

Waddenacademie-KNAW: Wadden Science for Wadden Policy

Presentation University of Southern Denmark
Esbjerg/Sonderborg, 3+4 June, 2013

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university of
 groningen

Jouke van Dijk: research and colleagues

- Waddenacademie 2 days per week
- 3 days per week: Professor of Regional Labour Market Analysis, University of Groningen, Faculty of Spatial Sciences, Department of Economic Geography (Chair)
- Research: Regional Science (RSAI/ERSA/PIRS), regional labour market (graduates, vulnerable groups, policy), migration, regional development and policy, population decline, etc.
- Philip McCann (EU Cohesion policy special advisor)
- Arno van der Vlist (Real Estate); Dirk Strijker (Rural development, worked with Fleming Just), Gert de Roo (Planning); Frank VanClay (social impact analysis)
- FEB: Paul Elhorst (Spatial econometrics), Eric Dietzenbacher/Jan Oosterhaven (input-output analysis), Harry Garretsen/Sieven Brakman (New Economic Geography)

Trilateral Waddensea area

UNESCO-Worldheritage site since 2009



Trilateral Waddenarea UNESCO-Worldheritage site since 2009



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: no gas extraction for ever?
- 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 by a new technique of drilling under an angel from the mainland; **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 and careful monitoring; 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.**



Waddenacademie (founded 2008)

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



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 and international level and;
- to promote information supply and knowledge exchange within and between research institutes, government, industry and social organisations.



Characteristics Waddenacademie

- Network organisation
- Links science to policy (interface)
- NOT a research institute
- Organizes workshops, symposia
- Publications: scientific articles/reports and also for the general public
- Compact: five parttime boardmembers (1 day per week + president 2 days) and small staff (4 fte)



Board Waddenacademie

Per 1-1-2013:

Katja Philippart new board member Ecology



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



Hamburg, march 6, 2013

Waddenacademie promotes integrated multi-disciplinary research in a system approach

Geoscience



Ecology



Society and cultural history



Social and spatial Economics & planning

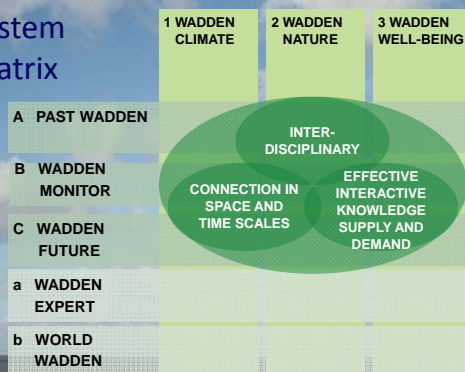


Climate and water



For more information see: www.waddenacademie.nl

System Matrix



Important research questions (1)

- Safety:** how can the safety of the Wadden Sea Region and its population be guaranteed in the long-term, also taking into account the possible harmful effects of climate change?
- Climate-neutral:** how can a sustainable energy balance for the region be realised?
- Protection:** how can the natural values be safeguarded?
- Development:** which regional economic developments are possible within the constraints?

Important research questions (2)

- **Adaptation:** how will the natural environment adapt to climate change, the introduction of invasive species, changes in the global economy?
- **Sustainable economy:** how can work and income for the residents be guaranteed in a sustainable manner?
- **Liveable community and quality landscape:** how can social cohesion, a recognisable man-made landscape and living heritage be safeguarded?

→ New research institute of the Royal Dutch Academy of Sciences: Waddenacademy
For more information: www.waddenacademie.nl

Ambition Waddenacademie

...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.

The integrated research agenda

'Knowledge for a sustainable future of the Wadden'

