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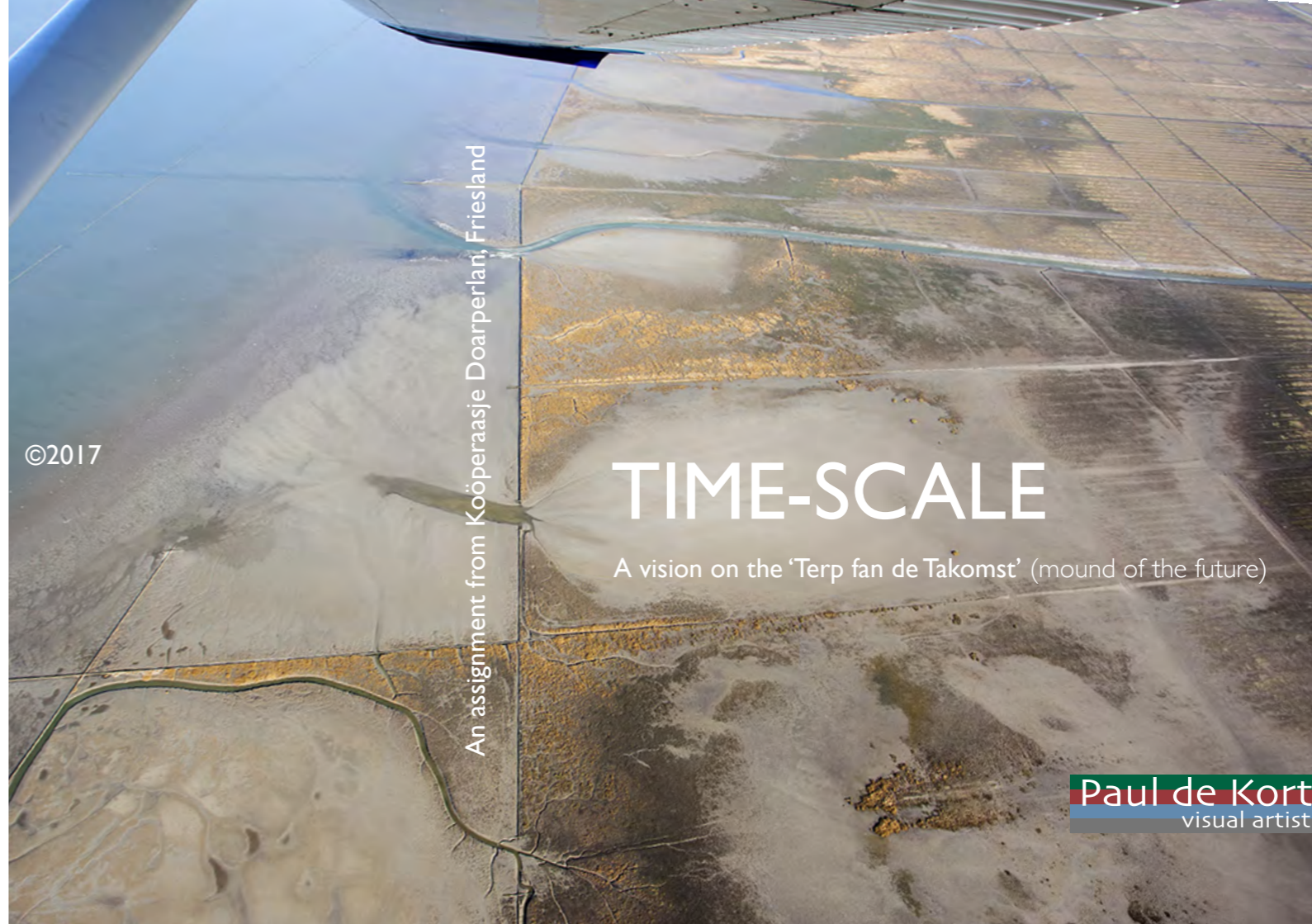
Advice; PARKLAAN Landscape Architects, [www.parklaan.nl](http://www.parklaan.nl)  
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An assignment from Koöperaasje Doarperlan, Friesland

