

Common knowledge basis

Assessment of impacts (sea level, storminess)

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			10 cm/50yr scenario	25cm/50yr scenario	50 cm/50yr scenario	Storms					
	I. PHYSICAL ASPECTS										
	Fidal Area										
	Flooding time		0	+2.5 to +7.5%	+5 to +15%	+	Assuming sedimentation. Large differences between tidal basins (0 to +25%)				
1	Surface area intertidal	NL. 1300 km ² NdS+HH 1500 km ² SH 1300 km ² DK. 700 km ²	0	-2.5 to -7.5%	−5 to −15%	_	Lister Dyb tidal basin –30% (under 50cm/50yr scenario)				
	Channel cross-section			0 to +5%	Up to +10%	0 to +					
1	Salt marsh accretion (in height)	SH +0.5 to +2.5 cm/yr	+0.5 to +2.5 cm/yr	0 to +2.5 cm/yr	-0.5 to +0.5 cm/yr	_	In worst-case scenario less accretion and some drowning				
	Cliff erosion	·	0 to 2 m/yr	0 to 2 m/yr	0 to 4 m/yr	+	Very large local differences				
	Barrier Retreat			0 cm will cause an	e erosion. A sea level additional retreat of	0	Generally if coast is retreating, this is compensated for with sand nourishments				
	II. BIOLOGICAL ASPECT	ΓS									
とは	Benthic biomass		0	0 to –	_	_	Depends strongly on sediment composition (and, consequently, dynamics)				
	Birds (selected species) population size		0	-	_	-	Depends on frequency of high floods (breeding birds) and benthic biomass				
	Fish nursery		0	_	_	_	Temperature, change of habitat and turbulence important factors				
2	Seal population size		0	0	0 to –	_					
المكامية	Seagrass area		0	-	-	_	Related to decrease intertidal				
	Dune vegetation		0	0	0 to –	-					
	Salt marsh vegetation diversity			0 to +	+	+					