Research agenda for the Dutch Wadden Sea Region



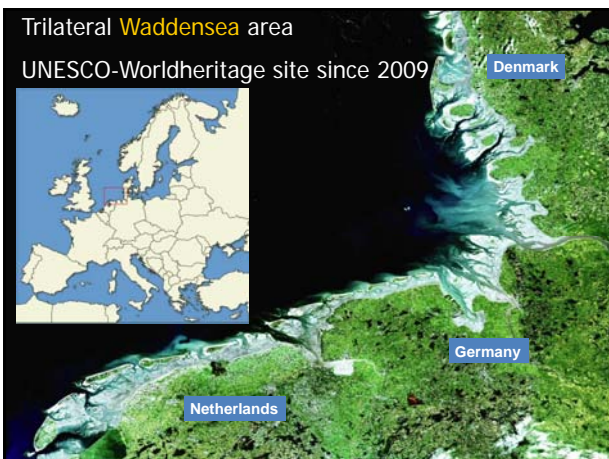
Presentation research agenda



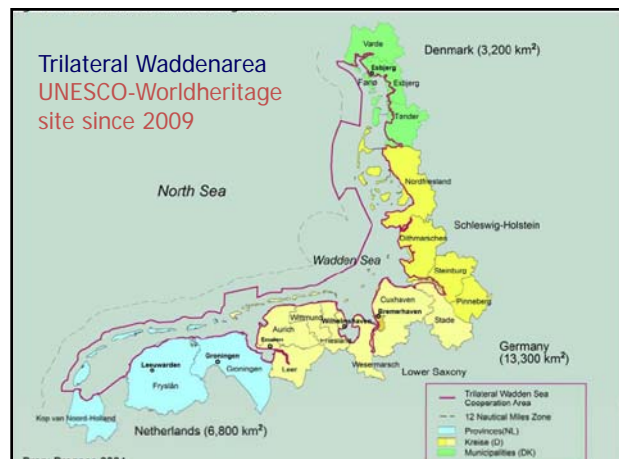
Waddentoogdag,
Delfzijl,
30 May 2009

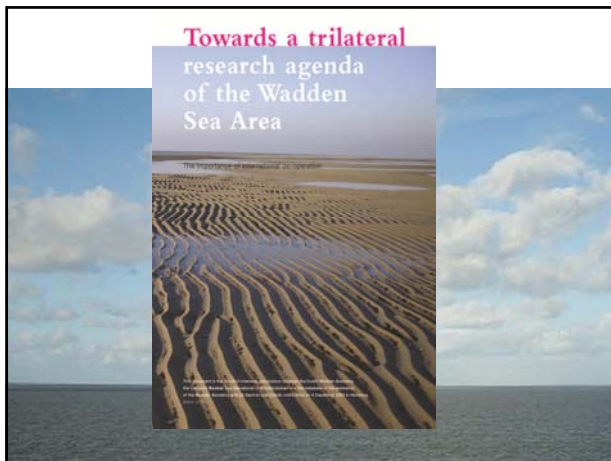
Trilateral **Waddensea** area

UNESCO-Worldheritage site since 2009



Trilateral Waddenarea
UNESCO-Worldheritage
site since 2009





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

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 Tønder, Denmark

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.

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.

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.

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.

Conclusions and recommendations of the trilateral scientific symposium to the trilateral ministers conference in Tønder, Denmark in Februari 2014

- 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

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

Science needs for management



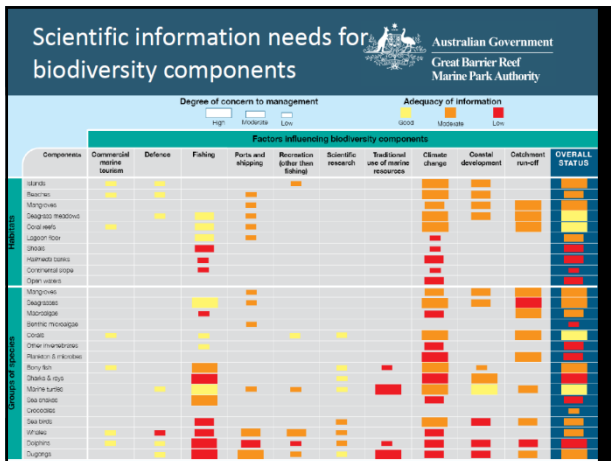
Is the framework by which our management effectiveness is assessed.

Management needs scientific information at various steps in the management cycle

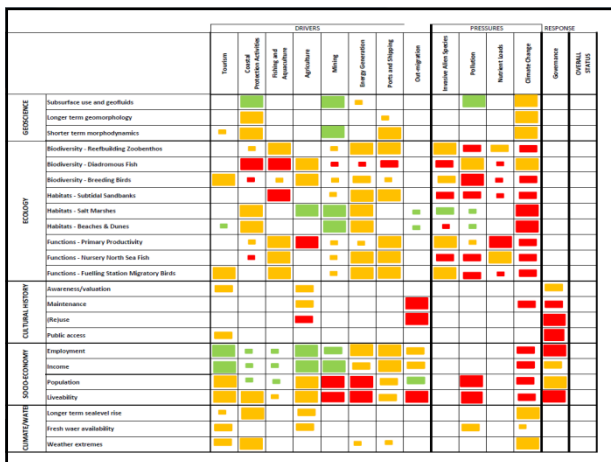
- Context
- Planning
- Outcomes
- Adaptive management



Adapted from Hockings et al. 2006, IUCN WCPA



Degree of concern to management	High	Management has a high level of concern for the value due to its current degraded condition and/or the high level of single or cumulative pressures affecting it.	<input type="checkbox"/>
	Moderate	Management has a moderate level of concern for the value due to its current condition and/or the moderate level of single or cumulative pressures affecting it.	<input type="checkbox"/>
	Low	Management has a low level of concern for the value due to its current good condition and/or the low level of single or cumulative pressures affecting it.	<input type="checkbox"/>
Adequacy of information	Good	The good level of information available directly supports management decisions and is currently sufficient to allow progress on the particular issue/interaction. However, further information to support ongoing adaptive management may still be required.	<input type="checkbox"/>
	Moderate	The moderate level of information gives a reasonable basis for management decisions, but decisions regarding some aspects of the issue/interaction may be hampered by current knowledge gaps.	<input type="checkbox"/>
	Low	The low amount or adequacy of information is a hindrance to management. Decisions are pending the availability of improved scientific understanding of the issue/interaction.	<input type="checkbox"/>



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