## Climate Proof Areas Memorandum of Understanding 2008 - 2011

Main Findings and Recommendations of the Climate Proof Areas partnership

November 2011

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Date: October 2011 Lead beneficiary © Province of Zeeland, The Netherlands P.O. Box 165 4330 AD Middelburg The Netherlands tel. (0118) 63 17 00 fax (0118) 63 47 56 e-mail rmw@zeeland.nl

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## Preamble

Climate Proof Areas (CPA, 2008-2011) is a European project co-funded by the Interreg IVB North Sea programme.

This document is split into two parts:

#### 1. Memorandum of Understanding

#### 2. Supplements providing background information.

The **Memorandum of Understanding** has been signed by the Climate Proof Areas partnership as important outcome of three years project cooperation of five North Sea countries.

The Memorandum of Understanding is borne by a consolidated collection of experiences and results based on the variety of the Clilmate Proof Areas pilot projects (**supplements**). The Climate Proof Areas partnership herewith would like to provide basic findings, general recommendations on climate proofing of any projects and policies, and a toolkit as collection of methods and instruments to help making projects 'climate proof'.

# Memorandum of Understanding

## Memorandum of Understanding

The signatories of this Memorandum of Understanding believe that planning for climate change is vital and that the findings and recommendations of the Climate Proof Areas project should be incorporated into spatial planning, land and water management and public policy activities.

The project partners urge project managers, decision makers and policy makers to use these recommendations routinely to inform their work.

	SIGNATURE ADDENDUM
•	The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.
	Organisation: Province of Zeeland
	Name: Karla Peijs
	Function: Queen's Commissioner
	Signature:
	Date: 19. October 2011
	Provincie Zeeland

# SIGNATURE ADDENDUM

The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

Organisation: Deltares
Name: Harry Baayen
Function: Chief Executive Officer
Signature:
hanny bear
Date: 8. November 2011





The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

Organisation: Swedish Geotechnical Institute

Name: Bo Lind

Function: Professor, Research Director

**Signature:** 

Date: 8. November 2011



# SIGNATURE ADDENDUM

The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

Organisation: Gemeente Schouwen-Duiveland
Name: Gerard Rabelink
Function: Burgemeester
Signature:
Date: 14. November 2011

SIGNATURE
ADDENDUM

The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

Organisation: The National Trust
 Name: Richard Powell

Function: Director, East of England

Signature:

Date: 8. November 2011



# SIGNATURE ADDENDUM

## The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

Organisation: Rijkswaterstaat Zeeland

Name: Rein van der Kluit

Function: Hoofdingenieur-Directeur

Signature:

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Date: 24. October 2011



Rijkswaterstaat Ministerie van Infrastructuur en Milieu



The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

Organisation: University of Oldenburg

Name: Prof. Dr. Joachim Peinke

Function: Director of COAST - Centre for Environment and Sustainability Research ......

Signature:

Date: 25. October 2011



# SIGNATURE ADDENDUM

The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

Organisation: The Royal Society for the Protection of Birds (RSPB)

Name: Paul Forecast

Function: Regional Director Eastern England

**Signature:** 



Date: 8. November 2011



| SIGNATURE |
|-----------|
| ADDENDUM  |

The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

Organisation: Arvika Kommun

Name: Jan Wettmark

Function: Vice-chairman of the Executive committee

Signature:

ou Wolta

Date: 2. November 2011



# SIGNATURE ADDENDUM

### The undersigned organisation hereby agrees to the Memorandum of Understanding on Climate Proof Areas.

| Organisation:   | Wildlife Trust NCPB |
|-----------------|---------------------|
| Name: Brian Ev  | versham             |
| Function: Chief | f Executive         |

Signature:

Bin Enustion

Date: 28. October 2011



# Supplements

Main Findings
Recommendations
Background Information

## Supplement I - Main Findings

#### The findings on Climate Change are ...

- that climate change has considerable consequences for current water management strategies and spatial planning on local and regional scale...
- that floods, droughts, water logging, salinisation, coastal erosion and loss of habitat in intertidal areas are typical climate change impacts for coastal regions and that these impacts are expected to intensify...
- that the combination of limited storage capacity and increasing frequency of heavy rainfall will cause more frequent flooding...



