



## SAFECOAST WORKSHOP 1

This is the report of a workshop, organized within the framework of the SafeCoast project, which took place on the 28<sup>th</sup> and 29<sup>th</sup> of March in The Hague. This workshop aimed to give an impulse to the Safecoast project by the exchange of knowledge about flood risks in the North Sea region between countries and specialists. All North Sea countries are dealing with the prospect of increasing coastal flood risks due to rising sea levels and pressure of spatial developments in low lying areas. These developments lead to questions that look beyond the measures of coastal defences alone. The workshop was a good opportunity to learn from each other.

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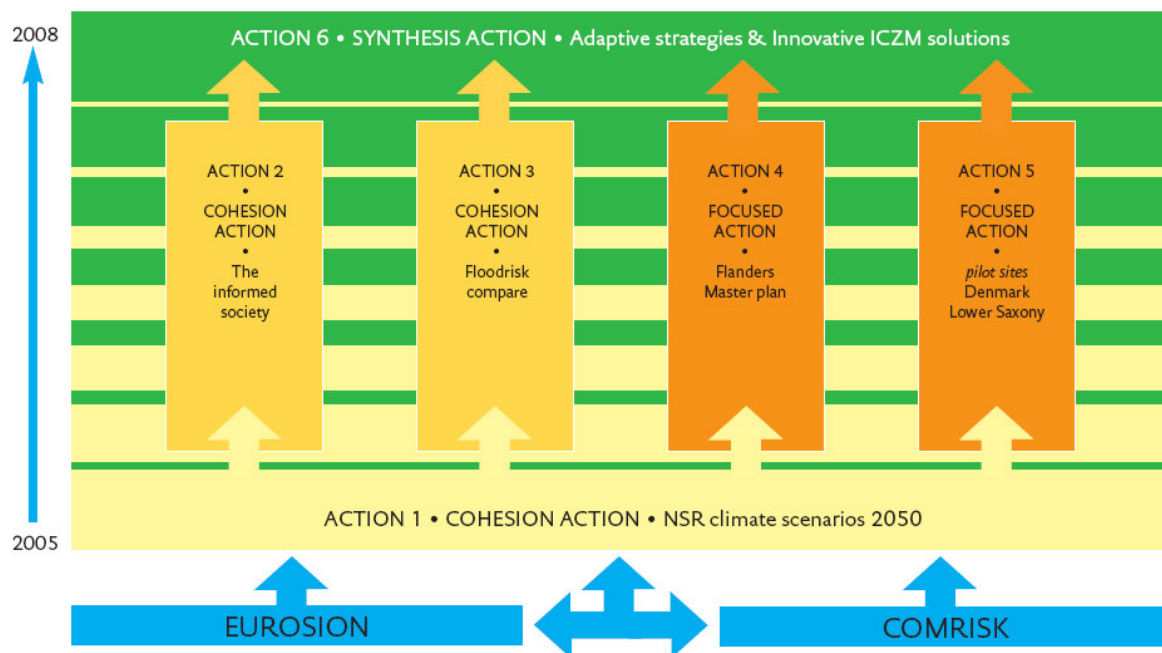
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## 1. Why SafeCoast?

One of the key conditions for coastal development is a safe coast. Climate change has now become the foremost environmental issue affecting the world and most experts agree that the risk of coastal flooding will increase in the coming decades. The expectation is that there will be increased storminess, more extreme events and of course sea level rise. The issue of development within the coastal zone needs to be thoroughly considered for the future. The SafeCoast project considers the question: 'How to manage our North Sea coasts in 2050?' and focuses on the consequences of climate change and spatial developments with respect to safety from flooding. SafeCoast will run until mid 2008 and is co-financed by the European Union.

The SafeCoast project consists of six different Actions, carried out by the different North Sea countries. Within the framework of each action a workshop is organized.



### Why Action 1?

This is the report of the workshop that was organised by the Netherlands (RWS-RIKZ) for the purpose of Action 1. This action started in the autumn of 2005 and aims to gain knowledge about future developments influencing flood risk, like climate change and spatial developments and to gain basic information about these topics. For this purpose an inventory of climatic change scenarios was carried out, as well as an inventory of spatial developments. (During the workshop this information was delivered by means of a handout and presented on an information table).

### Why a workshop?

In the announcement of the one-and-a-half day workshop the objectives were reflected as:

- To improve the quality and completeness of the Climate Change and Spatial Planning information provided before the workshop
- To create a dialogue between coastal defence (management) and spatial planning, because coastal protection isn't only about coastal defence but also about spatial planning.
- And to start a discussion on how the different North Sea countries think about this interaction.

During the first session of the workshop, the participants themselves indicated the "exchange of knowledge and experiences" as their most important expectation of the workshop.

## 2. The workshop: with whom and how?

The workshop was organised by the Dutch Ministry of Transport, Public Works and Water Management, Rijkswaterstaat / RIKZ. For this workshop, different experts on the field of coastal risk



management, climate change and spatial planning were invited. These experts came from the five countries along the North Sea, which are participating in SafeCoast (UK, NL, GER, DK en BEL) and from France. Although this country is not officially a SafeCoast member, we were very glad to welcome some French colleagues as the North Sea region stretches into France. A list of the participants is reflected in Annex A.

Remarkable fact from the introduction session: many workshop members like outdoor activities, often linked to water.

The programme consisted of the following assignments:

Present:

- What is the current (2006) flood risk (safety) policy in the different countries? For this purpose the group was subdivided into 5 "country groups" (with one mixed group existing of French and Belgium participants). Each group prepared a presentation about the main issues in their flood risk policy.

