



Intertidal field measurements: (long-term) implications of wind events

Lodewijk de Vet – EMERGO project

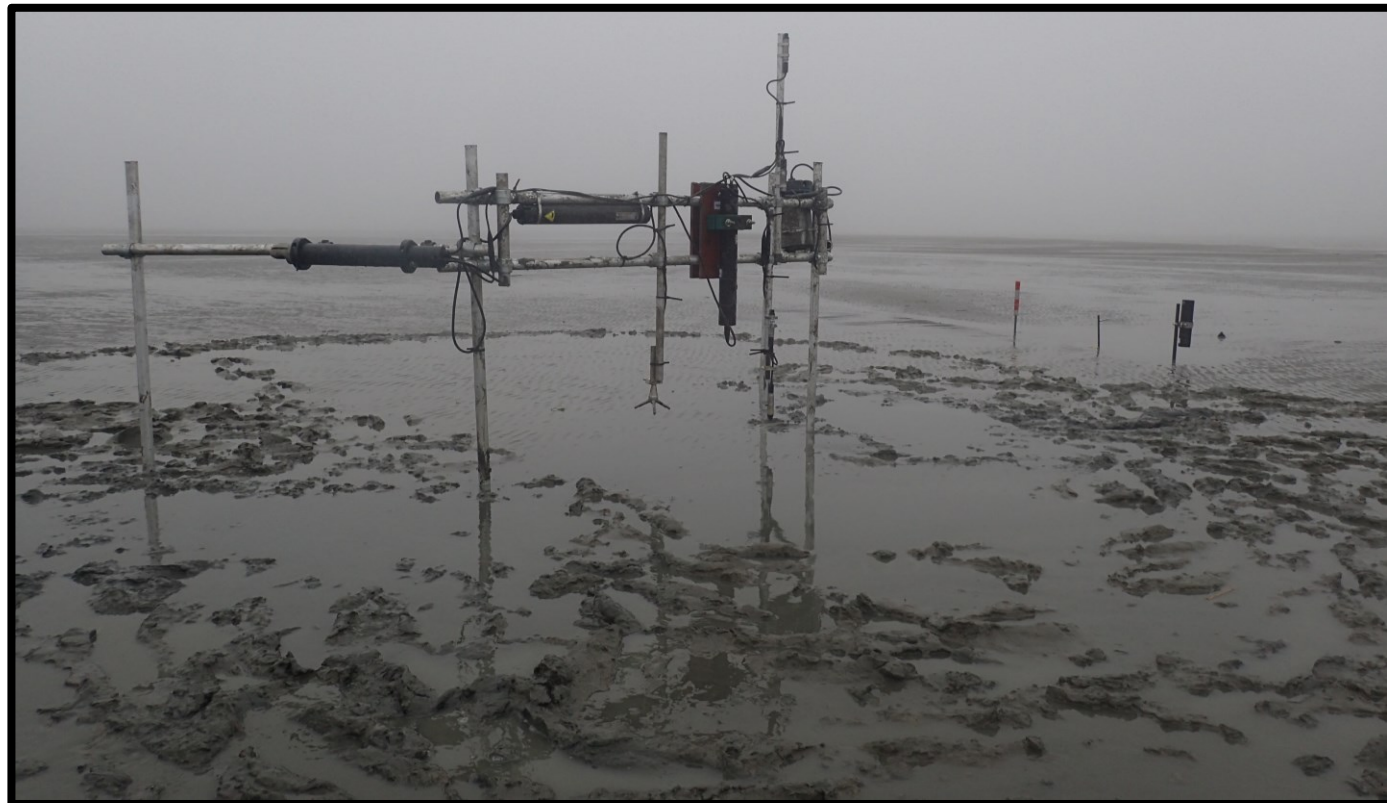
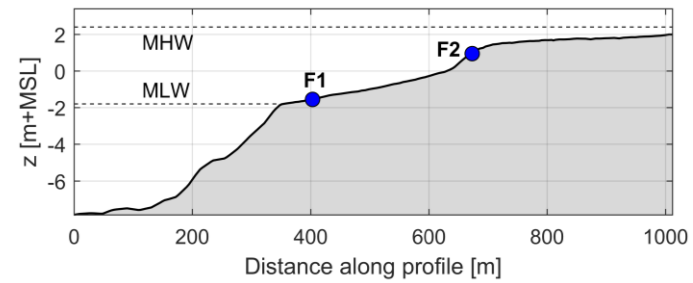
One year eco-morphodynamic monitoring:

Focussing on our
one-month EMERGO
frame measurements
in the Western Scheldt:



What is the impact of an individual storm on an intertidal area?

