

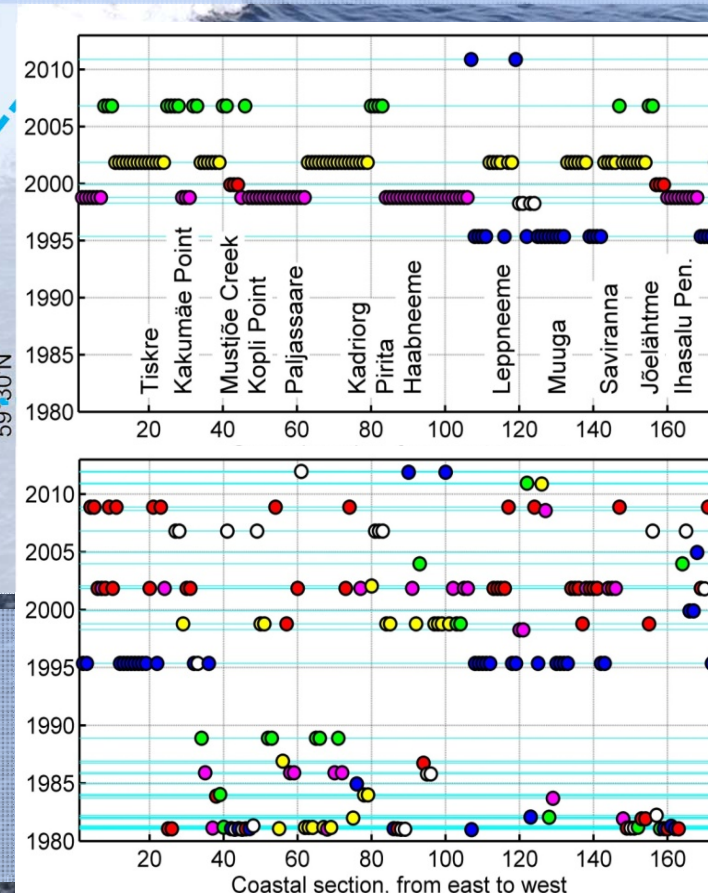
Signal of wave climate change reflected by wave set-up height

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- Triple nested WAM model (0.25 nm):
 - Significant wave height
 - Peak period
 - Mean wave direction
- Wind data from Kalbadagrund
- Evaluated 3-hourly 01.01.1981–31.10.2012

- Wave-induced set-up may form 30-60% of the maximum surge
- A **directional** effect: large set-up only occurs when large waves directly approach the coast
 - Allows to highlight the changes in wave approach direction
- Study area: urban (city of Tallinn), complex geometry
 - Largest theoretical set-up heights ~80 cm



- All-highest waves: 7 storms 1995-2012
- All-highest almost incident waves: >50 storms 1981-2012
- **Remarkable change in storms' timing**
- Rotation of the direction of strongest storms?