#### The findings on Stakeholder Involvement are ...

- that there is a growing awareness among stakeholders in pilot areas that they are not always well adapted, even to current climate effects...
- that successful local and regional climate (change) adaptation depends on integration with current policy programmes, projects and initiatives...
- that early stakeholder involvement is a key factor in the climate (change) adaptation process...
- that, in addition to knowledge on climate change from national and international programmes, an understanding of climate impacts at a regional and local scale is essential for progress on climate (change) adaptation...
- that the innovative capacity of the private sector to provide adaptation solutions is not yet fully utilised...
- that it is challenging for regional and local stakeholders to cope with the uncertainties and long term nature of climate (change) adaptation within their planning and policy processes...



#### The findings on Tools and Instruments are ...

- that tools and instruments for the development of adaptation strategies have to fit with local and regional characteristics. Locally customised solutions should be flexible and sustainable in the long term...
- that regional climate (change) adaptation demands a process rather than a project approach and many standard and innovative supportive tools and instruments are available...
- that climate (change) adaptation creates new opportunities...

#### The findings on Policies and Programmes are ...

- that climate (change) adaptation strategies are in most cases not yet incorporated in the relevant European, national, regional and local policies, regulations and programmes...
- that the coordination of climate (change) adaptation strategies between different policy levels is often inadequate and there is a lack of bottom-up and upscaling mechanisms...
- that the allocation of responsibilities for integrated (cross-sectoral and cross-level) climate (change) adaptation is often not clear...
- that a lack of sense of urgency often results in developments and investments that are less sustainable in a changing climate...



## Supplement II - Recommendations

### Recommendations on Climate Change and Research

To undertake climate change and impact analyses on regional and local levels, e.g. regional climate impact atlases.

Regional climate proofing programmes should be better connected with enduring national and international climate research programmes; regions should specify their needs in order for these programmes to take them into account.

To raise awareness and pay extra research attention to the development of strategies and solutions for droughts, water logging and salinisation.



### Recommendations on Stakeholder Involvement

Policy-making can accelerate the climate (change) adaptation process by creating 'windows of opportunity', making connections to current local plans, policies and initiatives. Everybody should be encouraged to consider climate (change) adaptation when undertaking their activities.

Currently experienced climate impacts in an area can function as a good starting point for climate proofing programmes and initiatives in terms of awareness-raising

Regional and local climate (change) adaptation pilots should be undertaken and should play an important role in 'learning by doing'.

Local and regional stakeholders on different administrative, managerial and political levels, from public, private and NGO sectors, should be involved in regional climate proofing programmes.





### Recommendations on Tools and Instruments

The many tools and instruments that are available for regional climate (change) adaptation processes should be applied tailor-made to comply with the challenges being addressed.

Apply adaptation strategies with the aim of adding value. Seek socio-economic and environmental benefits over and above the problem being addressed.

To investigate and apply new ways of cooperation to better utilise regional and local knowledge and the innovative capacity of the private sector.

To apply modern management methods and tools such as those developed for sustainable management and land use development.



### Recommendations on Policies and Programmes

European and national policy frameworks are necessary to define the roles and boundaries for climate (change) adaptation on regional scale. However, successful adaptation must be based on regional knowledge.

Climate change shouldn't be treated as a separate problem, but has to be embedded in current planning processes, projects, policies and future developments. Climate (change) adaptation requires integrated approaches, such as the integration of water management and land use planning.

The adaptive capacity of regions should be raised by stimulating and enhancing the ability to act collectively. Cross-sectoral and cross-scale cooperation should be encouraged through policy development.

A Climate Adaptation Pre-Assessment (CAPrA) approach to plans, programmes and policies should be required, according to and based on the spirit of a Strategic Environmental Assessment (SEA).

# Supplement III – Background Information

## ► Main Results of the Climate Impact Analysis

It is clear that the projected change in climate will significantly impact the hydrological cycle in all North Sea Region (NSR) countries. The issue of sea level rise is well documented. Due to a warmer climate evaporation will increase, the magnitude and frequency of extreme weather events will increase, and so hydrological extremes such as floods and droughts are also likely to be more frequent and severe. A changing precipitation regime will impact run-off, sediment transport, water quality and the groundwater level.

The range of problems, as summarised above, encountered (or assumed to occur) within the different regions of NSR show numerous similarities. However, the awareness and hence the knowledge of the different effects varies significantly.