Future:

- Which are the three most important issues on flood risk management *in the future* (2050) in the different countries? Each group prepared a fact sheet.
- Which main issues for the future can we deduce? Discussion in different mixed country groups (which are differences, similarities and possibilities for cooperation) and making propositions

Discussion in Global Decision Room (GDR)

- Virtual debate (with pc's) on three propositions, deduces from the first day of the workshop. Concluded by "real" debate about statements.

### 3. The results of the workshop

#### 3.1 Present coastal risk policies in the North Sea Region

Main observations:

- 1) The responsibilities for coastal safety differs per country (In the UK, DK and FR more responsibilities for individuals)
- 2) Risk communication is often mentioned as a point of attention. In the UK risk communication seems to be best evolved.
- 3) The coastal management in GER, BEL and NL is based on the principle "hold the coastline". This principle is used In Denmark as well, but only where possible (not everywhere). The coastal management in the UK is based on long-term sustainability. Natural processes are allowed to take place, where possible.  
Estimation for the costs for flood safety:
  - NL: 500 million euro per year for both the coast and rivers. 44 million euro is yearly spent on sand nourishment) (National fund and fund from waterboards)
  - UK: 1120 million euro (about 500 million euro for the coast)
  - DK: 90 million euro (about 10 million euro for the coast)
  - BEL: 5 million euro for sand nourishment
  - GER: 130 million euro for the coast
- 4) Spatial planning  
In the UK spatial planning is integrated with coastal safety and development (risk assessments)  
In NL and BEL the relation between flood safety and spatial planning is slowly increasing (water test phase). But a lot of conflicts remain.  
GER is in the awareness phase (more or less comparable tot NL and BEL)  
DK makes use of coastal zoning, but conflicts remain
- 5) Insurance  
In BEL and FR flood risk is included in the fire insurance (to a certain maximum)  
NL and GER do not have insurance on the field of flood risks. NL has a national disaster fund for emergency (national governmental decision).  
In the UK insurance for flood risks exists. But there are conflicts between insurance companies and the government (concerning safety standards in flood prone areas)

In DK the Storm Council compensates damage (from a compensation fund). People pay for this compensation fund together with their fire insurance.

### 3.2 Future

#### Important issues for future flood risk management (2050):

NL

- Honest translation by politicians and civil servants of a huge safety problem to concrete messages and actions for citizens (window in roof, boat in garden, evacuation pathways, etc.).
- Importance of economic development is more important than sustainable safety and quality of the landscape.
- How sustainable is the current policy? Do we need to hold the coastline and the current safety levels?
- WV21: finding (additional) alternatives for existing safety measures.

GER

- Consequences of climate change (adaptive strategies to guarantee the safety in utilized and populated lowlands).
- Spatial utilization (changes in population and utilization).
- Public awareness (risk perception might decrease / acceptance for public investments might decrease / self-activation might decrease).

FR

- Protect biodiversity (maintain green corridors / manage natural wealth / limit pollutions and urbanism).
- In some places: produce a safe coast; in other places: let the shoreline evolve in a natural way (erosion, accretion, natural nourishment).
- North part: promote a well-balanced spatial planning (maintain economic activities / keep a social link / control urbanism).

DK

- Climate change. Climate change will influence the flood risk in urban areas (harbor areas) . Sewage drainage of increased rainfall will be a big issue together with a rising groundwater level.
- Change of the coastal occupation and stress on the Danish coastal areas. The demographic development in the coastal areas will change. People move towards the east. Large tourist resorts along the west coast will develop, where urban areas will grow along the inner coasts. Foreign investments will influence the development of the tourist resorts.
- National policy for the inner coasts.

UK

- Avoiding strategic development that leaves us with a legacy of high expenditure on flood risk management (The UK government is currently planning large amounts of housing growth (Thames gateway development project). There is much potential for this to be in the wrong place, from the perspective of flood risk.
- Method of valuing coastal erosion and managed realignment for the wider sustainability gains. Both coastal erosion and managed retreat are needed for long term sustainability and need to be recognized to allow change to happen.
- Understanding the effects of climatic change and getting public understanding and acceptance. What ever is decided for managing the coast, we need to ensure the message is understood and accepted before we implement any change.

BEL

- Incorporating flood risk / shoreline management in spatial planning (thinking on long term solutions).



- Legal basis for coastal safety level (sustainable financing of coastal defence measures)
- Intersectional cooperation.
- Innovative and flexible solutions: e.g. reusing dredging materials / measures in the whole chain of safety; sediment availability issue (nourishment).

### **Main issues for the future (2050) in all countries**

From these topics four main issues for future flood risk management are extracted. For these four issues, mixed country groups discussed differences and similarities.

- *Climatic Change*  
Similar for all countries is that sea level rise will occur. Also similar is the discussion about the way to implement figures in policy (how to deal with uncertainties). The most support is for "flexible solutions".  
Differences between the different countries concern the following items: climate scenarios, variety measured sea level rise 1-6 mm a year, the impact of the different scenarios, different time scales and different measures.
- *Economic Pressure*  
Similarities are the trend in urban expansion along the coastline, the political and economic pressure, low-lying areas behind the sea defences, public awareness/acceptance. There are both "empty" rural parts and strongly developing parts along the coastlines.  
There are differences in legislation and public acceptance.
- *Risk communication*  
Similar for most countries is the attention for public awareness and understanding.  
The focus and target groups differ between the countries. GE and NL focus on self-preparedness. The UK focuses on acceptance. In BEL communication and cooperation with other sections is very important.
- *National policy*

### **3.3 Discussion in the Global Decision Room**

In annex B the unedited report of the GDR discussion session is reflected. In this paragraph you can find a short outline of reactions to provocative statements and of the discussion about the different propositions.

