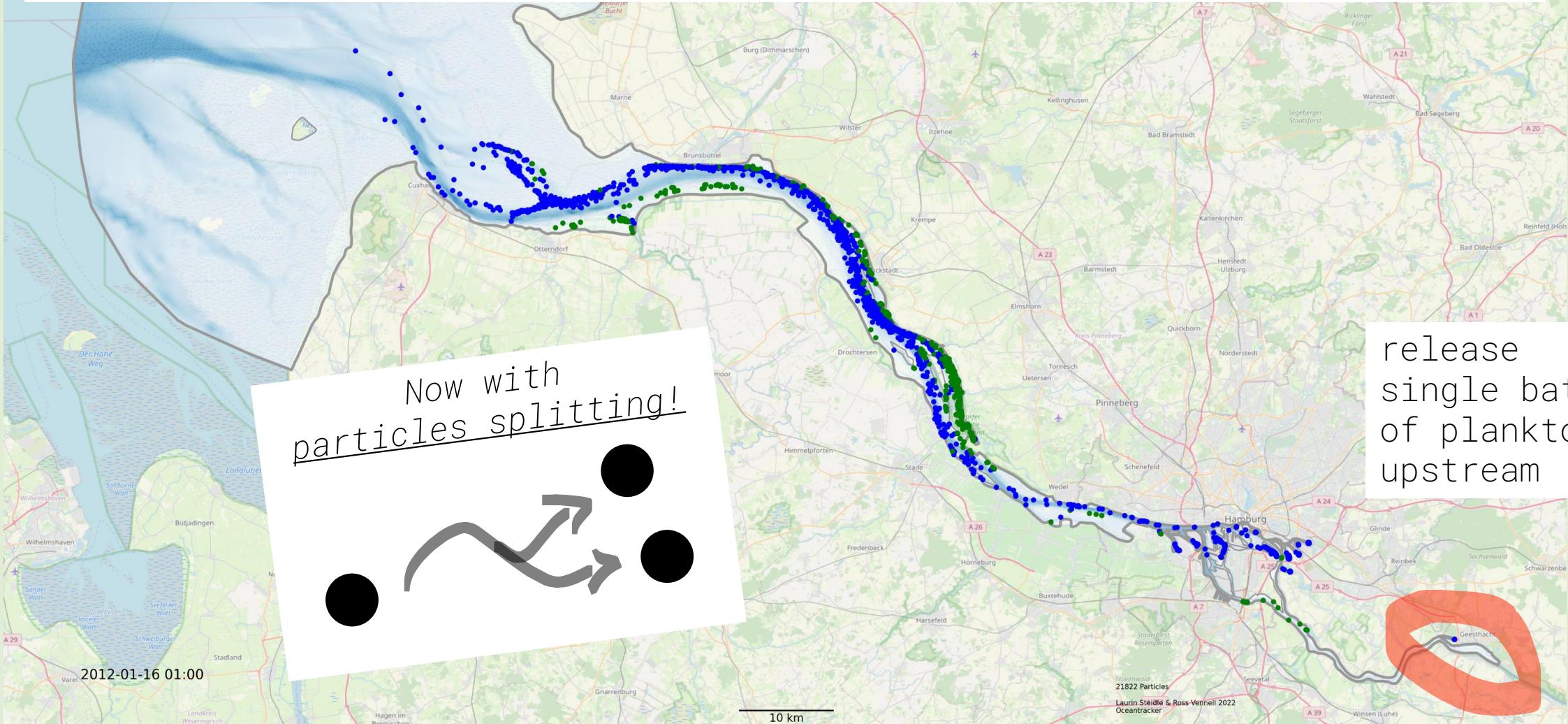


# retention



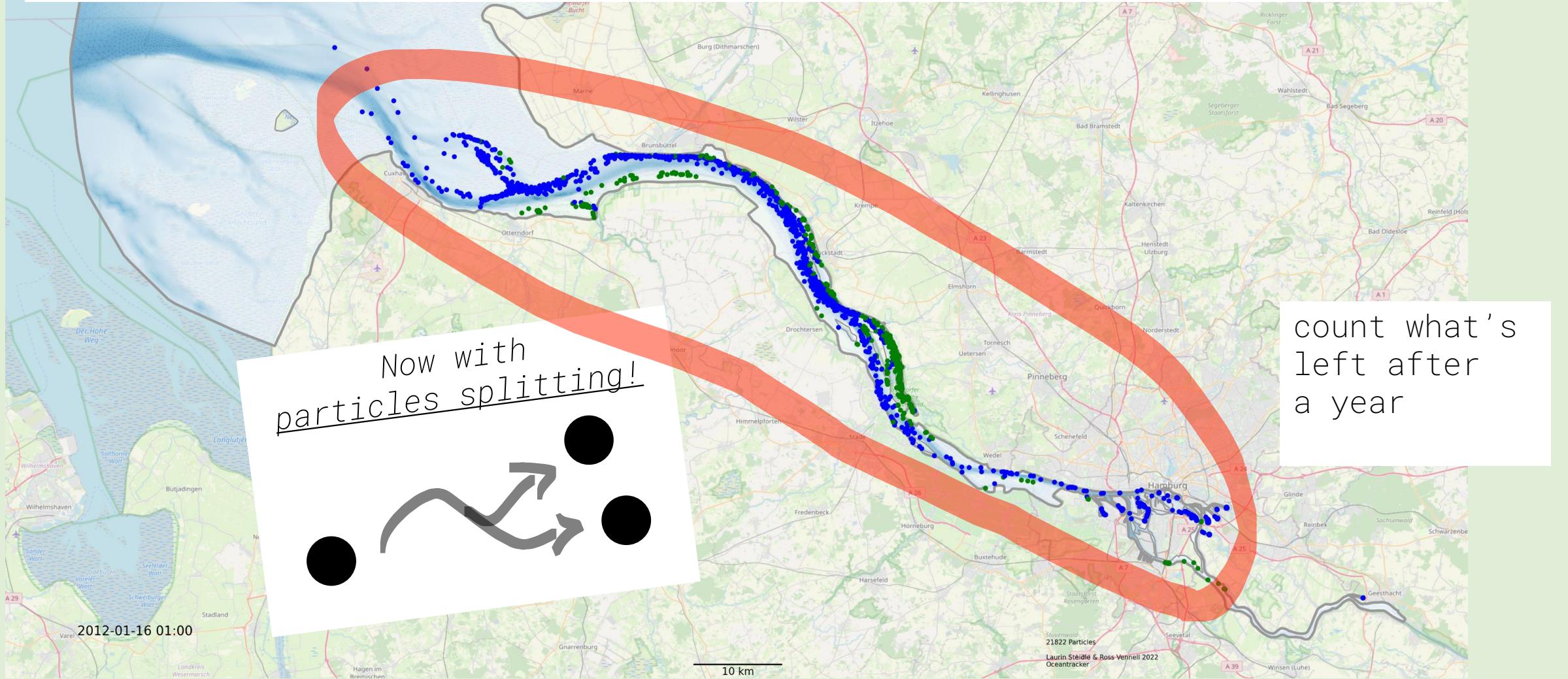


