



klimaat voor ruimte
climate changes spatial planning

Klimaat voor Ruimte
Climate *changes* Spatial Planning

**Mid term evaluation report
from the
Scientific and Societal evaluation committees**

3 Scientific and Societal evaluation and recommendations at Programme level

3.1 Scientific evaluation

The scientific evaluation sub committee (scientific committee) used the following signs to imply what effort is needed to meet the challenges;

- \$ means extra funding is needed to meet this challenge.
- & means extra investment of time is needed to meet this challenge.

Strengths at programme level

- A major strength of the programme is its high quality of research and its well defined research structure. The research carried out in the CcSP programme is of high quality and was selected via peer review based on project proposals, project organisation, publications, and quality of researchers involved. The evaluation of project proposals through the system of the Netherlands Organisation for Scientific research (NWO) and the subsequent quality control of the programme, have contributed to the high quality. The involved institutes carrying out the research projects are the important ones on this topic in the Netherlands.
- CcSP includes many PhD students, which means that a new generation of scientists is educated on the subject of climate change. As PhD students in the Dutch system are all part of a research school, the involvement of these schools is high.
- Scientists in many projects show that the programme is internationally well embedded; these researchers are *inter alia* involved in relevant international programmes (e.g. IGBP, WCRP, and projects of the European Commission's Framework Programme 6).
- CcSP is based on a broad consortium at the programme level, including the main stakeholders.
- The set up of the programme is an example of applied earth system science (IGBP). It puts climate change on the agenda and the results are important for overall climate change research.
- Climate proofing is an innovation in climate sciences; it is appreciated by the committee.
- The Hotspot approach is very appropriate and necessary as an integration tool and as a bridge to practitioners. It is here that the spatial aspects of CcSP are most prominent.
- The large efforts in communication in this research programme, are bigger than most other scientific programmes in the past.

Challenges at Programme level

- Although credible attempts have been made to enhance cooperation between projects and themes, there is room for improvement (data, timing, input-output). This also holds for coordination between projects. The Programme could consider more room for internal workshops and cooperation meetings. It might help to develop a 'joint vision' and steer the programme based on the vision. (\$)
- The CcSP programme is almost halfway, and it is thus important to actively start ensuring the integration. The Integration and Communication themes have been set up to do this. These themes are, however, least developed at this moment. Explicit attention is needed to ensure that these themes not only conduct their 'own research', but will also actively integrate results from other themes and act as a 'client' of other themes by indicating unfilled needs. In order to achieve this goal, strong science management and an active role of the programme leadership are needed. It also requires funding for the necessary 'white spot' projects.
- A major challenge for CcSP is arrange the involvement of spatial planning scientists, especially spatial planning practitioners (regional planners, local land-use planners) and decision makers (political representatives at regional and local levels (\$)). The latter groups are currently not involved at a satisfactory level. The committee holds the view that the

Colophon

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October 31, 2007

Commissioned by

Climate *changes* Spatial Planning Foundation

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1 Introduction

This report contains the evaluation of the “Climate changes Spatial Planning” research programme (CcSP), performed by independent scientific and societal evaluation committees. This evaluation is a part of the midterm evaluation of all the programmes financed with a BSIK subsidy. For the CcSP the purpose of the BSIK Midterm Evaluation and Self Evaluation is to get insight in the progress of the CcSP programme over the years 2004 until mid 2007 in relation to the mission and objectives of the Programme. The CcSP is simultaneously evaluated by a scientific and societal evaluation sub-committee, which met on 14 September 2007. In preparing these meetings an independent desktop review was carried out by 30 reviewers (15 scientific and 15 societal). These reviews were combined in a scientific and societal analysis containing review statements to which CcSP wrote a reply. For an elaborate description of the design of the evaluation, the reader is referred to the plan of operation for the Midterm Evaluation (2007).

This evaluation document contains scientific and societal evaluation and advice at Programme and Theme levels. The evaluation committee decided not to draft an overall advice, because information of the sub committees might be lost in the integration, and the remarks and advice of the sub committees can easily exist next to each other. The more detailed advice and remarks are combined in the document Draft Evaluation document scientific mid term review Climate changes Spatial planning and the document Draft Evaluation document societal mid term review Climate changes Spatial planning.