**We can never quantify the sea level rise accurate enough! Scientists are not fit to decide what is accurate enough! For management and policy we need to translate this chaos into usable numbers.**

There are many uncertainties in climatic change scenarios; the question is how to deal with these uncertainties. Politicians should be aware that some uncertainties couldn't be decreased. This may not prevent us from taking decisions (and prepare for the future), for examples on the basis of scenarios. Important talking point was the choice of a common SafeCoast scenario.

- Some participants argued that SafeCoast needs more than one scenario (f.e. 3 mm and 6 mm a year). One scenario looks like a prediction and that is not the case. More scenarios are more trustable.
- Others preferred one scenario. Argument: the SafeCoast scenario is only used for comparison between the different countries and not for design and regional purposes. So one scenario is enough for this purpose. It would cost a lot of time, when partners have to make calculations for both their national pilot sites (with national scenarios) and for more than one SafeCoast scenario.

*Conclusion: We use one common sea level rise scenario in SafeCoast of 6 mm a year. The only aim of this common scenario is to compare countries.*

### **Education of children is the most sustainable measure we can take!**

This topic seems to be very relevant. Almost everybody agreed, but with the note that communication should also be targeted to other people. We need a communication strategy for different groups of stakeholders. We also need to focus on the more immediate problem of communication / awareness (on the short term).. We need not to educate ourselves but to deliver proper material to teachers.



Describe the problem, do not give the solution. We need communication experts (will be done in action 2).

*Conclusion: communication experts are needed to develop target-group specific information.*

**Communication with public and other sectors is not enough! We need complete integration of spatial planning and water ministries!**

Integration of all topics dealing with water management seems to be not feasible. All different sections have to cooperate. For this reason increase of awareness on climatic change is necessary (aimed to all different sections).

**Communicating flood risks is the ONLY way to raise awareness**

A number of participants do not agree. Communication is not the only tool. It is often "far from my bed". Awareness will also (mostly) rise when a disaster occurs. Or when you make people partly responsible for the flood protection of their own goods (or obligation for flood insurance). The question is if you want to make people responsible of that the state takes care of safety (differs per country).

**Relocating people is THE management option for the future. Unavoidable.**

Most participants think this almost impossible, except maybe for some small areas (scale problem, human rights, etc.). Theoretical idea instead of practical solution. Better solution: adapt to flooding! There are a lot more options. We can however avoid focusing economic developments in flood prone areas.

During the discussion the participants mentioned three ways for relocation: harassing people / buying people out / voluntary moving. Even during a disaster it is difficult to evacuate all people. It does not really seem to be a point of discussion.

**ALL (except UK) North Sea countries should give up on "hold the line" as national policy.**

We need specific solutions for specific problems. So: for some areas hold the line, in other areas natural processes can be allowed. Coastal policy should be shaped around coastal processes to ensure we work with natural process rather than against them. Hold the line might be appropriate in many locations, but if this is not sustainable, other options need to be considered.

**Policy makers and politicians should decide on which climate change scenario is being used in planning**

Most participants agree, but in cooperation with scientists. We need a range of scenarios (defined by experts) to elaborate on consequences and impacts of decisions (low, medium high). See also discussion about the first proposition.

#### **4. Evaluation of the workshop**

**Outline of positive reactions:**

Interesting, sharing views, sharing knowledge, sharing experiences, clear understanding of other national policies, good working atmosphere, we deal with the same problems and questions.

**Outline of comments:**

Detailed exchange on climatic change scenarios knowledge, seems a bit like a repetition what has been done before (Comrisk), old knowledge, results are only generalities and not very focused on Action 1, no discussion about other aspects of climatic change than sea level rise (storms, waves, surges).



### **Use of Global Decision Room**

- Interesting, democratic way, new experience, forcing everybody to give input, funny, original
- Prefer traditional discussion, not enough time to comment on comments, more useful when there are larger differences in opinions, difficult to have overview, takes a long time, language problems
- About the question of the Group Decision facility by Internet is an interesting working-method for knowledge-exchange for SafeCoast, the participants have different opinions. Some of them prefer personal communication. It may be an additional tool between meetings, not an alternative for real meetings. It may be a tool for technical discussions (instead of phone calls). Some participants are very enthusiastic about this working method. They wonder if it is easy to organise and how expensive it is.