Best Environmental Practice options

BEP ASPECTS

MEASURE

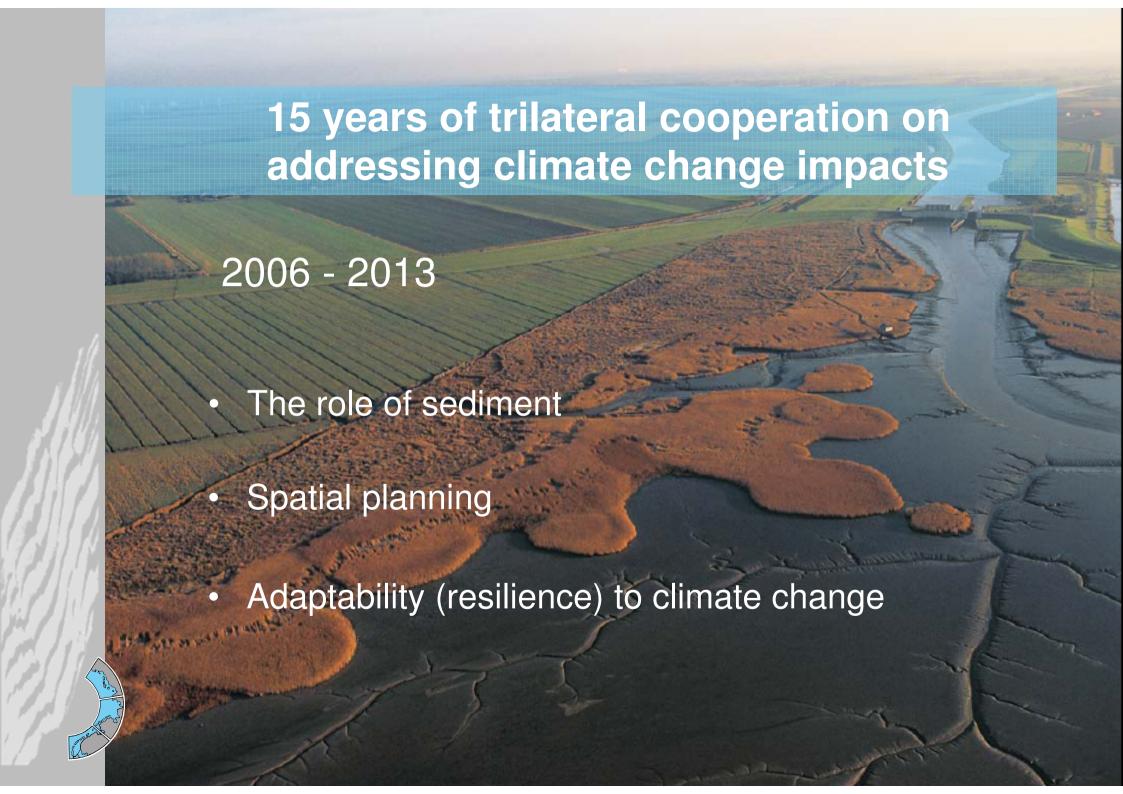
ENVIRONMENT

FEASABILITY

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			Tech nical	Finan cial	Legal	Public opinion	Spa tial	Impact on Habitat		Impact on natural dynamics				
Nr.									remarks		remarks		remarks	
	Sandy barrier coasts		4	3	3	3	1	2		2		3		
2		Beach drainage	4	1	3	3	1	2		3		3		
3		Dunes creation	4	4	3	4	2	3	Replace one habitat by another	2		4		
4		Dunes relocation	4	4	3	2	2	3		3		4	relocation=retreat	
5		Allowing winddriven sand transport	4	5	3	2	2	4		5		2	possibly positive on a long timescale and strongly dependent on locallity	
6		Overwash creation	4	4	2	2	2	4	loss of fresh water species	4		2	on a very long run	
7		Revetment building	4	3	2	3	3	2		2		4		
8		Groynes	4	3	3	3	3	3		2		3		
9		Sand nourishments	4	4	4	3	4	3		2		4	extraction from outside the sandsharing system	
10		Spatial planning (create buffer zones)	4	3	3	2	4	3		4		4		
11	Tidal basins	Dam building	4	2	2	2	3	2		2		4		
12		Dredging reduction	4	4	1	1	1	4		4		3	in estuaries	
13		Gullies damming	3	3	2	3	1	3		3		3	one positive example from SH	
14		reïnstallation	4	3	3	3	3	4		2	reïnstall	2	in the long run	

Best Environmental Practice options

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	ENVIRONMENT	MEASURE	FEASIBILITY					BEP ASPECTS					
			Tech nical	Finan cial	Legal	Public opinion	Spa tial	Impact on Habitat		Impact on natural dynamics		Safety	
Nr.									remarks		remarks		remarks
16	Salt marshes	Revetments	4	3	2	3	2	3		2		4	
17		Creation from dredged materials	3	3	3	3	2	3		2		4	
18		Outbanking of summer polders	4	2	3	2	2	5		4		1	site specific in estuaries
19		(Brushwood) groynes	4	3	4	4	4	3		2		3	
20		Artificial drainage	4	3	3	3	4	3		2		3	
21		Grazing	4	4	3	3	4	3		2		3	reducing flotsam
22	Dikes	Revetments	4	3	4	4	4	2		2		4	
23		Enforcement	4	2	4	4	4	3		3		5	
24		Second dike line	4	2	3	3	4	4		3		5	
25		relocation of first dikeline	4	1	1	1	2	4		4		2	
26		Spatial planning	4	4	3	2	4	3		4		4	in the long run
27	Mainland	Pumping stations	4	2	3	4	3	3		3		4	
₄ 28		Sluices	4	2	3	4	3	3		3		4	
29		Storage basins	4	3	3	3	2	3		3		4	





12th Wadden Sea Conference, Tønder 2014

49. Acknowledge that the overall goal of climate change adaptation in the Wadden Sea Area is to safeguard and promote the qualities and integrity of the area as a natural and sustainable ecosystem whilst ensuring the safety of the inhabitants and visitors, as well as the cultural heritage and landscape assets and sustainable human use.

50. Adopt the trilateral Climate Adaptation Strategy as in **Annex 4** on increasing resilience to climate change that is based upon the recognition that dealing with climate change requires the integration of many sectors, activities and fields of expertise and **strive** to implement the priority issues from the Strategy.



Trilateral Climate Change Adaptation Strategy

1. Natural dynamics

Priorities

- Evaluate the effects of different measures (e.g. for coastal risk management) on natural dynamics.
- Promote and support management measures that consider, allow and/or support natural dynamics.
- Limit measures that induce negative sediment budgets in the Wadden Sea.
- Evaluate legislation and suggest improvements in relation to this objective.

Trilateral Climate Change Adaptation Strategy

4. Flexibility

Priorities

- Develop policy guidance for adaptive management under different climate change scenarios, focused on each tidal basin of the Wadden Sea.
- Optimize and secure the Trilateral Monitoring and Assessment Program (TMAP) for rapid feedback regarding climate change issues.
- Support trilateral scientific and planning cooperation on climate change adaptation (drivers, impacts and no-regret measures) as part of adapative management.
- Evaluate to what extent legislation may limit climate change management.

Trilateral Climate Change Adaptation Strategy

12th Wadden Sea Conference, Tonder 2014

- **51. Express the intention** to implement the trilateral climate change adaptation principles and objectives in *spatial planning processes* as far as possible, in particular at the local and regional level, also focusing on the integration of land- and sea-based activities.
- **52.** *Monitor* the implementation of the climate change adaptation strategy and embed the results in long-term trilateral climate change policies, including best practices for adapting to climate change.
- **53.** Recognize that the *morphological development* under sea level rise is a critical element of the natural resilience of the Wadden Sea and that trilateral cooperation on the exchange of knowledge on this subject is essential.
- **54. Welcome** the successful initiation of a trilateral study on **sedimentation behaviour in different tidal basins** and **acknowledge** that the study has already in its first year delivered an exchange of knowledge and expertise between institutions and agencies in the Wadden Sea countries, and **support** its further continuation.





