



The Canto Ostinato of Dutch Water Management and Climate Adaptation Policy

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Abstract

Recent calls for “a new water narrative” suggest that Dutch climate adaptation policy requires a unifying story. This article argues that such appeals capture only part of how water and climate adaptation policy develop in the Netherlands. Rather than depending on narrative alignment, policy develops through repetition, variation, timing, and sustained coordination among diverse actors operating under long-term physical constraints. Drawing on the musical composition *Canto Ostinato* by Simeon ten Holt as an analytical model, the article conceptualizes Dutch water policymaking as an ensemble performance in which coherence emerges without consensus and disagreement is productively sustained. Using the emergence of *meegroeien* and the work of the fourth consortium of the Kennisprogramma Zeespiegelstijging as a case study, the article shows how high-quality policy performance can identify time-sensitive actions without resolving ultimate system choices. It concludes that improving the timing and coordination of policy action matters more than telling a new story.

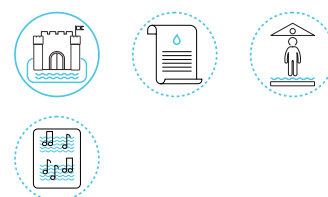
Policy Recommendations

- Make policymaking processes explicit: Make iterative and path-dependent elements of policymaking explicit. Acknowledge sustained disagreement and timing.
- Institutionalize listening across domains: Create structured settings in which policymakers, engineers, ecologists, designers, regional authorities, and residents can listen to one another's constraints, concerns, and temporal horizons without forcing agreement.
- Separate enabling action from system choice: Allow time-sensitive preparatory actions to proceed without agreement on final adaptation pathways.
- Test coordination at scale: Develop a phased Zeeland pilot portfolio.

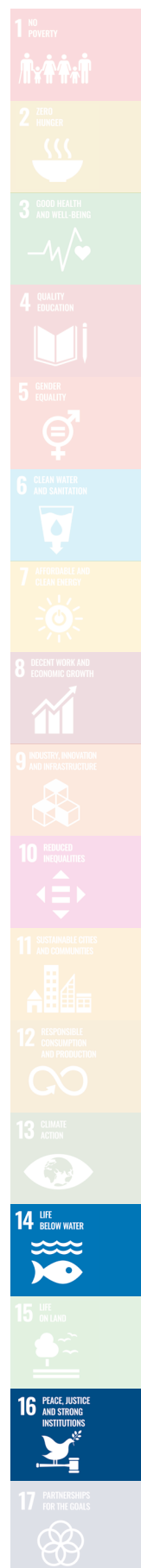
KEYWORDS

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WATER VALUES



< Fig. 1 Het Verdrongen Land van Saeftinghe, Zeeland, the Netherlands (Source: Sky Pictures, via Beeldbank Provincie Zeeland).



Introduction

The presentation of *Meegroeien met zeespiegelstijging* (Steenstra, Van Wesenbeeck, Van Maren, Kolen, Van Nieuwenhuijze and Schengenga 2025) by the fourth consortium of the Kennisprogramma Zeespiegelstijging at the 2025 Deltacongres has once again prompted calls for “a new water story.” Historians such as Lotte Jensen and Adriaan Duiveman (2025) argue for a narrative that makes room for water bombs (extreme rainfall events) and drought, while Delta Commissioner Co Verdaas suggests that *meegroeien* opens a new chapter in the Dutch water story (Verdaas 2025). What they and others hope to engineer is a narrative capable of mobilizing public support, mediating conflict and providing a shared sense of direction in the face of accelerating sea-level rise and climate uncertainty. Rather than searching for a new water story, Dutch climate adaptation policy would benefit more from attending to the quality of its performance – listening more closely, timing interventions more carefully, cultivating the capacity to learn and adjust as conditions evolve and recognizing when the time to act has come.

New Stories

The idea that Dutch water management needs a new story is not new. In 2016, Han Meyer argued that while the dominant narrative of flood defense and control no longer sufficed to guide spatial planning under climate change, a new “strong story” had yet to take shape (Meyer 2016). Two partially overlapping strands of thought have fed into this narrative impulse. On the one hand, historians such as Petra van Dam (2016) have emphasized longer traditions of amphibious living, *terpen* (habitation mounds) and adaptive practices that com-

plicate the familiar – and comparatively more modern – trope of the “eternal struggle against water.” These historical perspectives are mobilized to suggest that a more accommodating relationship with water is deeply rooted in Dutch culture. On the other hand, nature-focused practitioners such as Willem Overmars, Lodewijk van Nieuwenhuijze, Dirk Sijmons, Wouter Helmer and Gerard Litjens have long articulated forward-looking visions in which ecological processes, sediment dynamics and spatial differentiation play a more central role (De Bruin, Hamhuis, Van Nieuwenhuijze, Overmars, Sijmons and Vera 1987; Helmer, Vellinga, Litjens, Goosen, Ruijgrok and Overmars 1996). For them, the “new story” is less about historical continuity than about reframing future possibilities.