**ANNEX A**      **List of participants**

<b>Name</b>		<b>Organisation</b>	<b>Country</b>
Mr Niels	Roode	Rijkswaterstaat / RIKZ	Netherlands
Mrs Evelien	van Eijsbergen	Rijkswaterstaat / RIKZ	Netherlands
Mr Hugo	Niesing	Rijkswaterstaat / RIKZ	Netherlands
Mrs Moniek	Löffler	Rijkswaterstaat / RIKZ	Netherlands
Mrs Govertine	de Raat	Rijkswaterstaat / DWW	Netherlands
Mrs Desiree	Bokma	Ministry of Spatial Planning (VROM)	Netherlands
Mr Fred	Havinga	HKV lijn in water	Netherlands
Mr Jacobus	Hofstede	Ministry of Environment / Schleswig-Holstein	Germany
Mr Matthias	Hamann	Ministry of Interior / Schleswig-Holstein	Germany
Mr Ralf	Weisse	Institute For Coastal Research	Germany
Mr Holger	Blum	NLWKN / Lower Saxony	Germany
Mr Toon	Verwaest	Flanders Hydraulics Research	Belgium
Mr Renaat	de Sutter	Ecolas	Belgium
Mr Wouter	Vaneuville	Flanders Hydraulics Research	Belgium
Mrs Tina	Mertens	Flanders Coastal Division	Belgium
Mr Michel	Gommeaux	Coastal Department Nord-Pas-de-Calais	France
Mr Jean-Francois	Franck	Coastal Department Nord-Pas-de-Calais	France
Mr Thorsten	Piontkowitz	Danish Coastal Authority	Denmark
Mr John	Jensen	Danish Coastal Authority	Denmark
Mrs Janne	Christensen	Danish Forest & Nature Agency	Denmark
Mr Paul	Miller	Environmental Agency	United Kingdom
Mr Julian	Wright	Environmental Agency	United Kingdom
<b>Facilitators</b>			
Mrs Christa	Fortunatie	Het Buitenhuis	Netherlands
Mr Herman	Meijnes	Het Buitenhuis	Netherlands



## ANNEX B Report of GDR session

This experimental session is named 'Global Decision Room' and was held for brainstorming purposes only. Participants were asked to comment anonymously on different statements by means of a network of interlinked laptops. Main advantages of this method are that all input remains preserved and no comments can get lost as may happen in oral discussions. Hence, the remarks and comments below reflect no official statements and do not constitute any rights or obligations.

### Step Name: Topics about SafeCoast

**1. We can never quantify the sea level rise accurate enough! Scientists are not fit to decide what is accurate enough! For management and policy we need to translate this chaos into usable numbers.**

- The uncertainties must not prevent us from doing things and taking decisions.
- What is accurate enough?  
How does this compare to other uncertainties in the design process?
- There are uncertainties that cannot be decreased. Scientists need to explain this to politicians. Politicians should be aware of these uncertainties. Together they must find a way to deal with it. At the end politicians should take the decision.
- We agree that it will never be able to quantify the sea level rise accurate enough, however the tools of 'scenarios' should be used to prepare for the consequences of climate change.
- *We agree. Let us build scenarios ...*
- Yes, but what do accuracy mean in this content? There is no probability attached to each scenario.
- What we need is better understanding of meteorological issues to put in the climate models.
  - *Should we add probabilities to the scenarios?*
  - *This is not possible. How are you going to do this?*
  - *There is a nice photograph hanging in the room of my chief. It shows a monkey under a blanket that says: DON't CONFUSE ME WITH THE FACTS. It means something like; the best decisions are not always taking on the basis of comprehensive information.*
- I think we will never understand nature fully. Maybe "chaos" is not the correct word, but we have to be careful by using exact numbers AND at the same time try to give numbers in order to make decisions
- The question is how to deal with uncertainties. Are there options? Only part of the uncertainty is related to model and data. The other part is related to uncertainty on which emission scenario is going to be realized, i.e. socio-economic development. This can hardly be reduced.
  - *Uncertainty can partly be reduced and is partly inherent for scenarios and predictions. Because action 1 is the basis block in the overall SafeCoast scheme so all other actions will work with the results. And it's so difficult to have uncertainties in the CC because how do they react when combined with other data, models, and predictions. It's hard to deal with uncertainties but we have to. What's the vulnerability of the uncertainty on the final result?*
- Decision makers deal with all sorts of uncertainties at least as large as those in climate change predictions. The skill is to apply "no regrets" decisions that are robust to the range of predictions. This may mean designing defences that may be easily upgraded as and when necessary. Better still we should look for "win-win" solutions that provide benefit whatever climate change turns out to be. This may mean realignment of the coast to provide new inter-tidal habitat.  
*Totally agree. Win-win solutions should be found on national or regional scale*
- I cannot agree with the word "chaos" at all. It is just a matter of interpretation and societal agreement on how much precautionary principle we need (taking into account the benefits and costs). We have to live with, and communicate uncertainty.
  - *More attention has to be given to 'uncertainties'. Many people often forget this*



- Climate change and sea level rise are not an exact science - they can only be the best estimates based on available information at this time.  
We need to consider scenarios that are realistic and accepted by all countries, but they can only be ever be predictions.
  - *Climate change can only be an estimate at this stage, so we need consensus by all Countries.*
  - *Discuss this item*
- To #56: Scenarios are not per se realistic and are not per se likely. That is not their purpose. Otherwise we'd call them predictions. Scenarios answer questions of type "What if ...?" About the "if" we do not know much, e.g. how is economy developing the next 50 years or so.