# retention



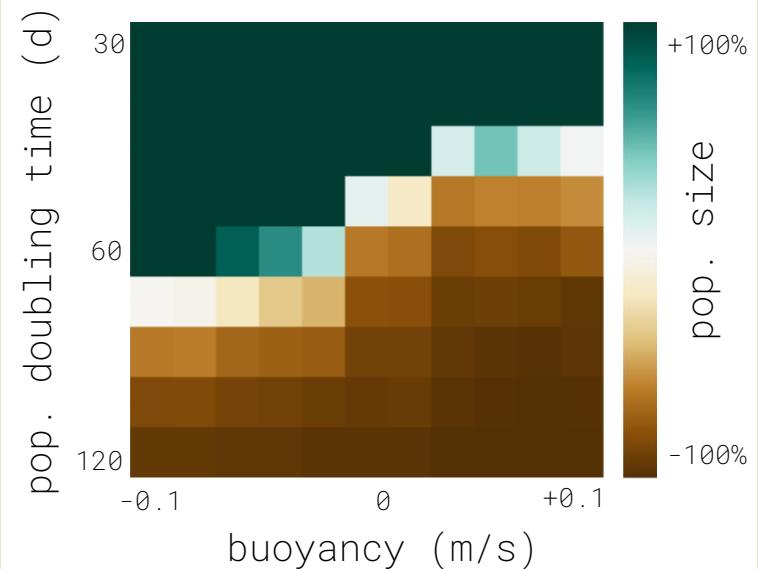


# retention

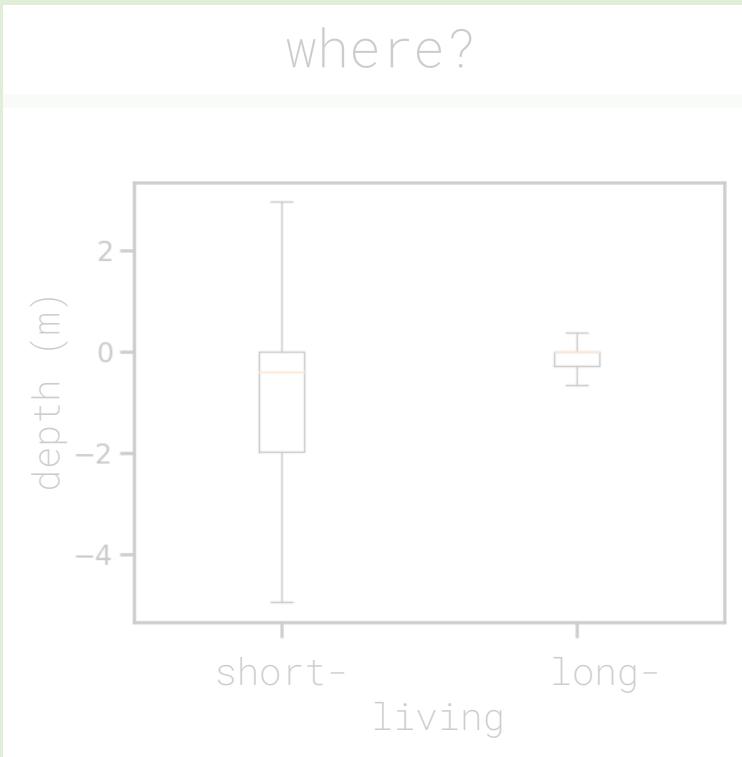