At first glance, such calls for a new story seem plausible. Water policy is complex, long-term and politically sensitive. It is tempting to assume that a compelling story – rooted in history, landscape and collective identity – could help align actors and overcome hesitation. Yet this assumption deserves closer scrutiny. What, precisely, is the new narrative expected to accomplish? Is it primarily a matter of policy communication and public legitimacy? A tool for reconciling divergent interests? Or a substitute for difficult choices that institutions are hesitant to make?

A further complication remains largely unspoken: the call for a new water story presupposes a degree of agreement about what that story should be. There are, however, fundamental tensions that stand in the way of such agreement. Appeals to narrative often mask disagreements about risk tolerance, spatial justice, ecological priorities and the limits of technological control. In that sense, the appeal to narrative may function less as a solution than as a displacement

of unresolved tensions. Rather than persisting in the hope that the right story will unlock the necessary alignment, it may be more productive to consider a different art form – one that more closely approximates how Dutch water and climate adaptation policy are actually made.

Canto Ostinato

If you are Dutch, there is a good chance you know *Canto Ostinato*, Simeon ten Holt's mesmerizing composition for four pianos (Ten Holt 1979). Not widely known beyond Dutch borders, *Canto Ostinato* consists of a fixed sequence of musical cells. The notes and their order are given, but performers retain wide discretion over tempo, repetition, dynamics and transitions. A successful performance depends less on individual virtuosity than on listening: to fellow performers, to the evolving texture and to the moment when dwelling on one cell becomes stagnation or when transition becomes necessary.

In classical music, an ostinato is a persistently repeated pattern. In a performance of *Canto Ostinato*, progression occurs not through thematic development but through duration, accumulation and performer choice. Ostinato names the structural engine of the work: persistence rather than narrative development. Legendary performances – such as the one in Utrecht's cathedral in 1984 – demonstrate how the piece can sustain prolonged tension, tolerate divergence among performers and still cohere without centralized control. Discord is not eliminated; it is productively accommodated. Form emerges through repetition, variation and timing.

Dutch water governance, at its best, resembles such a performance. Like Ten Holt's composi-

tion, Dutch policy discourse unfolds gradually – sometimes haltingly – through a limited repertoire of discursive elements: motifs, topoi and partial frames whose repetition, variation, combination and timing matter more than their originality. The policy landscape is populated by actors who repeatedly articulate and vary their own motifs: engineers, ecologists, morphologists, cultural heritage experts, policy-makers, adaptation experts, climate scientists, dredgers, landscape architects and designers, not to mention the scores of water professionals at the Ministry of Infrastructure and Water and Rijkswaterstaat, major consultancies, universities and NGOs, as well as municipalities and district water authorities across the country. Each operates within its own expertise, institutional logic and temporal horizon. The result is not a linear decision process, nor a harmonious consensus, but a form of improvisationally coordinated repetition. What counts is not whether one party prevails, but the quality of their mutual performance.

If Dutch water governance resembles a *canto ostinato*, its future will not be decided by who tells the best new story, but by who listens best, times transitions wisely and knows how to persist adaptively. In what follows, I take the emergence of *meegroeien* as a distinct adaptation pathway within the Kennisprogramma Zeespiegelstijging as a case study for this *canto ostinato* model of policymaking.

The Genesis of *Meegroeien*

To illustrate the *longue durée* of the policymaking process, we can situate the beginning of this performance in 1986, when the newly formed multidisciplinary Dienst Getijdewateren of Rijkswaterstaat published *Zeespiegelrijzing. Worstelen met wassend water* (Rijkswaterstaat

1986). The report concluded that the Netherlands should, in principle, be able to handle up to 5 m of sea-level rise, while refraining from choosing between “the conservative variant, the ring dike, and strategic retreat.” Unsurprisingly, these bold gestures of anticipatory response scarcely disturbed the dominant motifs of command and control in a policy world that still regarded 0.85 m by 2100 as the upper bound of sea-level rise.