Chapter 2 of the midterm evaluation report gives a description of the work of the evaluation committees. Annex 1 includes short resumes of the members of both committees. Chapter 3 contains the Scientific and Societal evaluation and recommendations at Programme level and chapter 4 contains the Scientific and Societal evaluation and recommendations at Theme level. In chapter 4 the evaluation and recommendation are listed per theme. A list of abbreviations is included in Annex 2.

2 Organisation of the review

The members of the evaluation sub committees used the following information in preparation for the meeting: CcSP Midterm Self Evaluation Report, Draft evaluation documents scientific and societal midterm review, Reply CcSP consortium to review, CcSP Introduction to the Dutch national research programme, CcSP Knowledge Project Plan, CcSP Revised Knowledge Project Plan, CcSP Baseline monitoring document (Nulmeting), CcSP Commissioned projects, meetings during the conference on 12 and 13 September 2007 and communication with members of the different bodies of the CcSP programme. All the above mentioned documents are available at the CcSP programme office and web site.

In preparation to the committee meetings, all the committee members prepared four overall strengths and challenges at Programme level. Also every committee member focussed on a specific Theme and gathered additional information about the theme through attending the Conference. Every Theme was thus evaluated by a scientific and a societal sub-committee member. At the end of the Conference the committee members drafted strengths and challenges per theme, which served as input for the committees' discussion after the Conference.

During the sub-committee meetings CcSP was evaluated at Programme level, making use of the documents, presentations of projects at the Conference, discussions with members of CcSP bodies, and the strengths and challenges drafted by the committee members before the Conference. After the separate meetings of the evaluation sub-committees, four members of both sub-committees had a joint meeting to exchange the main findings. During this meeting the members checked the consistency of evaluations and discussed the main findings. After this meeting the Chair, the Scientific Director and the Managing Director of CcSP were informed about the preliminary results of the evaluation.

In the weeks following the Conference and the evaluation committees' meeting, a draft report was written based on the minutes of the meetings. The committee members had the opportunity to react on this draft, which led to changes in the draft. The chairs of the scientific and societal evaluation sub-committee gave their approval to final version of the document.

The scientific and societal evaluation sub-committees consisted of the following members See Annex 1 for short bios):

Scientific:

- Prof. L. Hordijk, Director, International Institute for Applied Systems Analysis (IIASA), Austria, chair
- Dr. D. Jacob, Max Planck Institute for Meteorology, Germany;
- Prof. C.A. Nobre, Director, CPTEC and Chair, International Geosphere-Biosphere Programme (IGPB), Brazil
- Dr. J. Marks, Executive Director, European Science Foundation (ESF), France
- Dr. M. Fleischhauer, University of Dortmund, Faculty of Spatial Planning, Germany
- Dr. A. Jol, European Environmental Agency, Denmark

Societal:

- Drs. C.J. Kalden, Director, National Forest Service in the Netherlands, chair
- Eng. J.M. Geluk, Chair, Hollandse Delta water board
- Eng. J.J. Helder, retired councillor of the province of Zuid-Holland
- Eng. H.J. Haanstra, programme leader Climate Change at the Netherlands Ministry of Agriculture.
- Dr. Eng. J.C.M. de Wit, Director Strategy and Development, TAUW
- Drs. A.F. van de Klundert, General Secretary of the VROM Council

programme did not formulate appealing questions for the spatial planners in its starting phase. Such questions should be formulated (maybe leading to new projects) to get this community on board. In that process and its implementation one should also take into account that developing climate policies in the context of spatial planning is a dynamic social process.