# TIME-SCALE

A vision on the 'Terp fan de Takomst' (mound of the future)

**Paul de Kort**  
visual artist





***“A dyke says: I’m shutting out the sea, a mound says: I have to take the sea seriously, but I’m also taking advantage of it.”***

(Mans Schepers, RUG Terpenctrum)

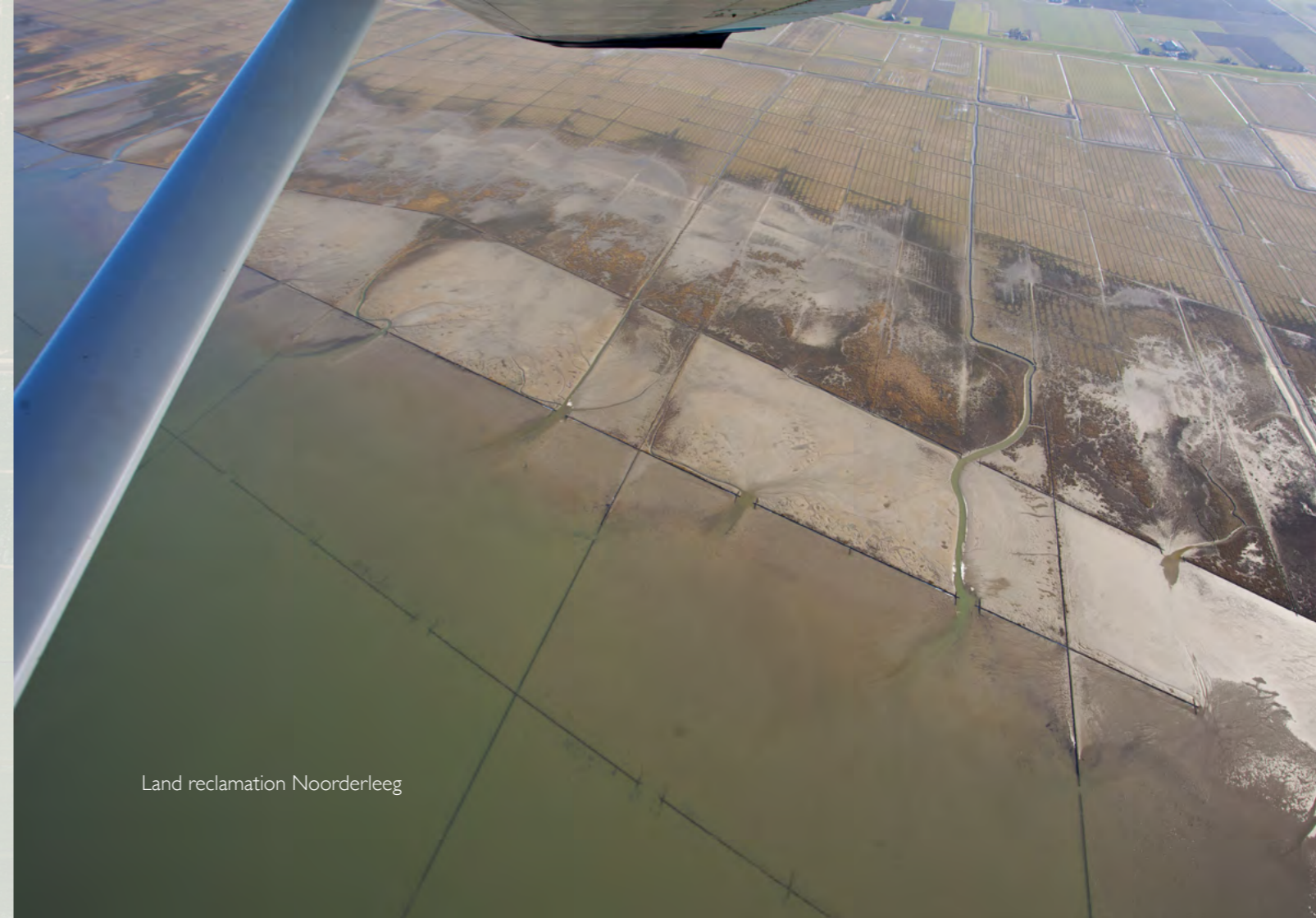
***“Building mounds today is considered primitive; something our ancestors did because they didn’t know they could build dikes. But we still build on mounds, sustainably protected, safer than behind dikes, especially in a landscape where the ground is falling and the sea level is rising”.***

