


Wadden Science for Wadden Policy

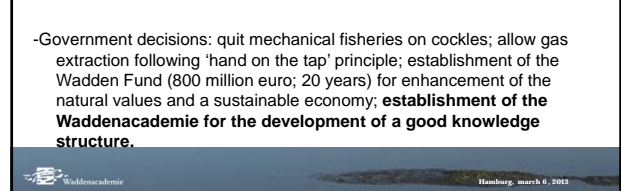
Presentation for Wadden Sea Board
 Hamburg, March 6, 2013
 Jouke van Dijk, President Waddenacademie-KNAW
 on behalf of scientific Wadden colleagues from the Netherlands, Germany and Denmark



Waddenacademie Hamburg, march 6, 2013

Incentives for the foundation of the Waddenacademie

- Final report of the Advisory Group on Wadden Sea Policy (Meijer Committee, 2004): policy and management of the Wadden Sea Region had reached an impasse;
- Recommendations included: improve the natural qualities of the Wadden Sea Region; reform the policy and governance structure; shellfish fisheries and gas extraction within limits of the natural system; **a better knowledge structure for the Wadden Sea Region**
- Government decisions: quit mechanical fisheries on cockles; allow gas extraction following 'hand on the tap' principle; establishment of the Wadden Fund (800 million euro; 20 years) for enhancement of the natural values and a sustainable economy; **establishment of the Waddenacademie for the development of a good knowledge structure.**



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Resilience of the Wadden Sea Area



Social resilience
Ecological resilience
Economic resilience
Wadden Sea Area's resilience



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Waddenacademie (founded 2008)

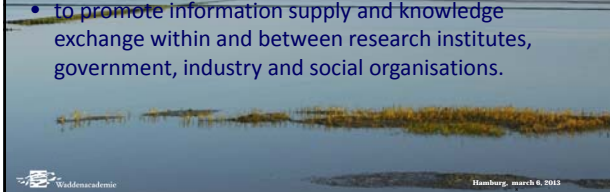
An institute of the Royal Academy of Arts and Sciences (founded in 1808)




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Wadden Academy's tasks:

- to identify gaps in cross-domain knowledge in order to assist in the sustainable development of the Wadden Sea Region;
- to promote a coherent research programme at regional, national land international level and;
- to promote information supply and knowledge exchange within and between research institutes, government, industry and social organisations.



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Board Waddenacademie

Per 1-1-2013:
 Katja Philippart new board member Ecology




Hessel Speelman,
 Jouke van Dijk,
 Jos Bazelmans,
 Peter Herman en
 Pavel Kabat



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Waddenacademy promotes integrated multi-disciplinary research in a system approach

Geoscience

Ecology

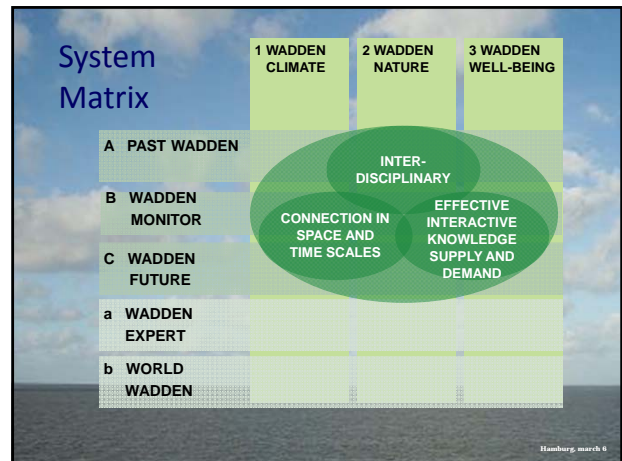
Society and cultural history

Social and spatial Economics & planning

Climate and water

For more information see: www.waddenacademie.nl

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Ambition

...to develop the Wadden Sea Region into an incubator for widely applicable integrated knowledge of sustainable development of a coastal area, in which natural values are a key element and form the foundations of the local and regional economy.

The region is a meeting place for scientists from the Netherlands and elsewhere, administrators, policymakers and management agencies. Together, they develop sustainable and innovative solutions based on interdisciplinary knowledge.

By 2020, the trilateral Wadden Sea Region will be the best monitored and best understood coastal system in the world.

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The integrated research agenda

'Knowledge for a sustainable future of the Wadden'

Research agenda for the Dutch Wadden Sea Region

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Presentation research agenda

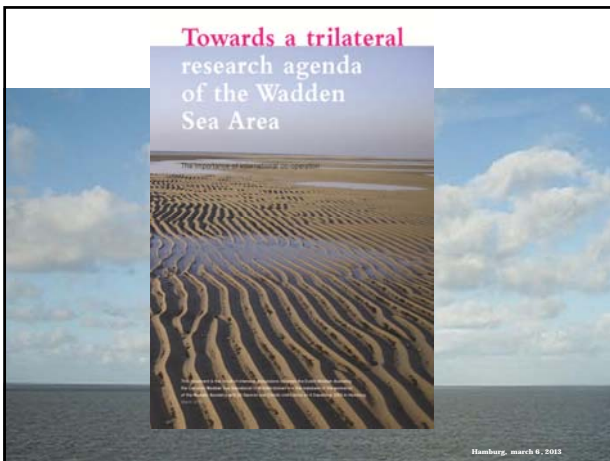
Waddentoogdag,
Delfzijl,
30 May 2009

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Trilateral Waddensea area

UNESCO-Worldheritage site since 2009

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Trilateral research necessary

for the management of the World Heritage Site Wadden Sea, by:

- Making the concept of safeguarding "ecosystem integrity" operational through delivering the scientific basis for managing cross border challenges, in particular
 - Invasive alien species and biodiversity
 - Impacts of sea level rise and sedimentation
 - Bird population developments along the Flyway
 - Interaction economy and ecology: energy (gas extraction, powerplants, coolingwater, windenergy), fisheries, harbour activities, tourism, etc.