1-month frame measurements: Nov/dec 2016



The effect of wind on intertidal areas

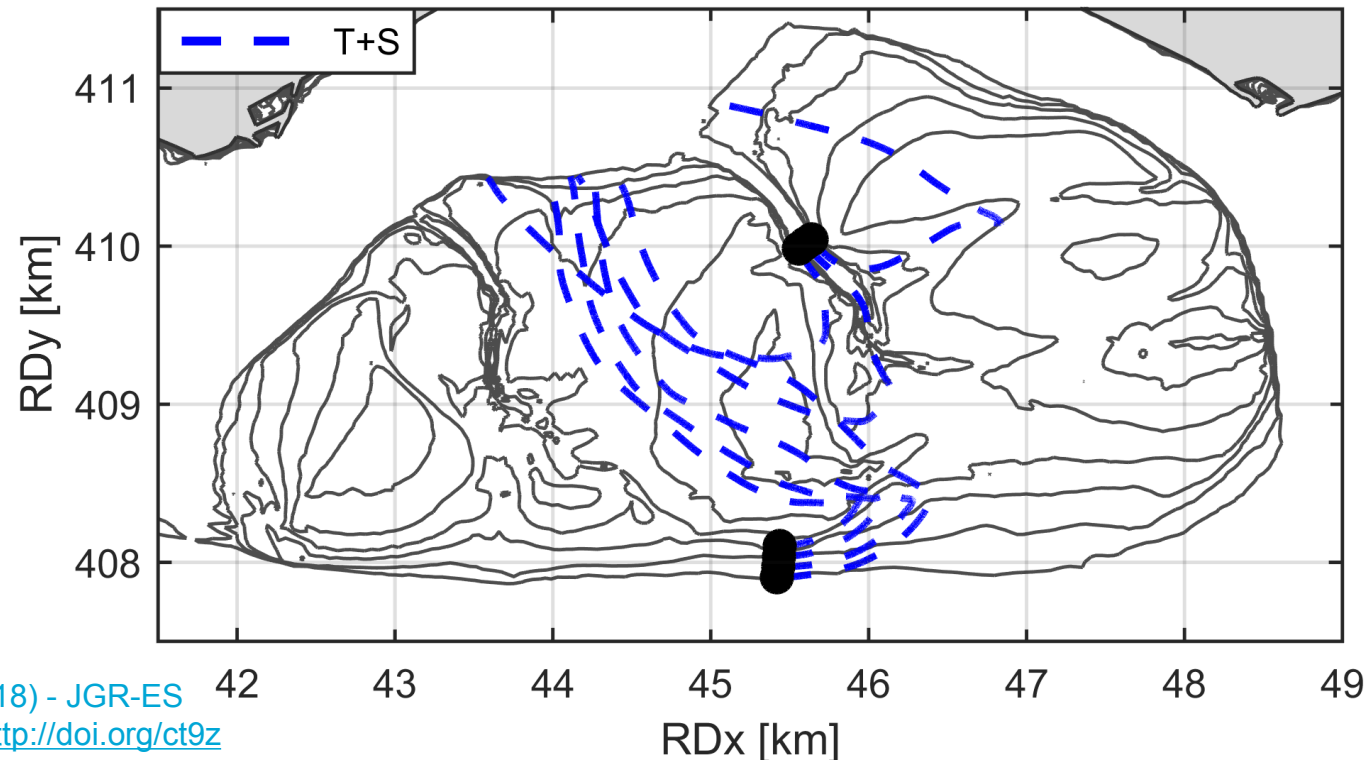
Storm events important for morphodynamics intertidal areas.