(from; 'Het Vroege Vogelspad' / 'Ontdek de nulmeterlijn', Alphons van Winden, Stroming.nl)

Should we perhaps ask ourselves whether we can sustain our 'inner dike' landscape, as we have built it up over the past millennium, even longer in the face of climate change, rising sea levels and subsidence? Shouldn't we one day return to the path we took 10 centuries ago, excavate the dikes again and regard the inner dike landscape as an unsustainable situation? Should we prepare ourselves for completely new ways of living, living and working in our landscape that is largely below sea level; more climate-adapted, more sustainable? What could such a landscape look like, do we have images of it? On closer inspection, what can we learn from the salt marsh and mound landscape and its inhabitants of yesteryear?

### **Climate change;**

In the Paris Climate Agreement it was agreed that a new international climate institute should be established, based in the Netherlands. This institute will help countries and organisations to adapt to the consequences of climate change. Apparently, the Netherlands is being taken seriously in this area internationally. The Water Cycle Laboratory, 'Room for the River', the Meuse plains, the 'Sand Motor'..., a testing ground for a future climate adaptive salt marsh and mound landscape, would certainly not be out of place in this list.



Land reclamation Noorderleeg



### Scale variance

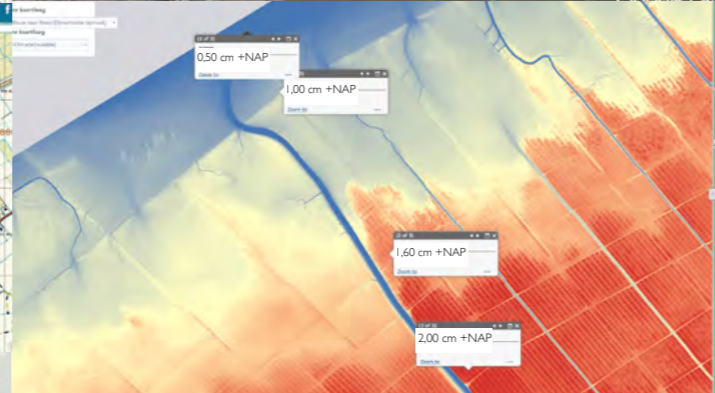
Climatological fluctuations and the geological changes that result from them are manifested on a space and time scale far beyond our direct observation. In scientific models we make use of variables in these scales, so that the gradual developments and changes can be made visible and experienced.

Patterns that arise under the influence of 'morphodynamics' (erosive forces due to transport and deposition of sediment under the influence of water currents and waves) are almost identical to the patterns on a scale of hundreds to thousands of kilometres on the one-metre scale. We call this phenomenon 'scale variance'.

In the land reclamation area Noorderleeg, the laws of scale variance apply in optima forma. Sliding and slipping over the silt layers we see directly under our feet the small accumulations of sediment, drought cracks in the clay layers, erosion traces of gullies and swallows. Morphodynamic processes that occur within time frames of days to just a few weeks and in the meantime leave behind beautiful miniature salt marsh landscapes. In miniature these landscapes are hardly distinguishable from the estuaries and river deltas with the size of a continent and seen from an airplane or photographed from the space shuttle.

With a little imagination, the creeks and gulleys are immense estuaries and river deltas in timescales that stretch over many centuries and millennia. Every every creek a majestic river; every tide is a climatic sea level rise and every winter is an ice age.

