

Socio-economic developments and management in the Wadden Sea Region

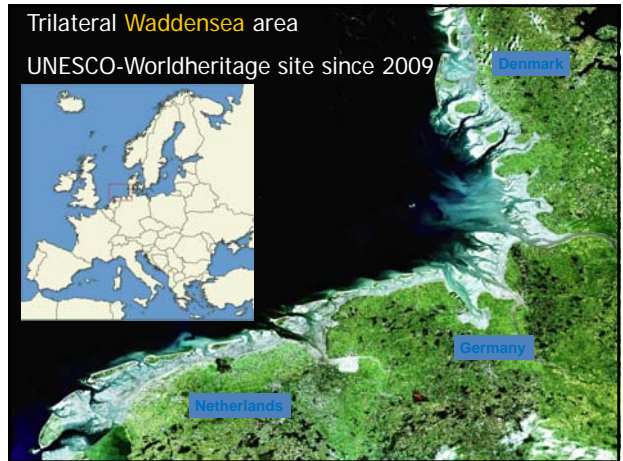
Presentation International Workshop 'Resilience: just do it?! Governing resilience in vulnerable places' Groningen, The Netherlands, 9-10 October 2014

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The World Heritage List is the most prestigious List of cultural and natural monuments world wide

2014 entire Wadden Sea on the World Heritage List with the extension of the Danish part


An exceptional opportunity to reinforce conservation and management and advance sustainable regional development with the stakeholders

WADDEN SEA REGION

25

Wadden Sea Region: 25 inhabited islands

- The area counts 25 inhabited islands and several smaller vegetated islands and barren high sands.
- The total area of the islands is about 2.000 km² and the Wadden Sea itself covers about 8000 km².
- The mainland is one of the oldest and most complex cultural landscapes in Europe and has been inhabited for more than 5.000 years
- At present, 1 million inhabitants live on islands and administrative regions directly bordering the Wadden Sea. An estimated 3.5 million inhabitants live in the 17,500 km² of land with severe flooding risks. i.e. at less than 5 m above or even below mean sea-level in this region.



Workshop Resilience: Just do it! | Groningen | 9-10-2014

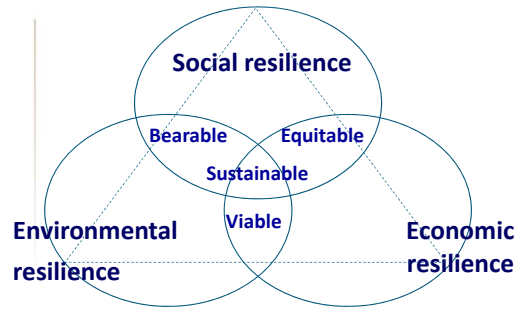
Nature Conservation and Human Interaction in the Wadden area since centuries

- Towards safety and protection of flooding: building dikes
- From reclaiming land to nature protection
- From nature protection to shared use
- From national to trilateral management
- The Wadden system needs to be managed so that both the ecosystem and the social system can develop in a sustainable way. This in itself is a real challenge. Proper management can only be applied if there is sufficient ecological and social background information and knowledge to manage this integral system
→ establishment Waddenacademie

Goals of Trilateral Integrated Coastal Zone Management (ICZM) by Wadden Sea Forum

- A **balanced population structure** with a healthy share of young and elderly people, with indigenous young people choosing to stay in the region and population decline being averted.
- **Almost full employment** for which a wide diversity of jobs is needed.
- With regard to welfare WSR residents should have an adequate income, good living conditions and high life expectancy. Social equality and work-life balance should ensure satisfaction among the population.
- **This requires balanced economic development that provides future prospects for people living and working but should also generate surpluses for environmental protection measures.**
- The economy in the WSR should be made resilient for economic recessions and international competition by means of strategies for innovation and entrepreneurship.

Resilience of regions



Working on robust resilience



New (Coal fired) power plants in Eemshaven and in Germany: cooling water, dredging, jobs?



Extraction of natural gas on sea and land

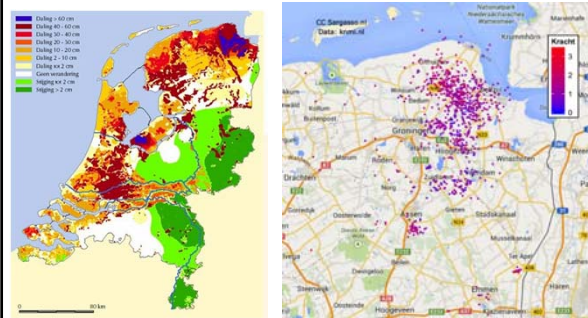


Amsterdam, gemeenteraad Noord-Overijssel 19 mei 2014. Het kabinet heeft besloten om de aanleg van de Nordstream II-gasleiding te stoppen en de aanleg van de Nordstream I-gasleiding te versnellen. Dit betekent dat de aanleg van de Nordstream II-gasleiding nu pas kan beginnen na de zomer van 2015.