The need for trilateral research was strongly supported by the 13th Scientific Wadden Sea Symposium

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13^e ISWSS 21/23 november 2012

200 scientists and policy makers, key-note lectures from Korea and Australia

Four themes

→Preparation for the trilateral governmental conference februari 2014 in Denmark

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Recommendations symposium

Theme 1: climate and water

- Study the *regional* climate change in the Wadden Sea Region;
- Explore *cross-border* safety strategies including the possibility of large-scale sand nourishments;
- Improve our understanding of morphological processes in the Wadden Sea and North Sea in relation to sea-level rise;
- Develop innovative ways of dealing with climate change related challenges including sea-level rise and salinization.

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Recommendations symposium

Theme 2: biodiversity

- Studies indicate that biodiversity enhances the resilience of the Wadden Sea ecosystem which stresses the importance of prevention of biodiversity loss;
- Gain further insight into food-web functioning with a focus on ecosystem engineers and explore ways to restore key species;
- Treat invasive species no longer exclusively as enemies to the system but also look at their added value;
- Study bird populations at the major staging/feeding areas along the East-Atlantic flyway, not just the Wadden Sea.

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Recommendations symposium: Theme 3: science for management and policy

- Critically analyze the functioning of the science-policy interface;
- Develop an integrated monitoring system with a focus on the accumulation of processes at different spatial and temporal scales;
- Create and maintain a data portal for Wadden Sea research;
- Stimulate publication in open access journals.

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Recommendations symposium Theme 4: sustainability and ecosystem services

- Safeguard the protection of the natural values of the Wadden Sea in (EU) fisheries management;
- Take action to restore the morphology and ecology of estuaries;
- Explore and monitor the opportunities for tourism provided by the UNESCO world heritage status;
- Study and preserve our important cultural heritage.

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Conclusions and recommendations of the trilateral scientific symposium

- The overall management of the trilateral Wadden Sea World Region requires cross-border and interdisciplinary research
- The main themes for trilateral research have been identified and receive broad support
- The implementation requires a Trilateral Research Platform and a Trilateral Research Fund

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Science needs for management

Is the framework by which our management effectiveness is assessed.
Management needs scientific information at various steps in the management cycle

- Context
- Planning
- Outcomes
- Adaptive management



Adapted from Hockings et al. 2006, IUCN WCPA

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Scientific information needs for biodiversity components

Component	Degree of concern to management			Adequacy of information			Overall Status
	High	Moderate	Low	Good	Moderate	Low	
Mammals	Commercial marine tourism						
	Defence						
	Fishing						
	Ports and shipping						
	Recreation (bather, shell fishing)						
	Scientific research						
	Sustainable use of marine resources						
	Climate change						
	Coastal development						
	Outbound run-off						
Birds	Commercial marine tourism						
	Defence						
	Fishing						
	Ports and shipping						
	Recreation (bather, shell fishing)						
	Scientific research						
	Sustainable use of marine resources						
	Climate change						
	Coastal development						
	Outbound run-off						

How to achieve this?

- **Option 1: A trilateral Waddenacademie (TRIWAD)**
- **Option 2: Three Wadden Academies**
- **Option 3: A common Wadden Science Council**
- **Status as trilateral UNESCO Institute**

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Organizational options

Option 1: A trilateral Waddenacademie (TRIWAD)
 In this option, the Dutch Waddenacademie is broadened by one or two board members from Germany and Denmark.

Advantage: Relatively simple to implement
 ...

Disadvantage: Too strong influence from the Netherlands
 ...

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Organizational option 2

Option 2: Three Wadden academies

In this option, each country arranges its own Wadden science organization. Two members of each of the three countries form together the trilateral science council.

Advantage: Equal involvement of scientists from the three countries and each country has its own organizational arrangement

Disadvantage: Lack of uniformity and coordination
 ...

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Organizational options

Option 3: A common Wadden Science Council

In this option, a council of about 12 broad-minded scientists from the three Wadden countries with active research in the Wadden Region meet on regular terms to prioritise trilateral Wadden research.

Advantage: Equal involvement of scientists from Germany, Denmark and the Netherlands;

Disadvantage: Makes no use of the experience and reputation of the Dutch Waddenacademie;

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Trilateral Research Fund

Options for Trilateral Research Fund

- Continuation and broadening of Georisk/Biorisk programme (currently funded by national science ministries NL and D)
- To be created from Dutch Waddenfonds, Lower Saxonian Wattenmeerstiftung,
- Apply for European Funds, Horizon 2020, INTERREG, etc.
-

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 **Global Trend of Green Growth requires a better understanding about how the ecological, social and economic systems work and interact with each other in the UNESCO World Heritage Wadden:**

Trilateral management & policy + trilateral UNESCO Wadden Scientific Institute

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