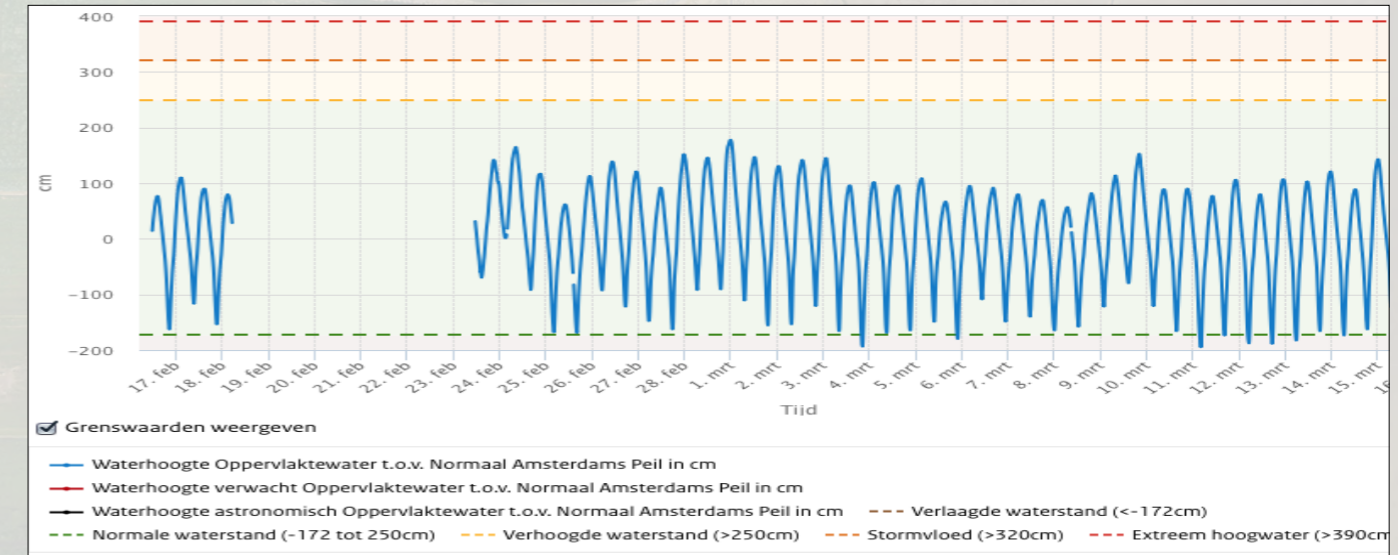
Noorderleeg is the ideal location for **TIME-SCALE**, a research and observation laboratory where possibilities and opportunities for a future, sustainable and climate-adaptive salt marsh and mound landscape can be researched and explored, for learning and entertainment.



## Dynamics in Noorderleeg

The average tide at Noorderleeg is 1.5 metres and fluctuates roughly between +0.50 NAP to +1.50 NAP at high tide and -1.25 NAP to -2.00 NAP at low tide. The tide line moves each tidal stroke in the horizontal plane over a distance of 500 to 800 metres. The seawater deposits approximately 1 cm of sediment per year.

The search location for the 'Terp fan de Takomst' is located between the summer dike and the Vloedlijn, in a strip of more than 1 kilometre parallel to the creek. The optimal location for our scale model is at the tide line, where the fresh water from the creek meets the salty water of the Wadden Sea in a miniature salt marsh landscape.