CONCLUSION: we agree upon the SafeCoast scenario 6 mm/y and, if desired, one national scenario

## 2. Education of children is the most sustainable measure we can take!

- Is necessary to do so but not enough.
  - *Children are the start of the education cycle, but Climate change and its effects need wider consideration and acceptance more quickly. Needs to be through the public, affected communities and politicians.*
- Communication has to be repeated in time and we need a communication 'strategy' for different groups of stakeholders. Children at school need a general overview, no statistics. People in the lowlands maybe need more practical tips about reducing damage when before it occurs. Technical teams of the municipality need more global overview of measures, nurses in hospital e.g. need information about raising velocities, speed of water, evacuation, ...
  - *Developing a communication strategy (for different target groups) is crucial - please submit more ideas and practical suggestions!*
  - *I do not agree that children "only" need a general overview. The education to children should be exhaustive (in several stages, classes), and pinpointing the awareness and self-responsibility aspects of coastal risks.*
- It is really important indeed. Communication must nevertheless be targeted to other people (the parents of these children!)
- First we have to find our own way how to deal with climate changes before we can educate our children. Of course we can learn them to appreciate the values of nature landscape and culture. The problem is however, that it will take long time to find out how to deal with climate change, so we should undertake a parallel approach by dealing with climate change and educating children and grown-ups.
- The time scale of education is too long to react on the needs of today and tomorrow. So, we need to communicate & educate "old" people.
  - *It must not be perfect from the first day on, but we have to make a start (or a new step) with education of young people. Living with water is important enough to debate about it with children at different ages. When you 'learn' about a topic at school and it's made visible or practical you be aware for the rest of your life. Old people have enough practical experience when they come out of the region otherwise they don't want to know about the dangers (they just bought a house there)*
- Educating Children may be the long-term way of getting the difficult message of climate change and sea level rise across to the general public, but we also need to focus on the more immediate problem of communicating the possible changes to the wider community and the local groups most affected on the coast.  
It should not just be communicating and explaining the background to Climate change and its effects, but to try and get people to believe in the issues - this is key to implementing SafeCoast.
  - *I agree, this is a more long term solution*
  - *This says everything...*
  - *I agree - we need acceptance of the inevitability of change.*



- *Even if it is complex, we have to communicate and explain sustainable development.*
- Education is an ideal method to get the public informed BUT the opinion of older people (people who have already experienced certain things) is even important. We have to communicate with young and old. This information transfer is not only for making people aware; they also have to understand the problem. And, you can't be sparse with your information
- I fully agree!
- I would agree that this is really important. My question is who should take this on? Is it our job as coastal managers?
- if its works out well, than after 25 years in the earliest the first people are a bit more known about the threats ad risk. Not a good solution for short term awareness
- I think we should play a part as coastal managers. We also have a role in influencing teachers and government to make this part of national curriculum.
- I read in several statements that we should educate the parents or grown ups as well. I am rather sceptical about that as grown ups cannot be educated anymore. They have their fixed ideas and opinions. Further, they forget very fast (think about the disasters in the past, people are living in New Orleans again). Children that experienced a catastrophe are "influenced" for the rest of their lives (e.g. they do not want to live near water anymore).
  - *Well, we are probably not taking about educating but more about informing grown ups and older people. It is not our task to educate. This is the task of schools and universities.*
- You have to take different approach for getting the message out. Education our children is one of them. But it can stand-alone. You have to always get the information to the public and the politicians in a way so the always take it into account in there decision making

*CONCLUSION: the topic is hot and relevant. Not educate ourselves but deliver proper material to teachers. Long-term solution, we need other short-term solutions as well. Describe the problem, do not give the solution. We need communication experts (will be done in action 2)*

### **3. Communication with public and other sectors is not enough! We need complete integration of spatial planning and water ministries!**

- Spatial planning is NOT only about water management. Should be include all other topics with spatial relevance, e.g., tourism, nature conservation as well? NOT FEASIBLE
  - *Why not? Lets try!*
  - *I agree but how do you delineate the topics. You have to know that everything in life is connected to other elements but to reach goals it must be well defined*
- Instead of integration, which indeed is not feasible, COOPERATION is feasible
  - *Cooperation indeed is the magic word, depends on persons and how they were educated (sectoral versus integrated)*
- Special planning is a tool you can use for the purpose of
- Spatial planners have to be won as partners. Not all of them have recognized climate change as an issue for their field of work. Raising awareness is necessary not only with the population but also with other sectors.
  - Yes
  - Yes, I agree.
- It is also good to create awareness on the importance of this combination at the top of the ministries and national government these have to be aware that we need to collaborate on both fields
- Flood risk approach gives the link to water defence and spatial planning. First we have probability of failure of our defences, next there are the consequences. These consequences are related to casualties, damage to buildings, aspects of landscape, culture, and nature. The challenge is to minimise these flood risks. For that we need cooperation between several fields.

- Special planning is a tool used for the purpose of coordinating the sectors and topic like development, tourism, nature conservation and coastal management. It is at tools you can use to create awareness in the population for climate change
- The overarching role of government and its agencies should be sustainable development. This is a way of us all working to a common goal.
  - *Yes - this is what we are all civil servants for!*
  - *Must be an integrated approach to coastal management, which has to include planners.*

#### 4. Communicating flood risks is the ONLY way to raise awareness

- Awareness as such will certainly rise when we have a New Orleans similar event in NW-Europe. The statement is not true! Communication, off course, is an extremely important tool to increase awareness, but how?
- A problem lies on the risk communication when big investments for safety have been undertaken. For nuclear power plants, the same communication problem exists. Around some nuclear plants (that are supposed to be safe), iodine medicine pills are distributed to the population!!!
- The question is why you want to communicate not how. This depends on the national policy. If the state takes care of safety why should you bother? If on the other hand you are responsible for the flood risk of your own house, than the state should say be aware of the risks and insure yourself, and take measures so you are able to escape from the flood.
- The best way to raise awareness is to make people partly RESPONSABLE for the flood protection of their goods. Then it is in their direct financial interest to do something, however small it may be. And then people will be more aware.
  - *This is right. The question is why you want to make people responsible? Should the state not take care of your safety?*
  - *Very interesting suggestion. How to do this? Flood insurance as an obligation?*
  - *A flooding should be provoked once and a while to keep the sense of urgency up!!*
  - *Interesting, make responsible or make them feel responsible for the goods and the environment (not to egoistic)*
- I do agree. But how are we going to do this. The awareness and interest among people and media depend on time distance since the last storm surge #disaster#
  - *There are enough Climate change news and issues in the media to get the message across, we need to learn how to use it to our advantage.*
- It's a beginning, but we often hear 'far away from my bed'. It's important to make people aware but also to involve them. If people are being listened, they will feel more involved and maybe take initiatives themselves