# retention

retention successful?

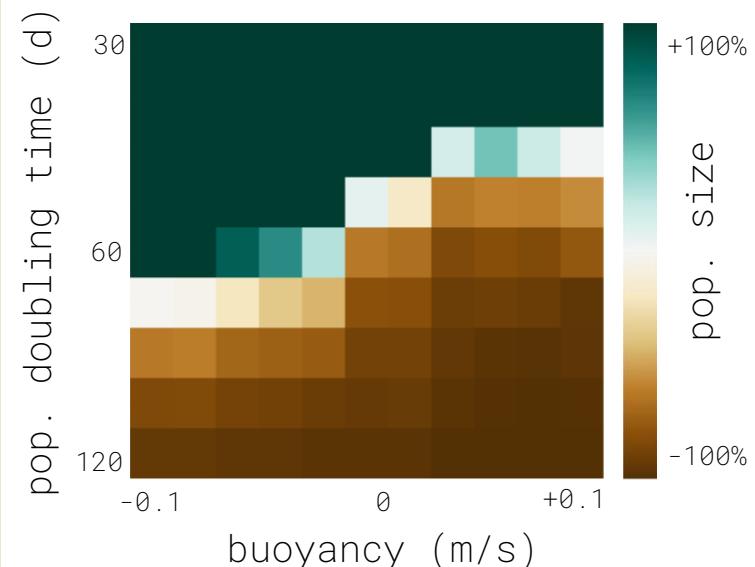


where?