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Natural gas extraction causes soil subsidence → earthquakes

Earthquakes 1986-2014. Source: KNMI



Lack of data at a small spatial scale

- A major problem with the implementation of especially the economic aspects of the ICZM is the lack of up-to-date information at the trilateral level with regard to demographic change, (un)employment and the structure of the regional economy.
- The available information is fragmented and restricted to certain areas at the national or regional scale or specific economic sectors.
- The problem is often that definitions of e.g. economic sectors are not the same for small spatial areas in the three countries. Comparable information is often only available at the level of rather large spatial administrative regions, while information is needed at the detailed geographical scale of municipalities or parishes for effective ICZM, where the regional demarcation of the area is small enough to assume a strong relation between the ecosystem in the Wadden Sea and the demographic and socio-economic situation for the inhabitants in the coastal zone.

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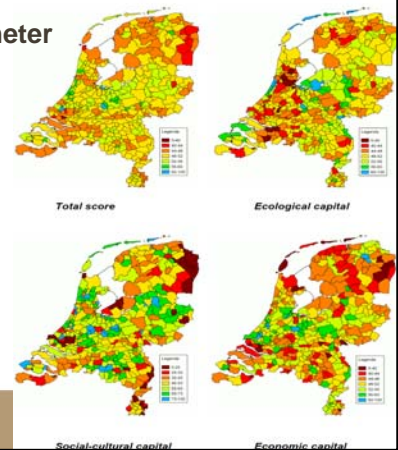
The Wadden Sea Region covers an area, which encompasses the coastal zones, the Wadden Sea with its islands and sands and the relevant parts of the Exclusive Economic Zones (EEZ) of Denmark, Germany and the Netherlands. (WSF/CWSS)



Demarcation of the Wadden area (LAU-2 classification), 2013



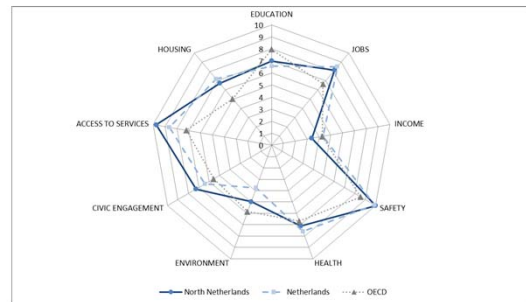
Waddenbarometer



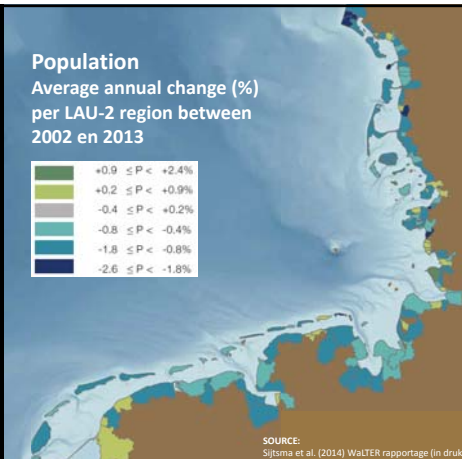
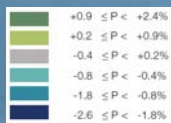
OECD-project: How is life in your region? Case study North of the Netherlands (also Southern Denmark)



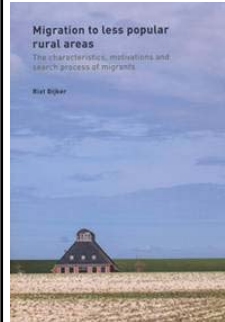
Wellbeing outcomes North NL, Netherlands, OECD (OECD, 2014)



Population Average annual change (%) per LAU-2 region between 2002 en 2013



SOURCE: Sijtsma et al. (2014) WaLTER rapportage (in druk)



Dissertation Rixt Bijker (January 2013): There are also many migrants **to** the less popular rura areas! Also important: **quick connections to nearby city + fast ICT Broadband access**

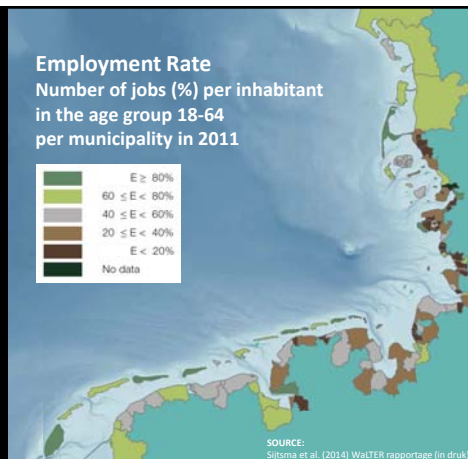
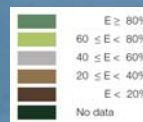