#### 5. Relocating people is THE management option for the future. Unavoidable.

- If we think the alternative "spatial planning" to the end, it is the ultimate option. Question, how to relocate people that do not want to leave?
  - *Force them, or show that (especially elderly) they cannot handle the risks*
- That relies on political decisions, depending on local context. If you decide to put the money, why not "hold the line"???
- Almost impossible, except maybe for some small regions e.g. in the UK. how to relocate whole cities with thousands of inhabitants? Adaptation is more suitable, that means applied land use, make buildings able to withstand floods, train people to be prepared etc.
  - *I agree, its all a balance between the theoretical ideal and the practical.*
- In theory it can be part of the solution but knowing everybody has limited budgets the price of these actions will be so high that all other measures to be taken cannot be financed any more. (The

others are to fast but I agree). In some smaller locations it can be the optimal solution in a SOCIAL cost benefit analysis (much more then economics!) but not for dense built areas.

- That depends on the location and the situation. It is one of the options, but there are a lot more (defence, evacuation plans, etc)
- it depends on the country you are living in. AND it's very important to look at every place separately. It's the same with the "hold the line" policy: this is not the best strategy for every place...  
AND, maybe if we communicate better with the public, we can find other solutions
- If we were starting with a blank plan, we could plan to avoid having development in areas of high risk, but we have centuries of development to consider and relocation of dense urban areas on the coast is not practical or socially acceptable.
- We can however avoid focussing growth in existing dense urban areas at flood risk. Maybe Holland and the UK should consider developing inland rather than in the Randstad and Thames Gateway!
  - *And what with other qualities in life, not only flood risk has a high importance*

*CONCLUSION: relocation in general is not a feasible solution (scale problem, human rights, etc. We cannot put a gun on their head). It might be on a local scale and voluntary basis. It is more about people adapt to higher flood probabilities (a drain in the lounge). Information and assistance by the Government.*

## 6. ALL (except UK) North Sea countries should give up on "hold the line" as national policy.

- We need to plan for long term sustainability and not leave a legacy of massive (impossible?) expenditure on flood defences, therefore holding the line is NOT the right thing to be doing.
- Why should only UK keep the #hold the line# policy?
- As with number 5, how to relocate people that do not want to leave their property? Think in dimensions of millions of people please, is this feasible? Maybe in future we will have to consider not holding the line in some areas, but at present we are capable to hold the line, so WAIT AND SEA
- Holding the line = strategy for the future? I don't think so! We have to be dynamic, our coastline is....
- Not the whole coastline is dynamic. Long stretches are fixed by dikes. Very undynamic.
- As the previous propositions, hold the line is one of the options, but there are more. We need specific solutions for specific problems.
- In places where urbanism is not developed, it is interesting not to hold the line and let natural processes do their job (let us also think to the fauna and flora of the coastline ... ). Should not we also hold a biodiversity line?
- We have to stop thinking about the coastline as one block with one solution. The local circumstances will become the main driving force for actions. A general overview with specific solutions depending on a 'master plan' where all stakeholders or actors bring in different points of view will be followed by local actions. "Hold the line" at place A, a more dynamic and natural coastline at place B, suppletion for recreational purposes at place C, economic developments and a harbour expansion at place D and so on. Think global about the North Sea coastal region; act local, maybe very local!
  - *I agree we need to consider parts of the coast on a case-by-case basis. This is the UK Shoreline Management Plan approach.*
- Perhaps the magic word is "tailor-made" solutions!
  - *Nice way of describing the problem*
  - *This is absolutely right, specific solutions for specific problems. The safety chain gives a good impression of the kind of measures you can take.*

○ *Discuss this*

- In answer to #34 - the UK has already given up on hold the line.
- Coastal policy should be shaped around coastal processes to ensure we work with natural process rather than against them. Hold the line might be appropriate in many locations, but if this is not sustainable, other options need to be considered.
- When I walk along the natural coastline we have in Norfolk it makes me proud to be British - that is until I see the houses falling into the sea!
- This is only valid for the Great London region and Holland Randstad, this has the critical amount of people, no other options available!!!!