- What has been stated about the broad community of spatial planners also holds for the social sciences in the programme; their involvement should be increased. The programme should define research questions that are appealing to this community (&/\$). The research questions of the CcSP programme have largely been formulated by the natural sciences, which always bears the risk of low social science participation.
- Although the committee is convinced that stakeholder involvement at the programme level is well developed, it should be improved at the project level. Stakeholder involvement needs extra organisational and funding efforts because stakeholders – although generally interested – often do not have enough finances and human resources at their disposal to be deeply involved in research projects. The contacts with stakeholders at the programme level can be used to involve the stakeholders at the project level.
- While the CcSP and the ARK (National Programme on Adapting Spatial Planning to Climate Change) programmes have already started, two additional related climate change research programmes are being developed in the Netherlands (FES; “Kennis voor Klimaat” and NWO, Sustainable Earth theme). The committee recommends investigating the options of collaboration between these climate research programmes for the Netherlands. It is also advisable to clarify the national and international roles of the different programmes.
- Because of the mono-disciplinary orientation of the review procedures, many multidisciplinary projects did not successfully pass the review process. As a consequence the number of these projects is disappointingly low. The committee recommends that the CcSP programme develops a review procedure for multidisciplinary projects, if possible in collaboration with NWO.
- In order to respond properly to some of the challenges, CcSP might want to approach partners from outside the consortium to join the programme in the coming period.
- A challenge that every research programme with a limited time horizon is facing is how to secure the anchoring of its results (scientific and societal). CcSP is no exception and ought to ask itself this question, long before its foreseeable closure in 2011.
- The cross-sectoral impacts of climate change and adaptation and feedbacks are not given enough attention in the programme, especially when these effects are the result of different projects.
- The programme could spend some funds on improving the embedding of the programme as a whole in the European field (transboundary issues, co-operation with the Tyndall Centre, the Potsdam Institute for Climate Impact Research, models, FP7) (&/\$)
- There is not much money left in the budget to be spent on important topics, which makes it more difficult to steer the programme to new relevant topics in the coming years.
- The programme has no tools to steer projects that do not contribute in a satisfactory way to the programme’s objectives. This refers to projects which are very specialist. The programme should find a way to ensure that all projects contribute to the objectives, even if this means running projects will be adjusted.
- Time schedules of related projects are not always matching, leading to risks that not all PhD students finalise their work on time. It is therefore good that the closing date of the programme was moved from 2009 to 2011.
- The committee recommends that the content of future Self Evaluation Reports should be much more informative in order for reviewers to understand what is going on in the programme.
- The tasks of the International Scientific Advisory Committee (ISAC), the Societal Advisory Committee (SAC) and of the evaluation teams are not very well described. The committee advises to develop improved Terms of Reference for these bodies.

3.2 Scientific recommendations

The scientific evaluation sub committee defined five major recommendations for the leadership of the CcSP programme.

- a. Strengthen the science management and leadership of the Integration and Communication themes throughout the coming years. These themes should really act as integrators and communicators for the other themes, and not pursue their own goals.
- b. It is very important to further develop the role of spatial planning in the programme, especially in the Adaptation and Integration themes. This might lead to the conclusion that project proposals must be solicited outside of the current consortium.
- c. Although social sciences do play a role in the CcSP programme, the committee recommends finding ways to increase participation. As is the case for spatial planning, this might lead to soliciting proposals from outside the consortium. Moreover, scientifically challenging topics for social science research should be developed.
- d. Complementary to the stakeholder involvement at the programme level user panels at theme and/or project level could be formed.
- e. Although the scientific review by NWO has many advantages, this process does not always lead to a fair review of multidisciplinary projects. The committee recommends that the programme leadership seeks ways to improve peer review of multidisciplinary project proposals.

3.3 Societal evaluation and recommendations

The societal evaluation subcommittee (societal committee) restricted itself to providing detailed advice on the individual themes of the CcSP programme and on the programme as a whole. For advice and recommendations at project level, the CcSP programme organisation should look into the reviews and analysis, which are combined in the societal- and scientific evaluation documents.

Strengths

The societal committee recognizes that the CcSP programme is of high scientific quality and includes many of the important (research) institutes on climate change. The programme management (board, scientific director, programme council and programme bureau) did a great job in bringing together all these different people and creating one comprehensive programme. The management should continue in delivering this quality in the remaining part of the programme.