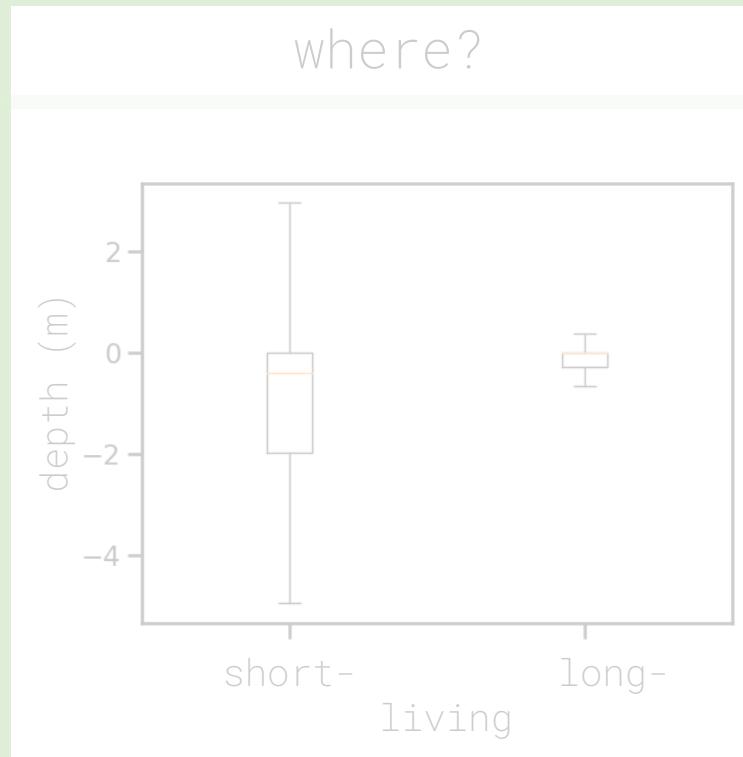


# retention

retention successful?



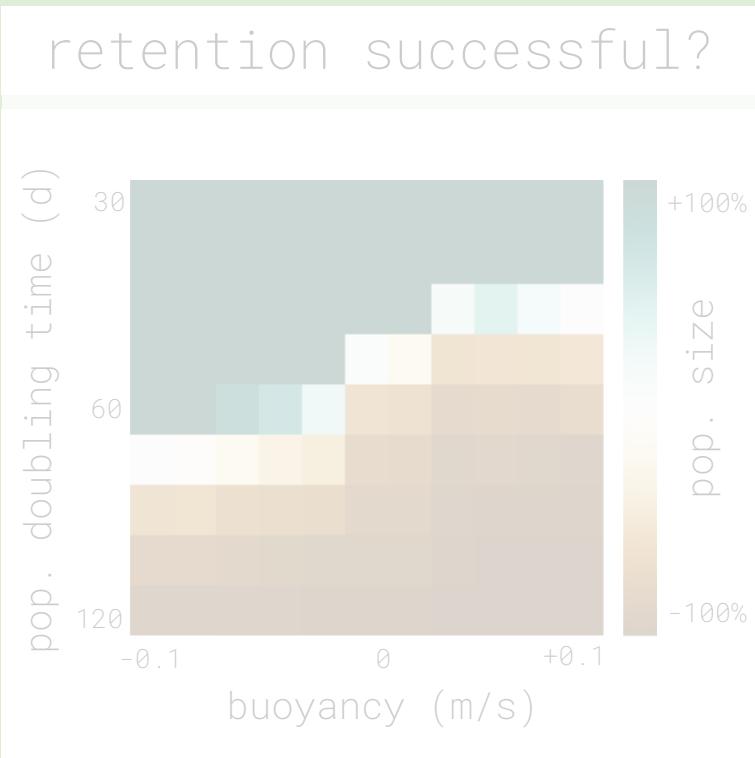
where?



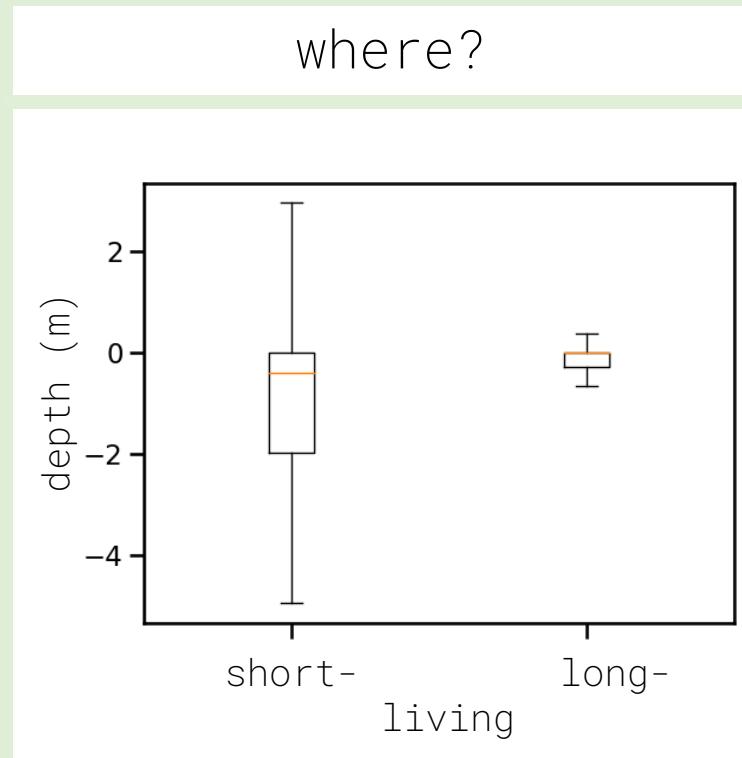
- \* reproduced retention ✓
- \* outwashing estimated ✓

# retention

retention successful?