## 7. Policy makers and politicians should decide on which climate change scenario is being used in planning

- They do, but in cooperation with scientists
- On a national level, they do! I do not see the advantage of having one unified scenario for the North Sea region though.
- @40: The advantage of a common scenario in SAFCOAST will be the comparable results of different risk analysis in different actions.
- *I think there is nothing like THE scenario. Scenarios should represent plausible and consistent but not necessarily likely future developments. As such they are all equally likely or unlikely. They answer questions of type "What if ...?". That means we need a whole range of scenario to elaborate on consequences and impacts of decisions. I think at minimum there should be something like a low, medium high-scenario. If only sea level rise is considered this might be sufficient. If combinations of variables are considered the construction of medium, high, low becomes increasingly complex and we need to return to the whole range of scenarios.*
- *they have to take into account the DIFFERENT SCENARIOS, that are defined by experts.*
- *Scenarios should also be used specific. For short term planning a low scenario could be optimal, for longer term planning a high scenario. It depends on the impact of the planning and the involved time scales. However a set of scenarios (low, medium, high) where we agree on should be welcome.*
- *Politicians should only make decisions based on the best available information and guidance from coastal and climate change experts. They will also need to understand the consequences of any climate change scenarios.*
- *Scientists have had their say on climate change and scenarios. Now it's time for the politicians to make some hard choices.*
- *It does not really make sense to have different figures for neighbouring countries. It would be interesting to have more than two scenarios (three scenarios would be fine: a low, medium and high scenario)*

## 8. Other statements!!!!??

- Why don't we only stick to one scenario for sea level rise? We could choose the lowest prediction (IPCC) for sea level rise. In that way we could save a lot of money for strengthening dikes and so on and we would have taken sea level rise in consideration. It would be politically acceptable, if we think forward for the next election.
- The IPCC A2 scenario should be the common scenario in SafeCoast for all actions.
- The IPCC A2 scenario is not the right scenario to us for the North Sea region!
- Reaction on #66  
Why is the A2 scenario not adequate for the North Sea region?
  - *Because is not more or less likely than others ... It's just the most popular.*



- To illustrate the uncertain of the scenarios maybe you should have more scenarios. For instance a medium high level and a medium low level. Don't use unequal number of scenarios because then you probably choose the middle one for consequence calculations
- @71: Nice idea, let's formulate 4 scenarios for SLR and change of storminess for our SAFECOAST use.
  - *Good common action*  
*even better would be to try also to make common scenarios for possible morphological responses + for socio-economic development*
- If saving money is the goal we can better all resign our jobs. Let's make different assumptions for different purposes 1) 2 mm slr/yr for dike improvements (5 year view ahead) 2) 4 mm/yr for a 50 yr scope (weak links in coastal defences in combination with other interests - recreation, spatial quality, etc) and 3) 8 mm/yr for a 200 yr scope to: reserve space behind coastal defences and no regret measures for constructions or developments that have to LAST 100-200 yr
  - *Lets discuss and make a decision here so the Safecoast pilot sites have some agreement on WHAT scenario we choose on project level*
  - *Indeed different solutions for different problems*
- Only in the future we will know what was the right scenario. And all scenario calculations have difficulties with changes in trends (they can hardly predict them). Hoping the best but expecting the worst is not always the best solution.
- So that's why we CHOOSE to translate IPCC chaos into workable assumptions: IPCC (2100) 9-90 cm SLR ; WE as SAFECOAST may assume 3 scenarios such as mentioned above
  - Yes
- Economic and social development has a larger uncertainty than climate changes.
- @86: Yes, good statement.
- Think it's important to agree on common scenarios for the NSC. Necessarily it doesn't mean same sea level rises along NSC coasts, because regional effects may occur. It's important because then you can concentrate efforts on the same scenarios. Comparisons will also become more relevant

## Step Name: Evaluation Safe Coast workshop

Tool Name: Topic Commenter

### 1. What was your experience with the first day of this workshop?

- It was really interesting to meet all the people working on this subject and to share experience.
- I missed detailed exchange on climate change scenarios knowledge.
- Very positive in sharing views and knowledge.
- Very nice way of exchanging generalities about different regions
- A really good educational experience for me. It was also reassuring to hear that my European colleagues are facing similar difficulties. However it would have been even nicer if they had the solutions to give me!
- The original purpose (scenarios climate change and socio-economy) were not handled. It seemed a bit like a repetition of what has been done several times before now. But the exchange of experience was good.
- The way of working was different. Informal atmosphere. Close to the thematic expectations
- It was good to get clear understanding about the differing Policy for flood risk management in our Countries.

The most productive session for me was in the afternoon when we split for discussion in mixed groups.

- Very nice working atmosphere. The first session was a good way to set the basis (get to know each other and the situation in the participating countries). the tasks for the following sessions could have been more specific.
- Very good. We started very "loose", and this was a great way for stimulating everyone. I've learned a lot. Maybe we should have had this workshop earlier...
- The outcome of the morning sessions in which the safety policy of each county was presented was very useful to compare. I liked the interactive way to discuss the propositions with colleagues fro the North Sea countries. The working atmosphere was very good.
- It was a good day for me as not a member of SafeCoast to get a idea of the discussion and knowledge
- Got information on the management in other NSC. My suggestion is to put the information in a more systematic way, because it was a bit confusing.

I don't think the discussion in our small group was very giving and there was no result of significance.

### 2. Are you satisfied with the results of the workshop on day 1?

- Most of it was "old" knowledge, but it was good as a start up.
- @114: It was a kind of repeating exercise of COMRISK results. But useful for those who were not member in COMRISK. We need to comment on the distributed table comparing the different countries. Homework>>>results in next meeting together with Common (SAFCOAST) scenarios and national scenarios chosen to be used in SAFCOAST.
- The topics discussed were interesting.
- Yes, it was a good basis for more detailed discussion about the key issues.
- Yes, but topics like CC and spatial planning are discussed in different groups again instead of a more generic point of view  
It's good there was someone taking notes to reread the discussed topics and conclusions