The programme has already shown its relevance in the policy domain, for example in the Routeplanner report, the Kennis voor Klimaat proposal, the Scheveningen congress, and many indirect spin-offs to other projects to the policy arena.

Challenges

The societal committee is aware of the history of the programme as described in the background reports and as communicated during the conference, and acknowledges the multiple goals that are asked of the programme by different parties. In the first phase of the programme the attention of the management was focussed on starting the projects. The following remarks are meant to improve the programme in the coming period and to enhance the use and applicability of the accomplishments so far.

The societal committee has the impression that the CcSP programme started off with a strong emphasis on natural sciences and on producing sound scientific results. The Committee would like to see that continued, but also urges that in the remaining time CcSP focuses on knowledge transfer, the applicability of the scientific results to policy makers and politicians, communication, and setting the agenda for future research. The Committee realises that there is relatively little flexibility in the allocation of the remaining budget, so it is of importance to steer the ongoing projects as much as

possible with regard to the societal use and usefulness of the research activities. The remaining unallocated budget should be used wisely to ensure a strong linkage between the scientific results, the world of science, and the relevant stakeholders in the public and private domain. Although the promotion of change in spatial planning is not the central focus of the projects, they develop data and knowledge that can be used (or are even essential) in spatial planning in land and water management and in the design and construction of the built environment. Providing this data and knowledge is a significant challenge in itself.

A) The societal committee acknowledges CcSP is a complex programme (the CcSP programme should make an understandable description of the programme and the tasks and functions of the different bodies) and finds itself in the midst of a constellation of various organisations including the High Level Advisory Committee (“Commissie van Wijzen”), NWO, CPB and the Ministry of VROM. This has led to a project selection procedure that hampers the possibilities to set up projects that will effectively transfer knowledge to society. In the opinion of the committee these controlling agencies should also take into account the societal impact goals of CcSP and allow more effort to be put into this. Besides building a knowledge network, the BSIK subsidy is also concerned with societal relevant investment. These projects will help to anchor the results for the future, just as the scientific results are anchored within the newly educated scientists and follow up programmes.

B) It seems that the people in the different bodies of CcSP are not always in the right roles. For instance the Lead Agency (Penvoerder), the Ministry of VROM, should check whether the programme does its job well. But VROM is also present in the programme council and has a seat in the Societal Advisory Council (MAR) giving advice on how the programme should work, thereby playing two roles. It is perhaps better to try to separate these roles by setting up a body for communication with high government officials of the relevant ministries and change the MAR into a real societal commission. If this is not feasible, however, do not change the composition of the MAR, because it operates as a good link between the programme and the relevant ministries.

C) The programme should improve the links to the outside world so others will use the results and knowledge which is developed within the programme. Others in this case are:

- Other disciplines; such as social sciences and spatial planning. These disciplines have different paradigms which may enable the programme to reach new groups besides the ones that are reached currently (existing links may not be strong enough; it probably requires the involvement of persons with those backgrounds. It could be useful to establish strategic alliances with research groups and/or organisations in the field of social sciences and spatial planning);
- The policy arena; in order to get the message of the programme across in the policy arena, the results need to be translated into “a different language”. Also knowledge of political processes and sensitivities is important. When this is missing, the results will probably not be used, which might lead to the perception on the part of the scientists that their research is unwanted (see remark on Veenweide project). The committee however, thinks the results are not unwanted but are “indigestible” for the policymakers at the moment;
- Users of the results, which can be divided in two groups: policymakers/administrators on one hand and practitioners on the other. Practitioners in this case are spatial planners, engineers, project developers, contractors etc. They are found both in regional/local authorities and in the private sector.

The results should be presented in such a form that they appeal to the different groups, i.e. the language should fit the target group. The committee suggests the following as examples: organise round tables; write essays on topics of importance that lie within the realm of the programme; disseminate visions (e.g. write a book that is accessible for the general public on how the Netherlands will change under the influence of climate change), create a balance between opportunities and threats. This is not applicable to all projects; CcSP should select the best and most suitable “pearls” for this outreach effort. The programme organisation should be strengthened by a highly qualified

person with experience in the 'translation' of science into policy terms. An additional outcome of the above activities might be the definition of new research questions and topics that need to be addressed by consortia of social scientists, spatial planners, and the climate community.