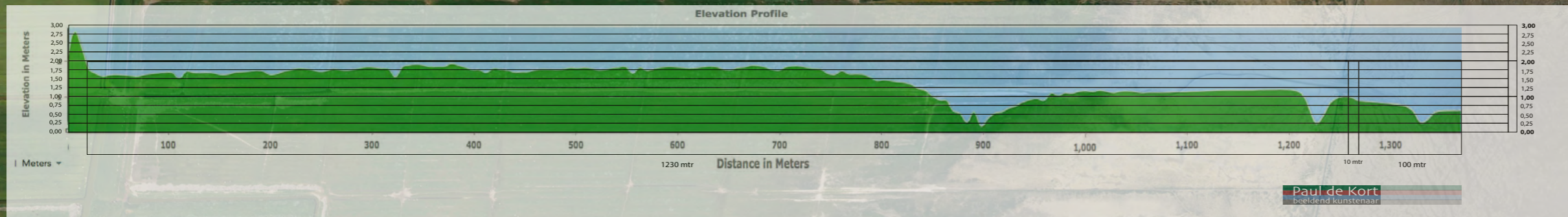


## TIME-SCALE

From the summer dike a 2mtr wide decking path runs at +2 mtr NAP, perpendicular to the tide line. Under the influence of the increasing tides, the creek meanders back and forth under the walkway. Gradually the ground level subsides and changes from green arable land to a grey-coloured silting up salt marsh landscape. All around, more and more miniature estates and delta landscapes appear.

On the tide line there is a decking square (100x100mtr = 1 hectare) in which a battle takes place between running fresh water from the creek and the incoming salty water from the Wadden Sea; we see the genesis of an estuary in a sticky seepage landscape summarized in a nutshell.

*A 'Terpenlanskip fan de Takomst'.*





Parallel to the creek, a decking path runs perpendicular to the tide line.  
Under the influence of the increasing tides, the creek meanders back and forth under the decking path.

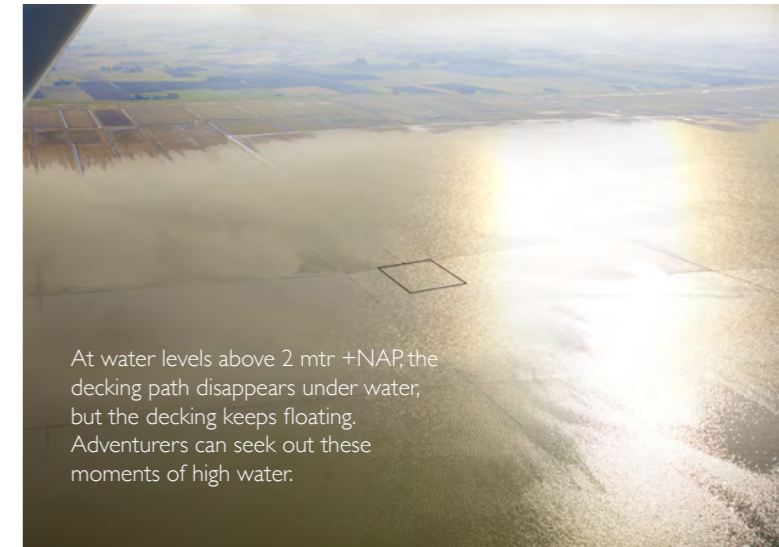
## Collaboration

TIME-SCALE will develop in close cooperation with Dorpsbelang Blije, It Fryske Gea, Terpententrum (RUG), Sense of Place and Koöperaasje DoarpenLân.

In order to bring the vision behind TIME-SCALE to a solid and supported design, I want to put together a multi-disciplinary design team. Besides myself as a landscape artist, this team will consist of landscape architect Marcel Eekhout, working at PARKLAAN Landscape Architects and landscape ecologist Alphons van Winden, working at STROMING Bureau for Nature and Landscape Development.

In working through this vision, we are conducting research into -area-specific- interventions to stimulate, steer and shape marshland formation, sedimentation and vegetation development.

In a more playful and educational way, we show how we have been building our landscape, both traditionally and in the future, in cooperation with nature; *'Building with Nature'*.



At water levels above 2 mtr +NAP, the decking path disappears under water, but the decking keeps floating. Adventurers can seek out these moments of high water.



Sedimentation and salt marsh formation is stimulated, manipulated and shaped.