More than 30 years passed before these precautionary motifs rose to national prominence. With *Als de zeespiegel sneller stijgt* (Haasnoot, Bouwer and Kwadijk 2017) – a Deltares report presenting the results of a multidisciplinary policy hackathon – a new phase of the performance began. (I will mention below the Second Delta Commission’s 2008 report, which, despite its many accomplishments, failed to persuade the government to acknowledge the possibility of accelerated sea-level rise, and therefore, in that sense, did not achieve what Deltares did in 2017.) Deltares identified three broad responses to extreme sea-level rise: (1) protecting the entire delta; (2) protecting the polders with the rivers in between; and (3) raising the delta as a whole or creating connected *terpen*. The accompanying cartoons make clear that these options were variations on those already articulated in 1986. A follow-up publication, *Strategieën voor adaptatie aan hoge en versnelde zeespiegelstijging* (Haasnoot, Diermanse, Kwadijk, de Winter and Winter 2019), repeated, expanded and formalized this set of responses, now identified as protect open, protect closed, *meebewegen* (a hybrid of accommodate and retreat) and seawards. These roughly correspond to four of the six adaptation options introduced by the IPCC in its 2019 *Special Report on the Ocean and Cryosphere in a Changing Climate*: protect, advance, accommodate and retreat (Oppenheimer, Glavovic, Hinkel, van de

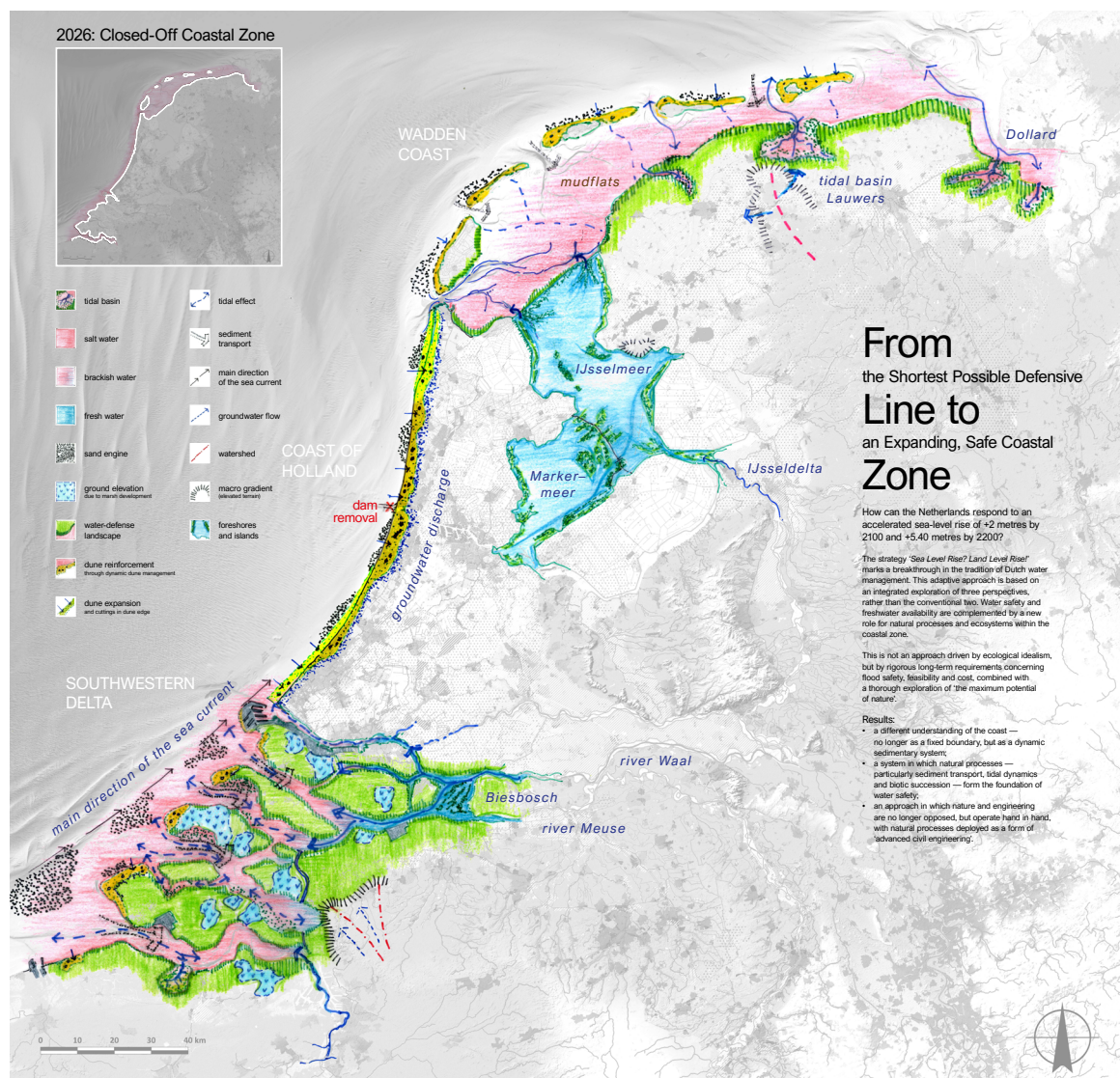
Wal, Magnan, Abd-Elgawad, Cai, Cifuentes-Jara, DeConto, Ghosh, Hay, Isla, Marzeion, Meyssignac and Sebesvari 2019). Deltares subdivided protect into open and closed variants and combined accommodate and retreat under the concept of *meebewegen*. Many responded to *meebewegen* with alarm, sensing that it called into question what they regarded as the Dutch water story’s resolve to hold the coast (Rijcken 2022). “No response” and “ecosystem-based adaptation” remained on the sidelines.