Labour market indicators in the Wadden area

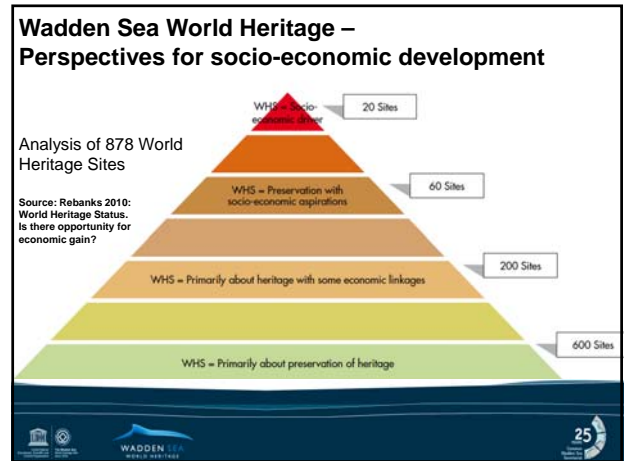
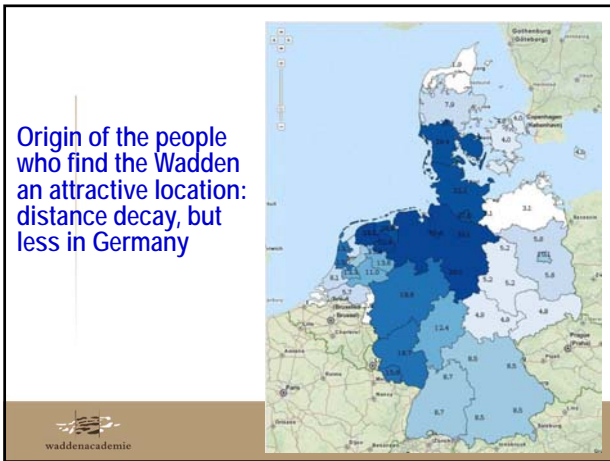
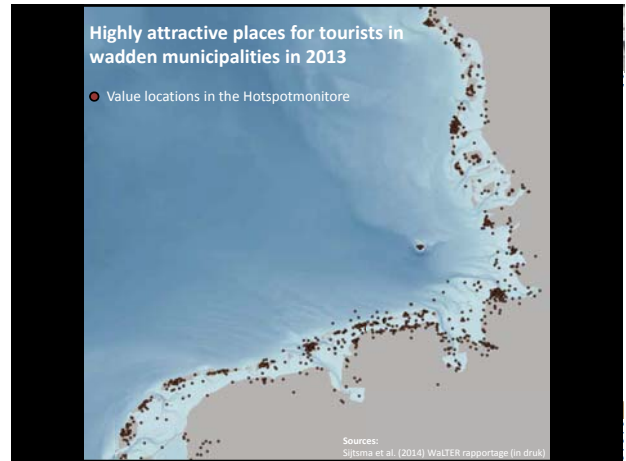
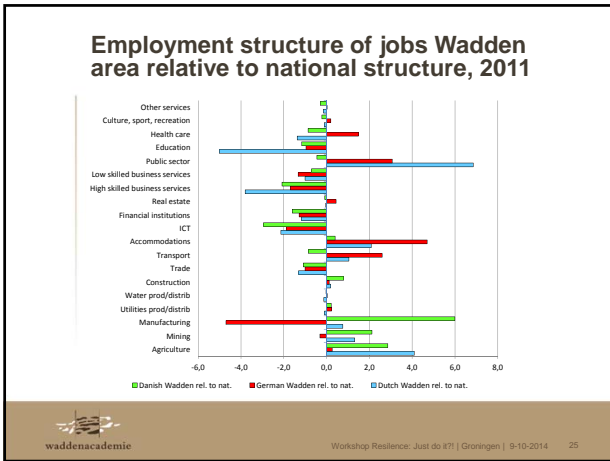
	Jobs × 1000	Perc. job growth annual %	Empl- ment function %	Unem- ployme nt rate %	Percentage of jobs in 2011 in				
					agric.	manuf	tourism	edu.	health
Wadden area	103.1	0.8	58.1	6.2	6.8	10.4	6.2	5.5	13.9
Wadden Islands	12.8	0.6	86.9	3.9	7.7	4.1	25.7	4.8	7.3
Netherlands	8483.5	1.2	76.1	5.1	2.7	9.7	4.2	10.5	15.3
Wadden area	249.24	0.7	58.0	7.1	5.8	18.2	7.8	3.0	14.1
Wadden Islands	24.7	0.0	83.8	4.2	7.0	2.5	36.5	1.5	11.7
Germany	29134.1	0.5	53.8	5.4	4.7	22.6	3.1	3.8	12.8
Wadden area	98.9	-0.4	73.5	4.0	5.6	14.7	3.6	7.3	18.9
Wadden Islands	1.0	-0.7	53.5	3.5	1.3	2.1	11.0	8.8	17.1
Denmark	2600.0	-1.0	71.6	4.5	2.7	8.7	3.2	8.4	19.6