#### Some of the overall conclusions are that:

- there is need for more detailed, integral and regional information about the effects of climate change;
- it remains unclear whether the available data and climatologic scenario models currently allow further downsizing and integrated assessments, there should be no more delay to invest more detailed and integrated assessments on a more local (catchment) scale;
- more work is needed on the determination of 'tipping points'. For what 'value' (of temperature, rainfall intensity, number of droughts,...) does the situation become intolerable, unstoppable,...
- the sensitivity of each sector will be determined by the influence of (water-related) climate change effects on the functioning of the system;
- sectoral assessments should incorporate socio-economic scenarios in parallel with the climate change scenarios. Demographic change, land use change, economical and technological developments regardless of climate change or partly influenced by mitigation policy – will also affect (increase or decrease) the vulnerability and resilience of NSR ecosystems, infrastructure and human settlements;



- there is a general lack of political interest at the local level (e.g. municipalities), which is in strong contrast to the belief in and urgent need for local solutions and a planning approach based on local socio-economic and climate change effect conditions;
- adaptation policy is not a 'new policy', but there is need for a common goal, namely which decisions have to be taken now to adapt to the future;
- a hesitating role of spatial planning in the adaptation strategy is perceived;
- although the planning tools should be assessed for the challenges of climate change, a clear need for 'space for climate' (or an efficient sharing of space) seem to be present;
- from the organisational point of view, it is often unclear who is responsible for developing and implementing a adaptation strategy at the different policy levels, for that reason the importance of stakeholder identification and integration in any adaptation project cannot be underestimated.



### Lessons learnt from our Pilot Areas

As well as all the specific aspects and lessons learnt through the delivery of the pilots we have also learnt some more generic points of interest.

#### We discovered that:

- there's a lot of uncertainty about climate change, so climate adaptation projects need a tailor-made process;
- climate change is not just a long term process. Climate change already causes problems, like drought or heavy rainstorms, which will get worse in the future;
- people tend to think in 'available money' and in 'political time frames' (until the next election), rather than in climate or geological times scales;
- despite available knowledge on possible future changes, economic development is often prioritised compared to climate adaptation requirements;
- climate is just one of many drivers and is often not seen as the most important one;
- suitable regional and local knowledge on climate change impacts is essential to make progress in the climate adaptation process;
- decision makers like to stick to one scenario rather than to be confronted with uncertainty in the future;
- once the stakeholders understood the problem it made acceptance of the solution much easier.



#### So to encourage acceptance of climate adaptation measures we recommend to:

- focus on climate change adaptation rather than to climate change. Start now;
- because of the uncertainty, it's important to take resilient measures. Resilience is the key-word in climate change adaptation;
- get agreement on common principles of climate change adaptation;
- seek a sustainable solution that's both holistic and integrated;
- integrate a Climate Adaption Pre-Assessment in every spatial or water management plan;
- adapt your communication strategy: be honest about the uncertainties and downscale to regional or local level. Provide local examples;
- spend time making sure stakeholders really understand and accept there is a problem first, rather than just presenting them with a solution;
- using small pilot projects as demonstration sites. They can show in relatively short time the benefits (e.g. creation of habitats);
- connect the subject of climate change to local themes and projects;
- create alliances to get the problems on the political agenda.



### Adaptation toolkit for the North Sea Region in a changing climate

Climate proofing is too complicated for simple decisions by single decision makers. A successful decision process is transparent, iterative, interactive and includes all relevant stakeholders from an early stage of the process.

#### Climate proofing projects can be distinct from other projects in the following ways:

- decision making on a (very) long term
- interaction between local, regional and national scale
- uncertainties due to (the sum of) incremental deviations
- restricted commitment and low sense of urgency

The CPA project has concentrated on tools that dealt with these characteristics.





Climate adaptation policy has to cover the gap between long term effects and short term decision making. The list of recommended tools here below shows many tools that were used in the pilots to deal with this aspect:

- communications plan
- matrix based decision support tool
- school projects for creating awareness by future stakeholders
- organising stakeholder involvement: regional forum, focus groups and public drop in sessions
- connecting to local problems and initiatives
- defining clear roles and responsibilities in regional alliances
- thorough facts-based quantitative analysis, e.g. inundation risk maps
- model based scenario analysis, including regional climate scenarios
- Iandscape vision