By persistently articulating precautionary planning for extreme sea-level rise, Deltares established the register within which the performance could credibly proceed. In 2019, the Ministry of Infrastructure and Water and the Delta Commissioner launched the Kennisprogramma Zeespiegelstijging, which in 2022 established three expert consortia to explore the feasibility of warding off 2 m of sea-level rise by 2100 and 5 m by 2200 through three approaches: protect (combining open and closed), advance and *meebewegen* (Postma 2024). Advance and protect were dominated by hydrological engineers and remained primarily technical in orientation. The *meebewegen* consortium, by contrast, deliberately included a wider range of expertise, including cultural historians. In their final report, released alongside those of the other consortia in 2024, Harm-Albert Zanting and Matthijs Bouw defined *meebewegen* as “a way of living with change and threat that seeks, as much as possible, to avoid continuing down the path of ever more intrusive technical solutions... *Meebewegen* is a process in which, over time – depending on the pace of sea-level rise and climate change – *new decisions are repeatedly taken about the strategy to be followed*” (Zanting and Bouw 2024, my emphasis).

Many observers were surprised when the ad hoc creation of a fourth, nature-based solution

consortium – initially not identified as *meegroei-en* – was informally announced on LinkedIn by Alex Hekman, director of NL 2120 and of the newly formed consortium (Richter 2024, 2025). Had the policy discussion not already settled on protect, advance and *meebewegen* as the official adaptation pathways? And was *meegroei-en* not simply a less technical, more nature-based approach that could be applied within any of these pathways? In one sense, the answer to

both questions is yes. Protect and advance can indeed be pursued with nature-based solutions, but doing so requires a fundamentally different approach that takes sediment dynamics as the starting point. Moreover, although *meegroei-en* is mentioned in the *Meebewegen* consortium's report, it is not proposed there as a strategy for holding the coast, since that fell outside the consortium's remit. In retrospect, *meegroei-en* can be understood as a state-of-the-art form



^ Fig. 2 "From Line to Zone" (Source: Lodewijk van Nieuwenhuijze. Reproduced with permission).

of ecosystem-based adaptation for coastal defense, in other words, that IPCC option identified in 2018 but not previously activated as such in Dutch policy discourse.

More significant for the emergence of *meegroeien* at the national level is the long preparatory work of organizations such as ARK Rewilding Nederland, Stroming and WWF, which held the concept in reserve for decades. Inspired by Willem Overmars and *Plan Ooievaar* (De Bruin et al. 1987) – it is worth noting that *Plan Ooievaar* co-author Lodewijk van Nieuwenhuijze was also a member of Consortium *Meegroeien* – their collaboration dates back to 1988. *Meegroeien met de zee* was the title of their visionary coastal defense plan published in 1996. Since then, through successive publications, regional pilots and strategic alliances (most recently with NL 2120), ARK, Stroming and WWF have contributed both directly – for example through their 2010 report *Met open armen* and again in 2024 with *Kennisrapport Groeiland* – and indirectly – not least via *Ruimte voor de Rivier* – to the policy performance (Van Winden, Tangelder, Braakhekke, Geenen, Berkhuisen and Blom 2010; Schulte, Van Winden and Roels 2024). Alongside these efforts, design and planning practices such as H+N+S Landschap-sarchitecten played an important role in translating ecological thinking into spatial and policy-relevant form. As early as *Samen werken met water* (2008), the Second Delta Commission, with many of these actors in the background, attempted to activate a vocabulary of collaborative adaptation built around the prefix *mee* (“with”), though with limited effect at the time (Deltacommissie 2008). The apparently late arrival of *meegroeien* in 2025 is therefore not an innovation *ex nihilo*, but the delayed activation – at national scale – of an already existing cell that had been sounding softly for decades. The work of Consortium *Meegroeien* and the in-