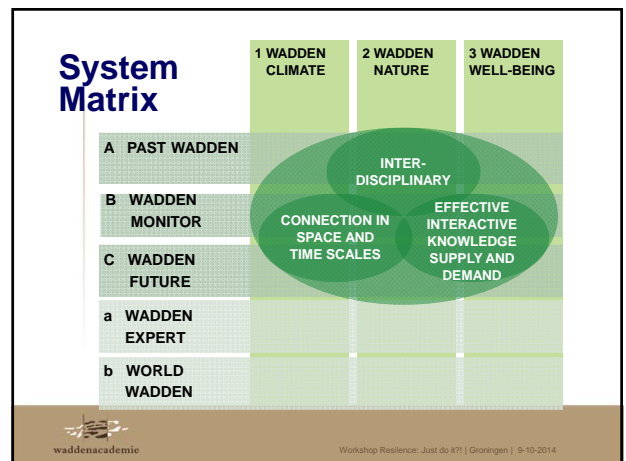
Employment Rate Number of jobs (%) per inhabitant in the age group 18-64 per municipality in 2011

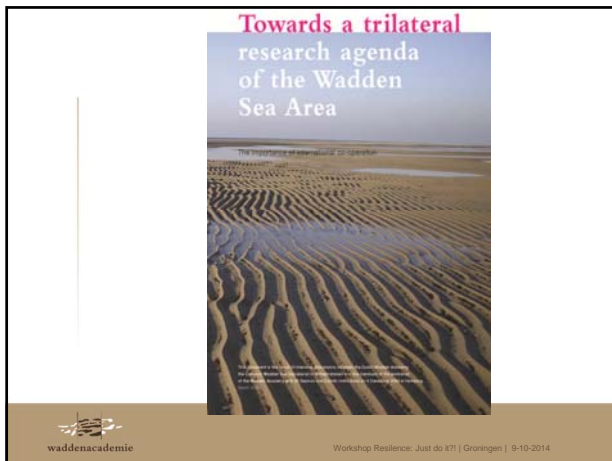


SOURCE: Sijtsma et al. (2014) WaLTER rapportage (in druk)



- ### 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.
- Waddenacademie | Workshop Residence: Just do it! | Groningen | 9-10-2014 | 25





Science - Policy Matrix

	Tourism	Fish Production Activities	Fishing and Aquaculture	Agriculture	Mining	Energy Generation	Ports and Shipping	Off-shore gas	PRESSURES			RESPONSE	
									Invasive Alien Species	Pollution	Harbour Loss		Climate Change
SCIENCE													
Substrate use and geofluids													
Longer term geomorphology													
Shorter term morphodynamics													
ECOSYSTEM													
Biodiversity - ReefBuilding Zoobenthos													
Biodiversity - Diadromous Fish													
Biodiversity - Breeding Birds													
Habitats - Subtidal Sandbanks													
Habitats - Salt Marshes													
Habitats - Beaches & Dunes													
Functions - Primary Productivity													
Functions - Nursery North Sea Fish													
Functions - Fueling Station Migratory Birds													
CULTURAL HISTORY													
Awareness/valuation													
Maintenance													
Use													
Public access													
SOCIOECONOMY													
Employment													
Income													
Population													
Viability													
CLIMATE/HAZARD													
Longer term sea-level rise													
Fresh water availability													
Weather extremes													

Size of the box: 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.	
	Moderate	Management has a moderate level of concern for the value due to its current degraded condition and/or the moderate level of single or cumulative pressures affecting it.	
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.		
Colour of the box: 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.	
	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.	
	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.	

Socio Economic challenges Wadden Region

- **Demography:** population decline, aging, spatial sorting
- **Regional economy and labour market:** jobs, unemployment, income, education → **well-being** (OECD)
- **Interaction Economic ↔ Ecology,** especially in sectors like fishery, agriculture, energy, tourism, harbour and related shipping and manufacturing activities
- **Needed:** value change approach and regional innovation and investment strategy; Social Impact Analysis
- **Trilaterale coastal zone management;** science policy matrix
- **Ecosystem Services:** economic valuation; Hotspot monitor, Big Data
- **Trilateral Research Agenda**

Thank you for your attention! Questions?

For more information and pdf's of all publications, please visit:
<http://www.waddenacademie.nl>