- Yes! But it would also been nice to switch between the different topics from the afternoon and then make a conclusion at the end
- Maybe we should have discussed the scenario issue more intensively.
- Day 1 was good in identifying common issues. It also highlighted some fundamental differences between countries' approaches to coastal management, which mean that some of these common issues cannot have common solutions.
- it worked out well, the obtained results are of good quality, although the results are only generalities, not very focused on how action 1 can deliver to other SafeCoast actions : common scenarios for seaside - coastline - landside.
- Interesting topics and propositions. we deal with the same problems and questions. that is a good base to work on in SafeCoast.
- Yes for one who is not a member of the group
- I was expecting a little more discussion on other climate change issues like storms, waves, surges - not only sea level rise.
- No, the benefit did not harmony with the time spent. Socially, quite good.
- @161: I agree

### 3. What was your experience with the Group Decision Room on day 2?

- I'd prefer traditional discussion. My feeling is that the discussion did not depend to much on the input of the first hour or so.
- Interesting method, but not enough time to comment on comments.
- Very good way, democratic, hope that we will receive all comments afterwards. Something to reflect on.
- I really enjoyed the second day. It was a new experience, forcing EVERYBODY to give input. In a traditional approach three people talk and the rest (who normally have better ideas) remains silent. Hence, I think this was a highly effective and productive exercise. Please give me the file!!!
- It was a funny experience. It makes it possible to get the opinion of everybody. Maybe we should have asked to everyone to give its opinion about the good number of scenarios, with the computer.
- It was an interesting experience but maybe is more usefully applied where there are larger differences in opinion.
- It's difficult to have an overview.  
You're typing and at the same time other topics are discussed. You have to split your brain into several parts to follow the discussions  
more time for the traditional debate will make the added value of the first part more visible
- I think it was a good way to make individuals think about their own issues and responses, but there is nothing better than open discussion which followed.
- Very interesting method with a lot of results. There was not enough time to discuss all. I would be an idea to do this at day one and discuss the results on day 2.
- Original, but this takes a long time. Maybe we needed more time OR maybe the way of giving comments could be changed (working with numbers instead of open comments).
- it was difficult because there were different objectives of the discussion. Some of us were thinking of an open discussion about generalities, so just exchanging thoughts. Some of us were thinking of the role of action 1 in relation with the other actions.
- Interesting method, but I think it works better when you all speak the same language
- @150 : I fully agree.
- Using English language and English keyboard is a handicap. Hard to keep the overview of all inputs (time to read and visualisation of all inputs; grouping by a facilitator?)



#### 4. This Group Decision facility can also be used on the Internet. Is this an interesting working-method for knowledge-exchange on European skill like Safe Coast?

- I do prefer the personal communication, since it provides more than exchange of text messages (transporting knowledge and opinion). Or a Brainstorming session it is a useful tool since it is really anonym. And you can react/comment on other threats without starting discussion in a big group.
- Not really.
- COSTS?
- It might be an additional tool between the meetings, but is not an alternative to real meetings and discussions face to face
- Yes, very.
- Advantage: no contribution gets lost
- It is an interesting tool for exchange of experience and information, on general themes but also for technical questions like climate change scenarios (but look for comment Nr. 134)
- Just like telephone meetings. A good tool, I will think.
- We agree with statement #136. Would it be easy to organise?
- Direct discussion has to be the best. However, this is far better than sending emails backwards and forwards. It could save considerable time and travelling.
- Yes. But: everybody should be available. Of course some organisation should take the lead in the items that should be discussed. It's not an alternative for personal communication but it should be combined.
- A forum is maybe better. This kind of discussions would be difficult: typing takes more time than speaking and you don't have the same effect
- @136: I agree  
everybody can comment (also if you normally don't say that much in a debate) so democratic and a good additional tool  
it can not replace 'normal' discussions  
maybe easier if the number of questions is rather low (3-4)
- I don't think this method via the Internet would result in good decisions for the management of the SafeCoast project; instead it is better to discuss things in normal project team meetings.
- might for a group who know one another
- WHO made comment 157?

#### 5. Other comments

- Think the most significant result was decision on scenarios. And that's important! Although we always can discuss the specific choices.
- i think it is crucial that we agree upon one ore two common scenarios. These are the basis for the project, so it is main outcome of the workshop
- The raw file should be distributed to all participants. The inputs from the participants might even be worth publishing (synthesized and as a SAFECOAST product)
- I'm not sure if we came away with any more idea of solutions, but it was excellent to talk.

On the topic of scenarios I think we could talk all day and not reach agreement (other than to differ) - which is worrying if this is a purpose of SafeCoast.

- Good that we agreed on climate scenarios, but i missed discussion on economical development. If we look at the year 2100 how does the world look like? Compare 100 years ago what we saw at Panorama Mesdag. Don't we have to agree on these scenarios as well?



- What will be delivered by action 1 to the other actions, and when?
- As a general comment, my concerns are that the recommendations for possible change resulting from SafeCoast might not be implemented because of public and political pressure. We must try to look ahead to avoid this happening.
- The discussion about the scenarios was crucial, and it's good we brought it up in this meeting. The workshop yesterday would have been better at the beginning of the SafeCoast project: just to get everybody informed about the different policies. I hope we can make a summary about all different policies and put it on the website.  
Special thanks to the people from the Buitenhuis: very nice way of organising a meeting!
- Spatial planning as a topic was on the coastal ing. premises, getting the spatial planners to take climate changes into their account you still have a way to go
- The sea level rise common scenario should be tried to widen its scope. Also a common input about storminess, natural morphological development, growth of population and economic growth... would be beneficial as an input for pilot actions.
- Nice location/venue