tegration of *meegroeien* as a central message at the 2025 Deltacongres have not brought the performance to a conclusion. Rather, they can be read – as is my purpose here – as an instance of delayed policy generation under near-optimal conditions. The consortium assembled key actors with divergent interests – engineers, ecologists, morphologists, landscape architects and dredgers – without forcing compromise on substantive positions. Instead, it coordinated these actors around shared physical processes: sediment dynamics, long-term sea-level rise and system constraints. This is not the polder model of negotiated compromise. It is a form of ensemble coordination in which disagreement persists, but timing and proportionality are actively co-managed. The report does not resolve fundamental questions about end states; it does, however, identify processes that must begin early if certain options are to remain viable. The contrast with the polder model is instructive. Poldering assumes that conflicts can often be contained through negotiated compromise among organized stakeholders; its legitimacy is usually claimed to derive from representation, deliberation and agreement, but in practice this remains dependent on who is included, how decisions are made and what results are achieved. The *canto ostinato* model, by contrast, accepts that some constraints are non-negotiable and that coherence does not require consensus. What matters is not agreement on outcomes, but the capacity to listen, adjust and remain aligned over time.

The Time Is Now

For all the success of the *meegroeien* rollout, an insistent discord remains regarding the timing of the next transition. While the revised summary report (Postma 2025) maintains

that choosing between strategic pathways is “fortunately not yet necessary,” and the Delta Commissioner has deferred systemic choices until the next recalibration of the Delta Programme in 2032 (Verdaas 2025), the *meegroeien* report states unambiguously that the time to begin with scaled-up pilots is now (Steenstra et al. 2025). Why not combine such a pilot with the dike reinforcement projects the HWBP is mandated to carry out? The long-term viability of *meegroeien* improves depending on how soon sedimentary dynamics are engaged. As early as 1996, in the foreword to *Meegroeien met de zee*, Ed Nijpels, then chairman of WWF-Nederland, expressed the hope “for the sake of future generations that we have not begun too late.” Delay does not preserve flexibility; it erodes it.

Verdaas, for his part, sees “a new generation of Delta Works” on the near horizon, but his principal contribution is to listen – to all parties – and to urge others to do the same. He knows that the performance will not succeed without Zeeland. This is why, within a week of the Deltacongres, ARK hosted a Meegroeien event at Rijkswaterstaat in Middelburg, Zeeland – a province with much to lose and a deep-seated cultural animus against *ontpolderen* (depolderization), which it has come to associate with double dikes and *wisselpolders* (transitional polders), fundamental components of *meegroeien* (Van Belzen 2021). At the Deltacongres, Verdaas emphasized the need for a large-scale *wisselpolder* pilot in Zeeland: “I am keen to engage in conversation with precisely those people who are concerned, to see how we can move forward together.” As he added at the end of his address, this must be done with compassion. Later, at the Meegroeidag, Verdaas appeared alongside Arno Vael, the provincial commissioner of Zeeland, who echoed the point: “It is important to win support from

the general public. This must be done with respect for different interests, doubts, and fear of flooding” (ARK Rewilding Nederland 2025).

Conclusion

If *meegroeien* is the sound that rises to the surface as the performance approaches its next transition, it is because many actors have aligned their actions around shared physical constraints and timing requirements. In that sense, *meegroeien* is not simply a new policy proposal, but a particular form of resonance: engineers, ecologists, morphologists, designers and water managers learning to listen to one another while remaining responsive to the larger rhythms and constraints of the estuarine system itself. The resulting coherence is not the product of consensus or a single guiding narrative, but of sustained coordination across difference. *Meegroeien* is essentially a scaled-up version of the kind of performance that ARK, Stroming, WWF, H+N+S and others have been advocating for and piloting since the mid-1980s. If similar values and practices guide the performance of NL 2120, with its overlapping membership, this augurs well for long-deferred climate adaptation in the Netherlands. The Dutch can take pride in their *canto ostinato*, but they should ensure that this pride rests on the quality of the performance, and not on the fact that it allowed them to defer a decision that has been 40 years in the making – and still has not been officially adopted. Like Ed Nijpels in 1996, we can only hope that it is not too late (Helmer et al. 1996).

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