Not just waves, but also wind-driven flow is crucial.

The effect of wind on intertidal areas

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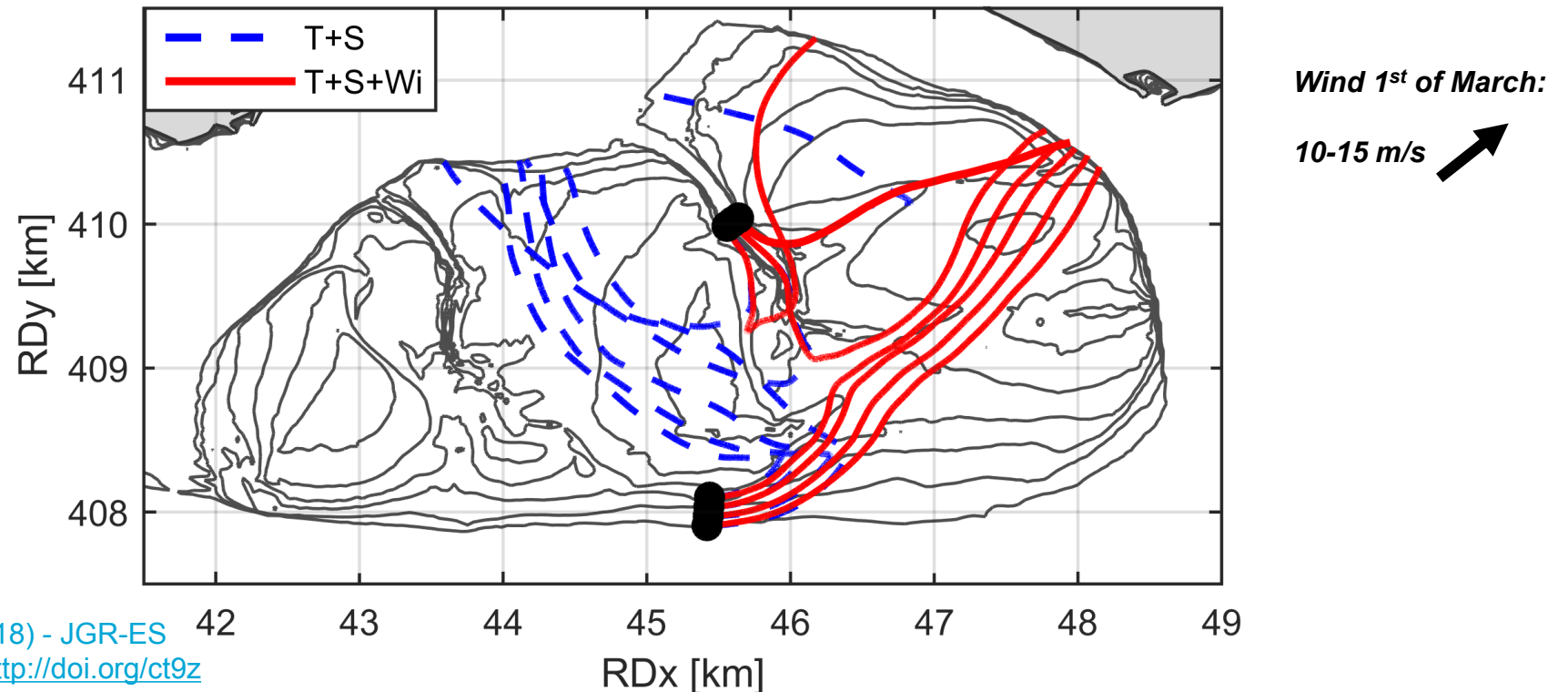
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The effect of wind on intertidal areas

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The effect of wind on intertidal areas

Momentum equations: wind-driven flow important on intertidal shoals (and fringing flats in alongshore direction) if:

$$U_{wind} \gtrapprox \omega w$$

Concluding remarks

1. Wind dominates the flow on intertidal areas with small tidal flow velocities
2. Even under strong tidal velocities, there are moments in which wind effects can dominate
3. Even if ST recovery is fast and LT evolution is smooth, storms affect the LT evolution.



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