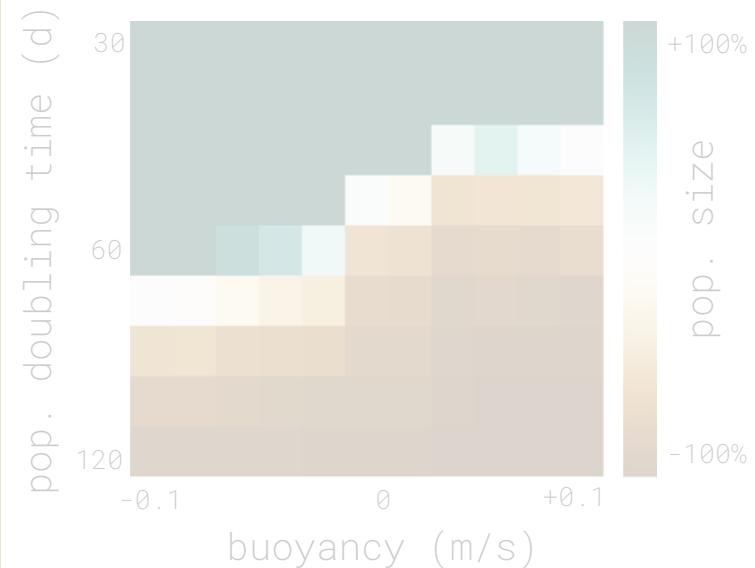
where?



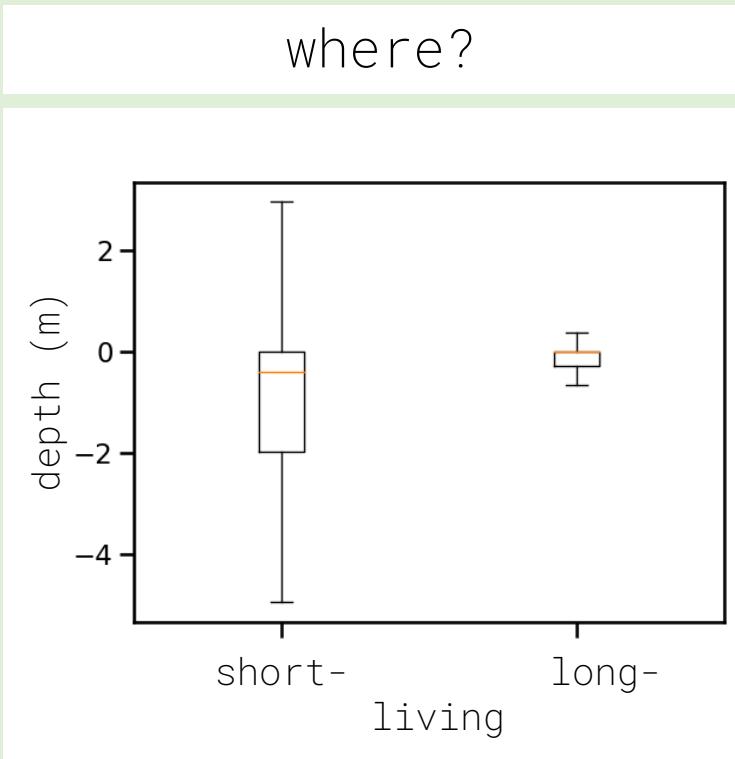
- \* reproduced retention ✓
- \* outwashing estimated ✓

# retention

retention successful?



where?



- \* reproduced retention ✓
- \* outwashing estimated ✓

-> shallow waters  
are crucial

special  
thanks to:



Ross Vennell  
@ Cawthron



Hans Burchard  
@ IOW Rostock



Johannes Pein  
@ Hereon



Jana Hinnens  
@ Hereon



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