D) Ensure that the developed knowledge is transferred to society, so the knowledge will be used to its fullest potential after the programme has ended. This means that at the end of the programme not only a good overview of products is needed, but also a good series of articles tailored to different groups of users on the state of knowledge and results. These users include people from science, but also from different levels of government, policymaking and the private sector. In particular the link with other disciplines (e.g. design) needs attention. Much of the developed knowledge is in its nature too mono-disciplinary to be implemented directly. In addition to these more professional products for specific target groups, more accessible or popular versions should be developed.

Finally, ensuring a good landing also means that recommendations will be made on the institutional anchoring, the application of the developed knowledge and on the further development of knowledge when necessary.

E) In the opinion of the committee CcSP is a pioneer in setting up and running a large (climate) research programme and their experiences in this should be used in the design of future programmes, such as "Kennis voor Klimaat". The committee invites the board to write a document with lessons learned and matters that should be approached or organised differently in future (subsidised) programmes. For this job, it is advisable to invite other disciplines from outside the programme for support. Also the topics that were not addressed within this programme and new topics of interest in climate change research should be mentioned, in order to help shape the research agenda on climate change for natural sciences, societal sciences and spatial planning.

F) The Committee realises that not all outstanding issues can be addressed by CcSP, not just because of lack of time but also because of lack of unallocated budget. Nevertheless the Committee feels that it is possible for the programme management to put such issues on the scientific and political agenda. This can be done by participating in the public debate, by writing articles, by organising symposia etc. It is of utmost importance that others carry on when CcSP leaves off, especially if research is not completely finished or not yet integrated into decision making.

4 Scientific and Societal evaluation and recommendations at Theme level

4.1 Climate Scenarios theme (CS)

4.1.1 Scientific committee

Strengths

- The production chain to produce climate scenarios and the combination of observations and models belong to the strong points of this theme.
- The tailoring approach works effectively and should be continued after the closure of the programme.

Challenges

- There is no corporate identity within the CS theme. This was apparent because some individual projects were not able to see their position and role in the theme and the programme. It was difficult to identify the cross-sectoral activities, feedbacks between sectors and input/output relationships between the CS projects. An important challenge for the theme is to produce a clear time schedule (input-output relationships) between the projects within and between the themes. In some projects some adjustments are needed and some projects are isolated. The LANDS project (IC3) is a strong integration project; but it is, regrettably, not visible enough within other themes
- The CS theme is important for the other themes at the programme level, but this connection is not visible enough and timing should be better planned.
- The committee recommends that the theme should illuminate the way in which extreme events are taken into account in the scenarios; it is also advised to improve communication about this.

4.1.2 Societal committee

Strengths

- The Climate Scenarios theme seems to be of high scientific quality. The projects in this theme are needed in the programme to “feed” the projects in the other themes. The theme also contributes to the international knowledge base.

Challenges

- For policymakers vulnerability is the starting point for climate policy. Make the relation between scenarios and vulnerability more clear, for instance the interaction between climate scenarios and WLO scenarios.
- Make the links clearer between the projects in this theme and the projects in the other themes, besides the CS7 project.
- Give more attention to extremes as these represent the major challenges that people and systems might need to adjust to.

4.2 Mitigation theme (ME)

4.2.1 Scientific committee

Strengths

- The projects ME1-ME3, aimed at improving quality of Greenhouse Gas (GHG) inventories for Land Use, land Use Change and Forestry (LULUCF) and agriculture, are policy relevant for

the verification of the Kyoto Protocol/UNFCCC reporting, mainly by helping to reduce uncertainties and identifying possible missing sources and sinks. They also have produced a substantial number of peer reviewed publications.

- The measurement methods (e.g. fluxes at ecosystem level, high precision monitoring using tall towers, small aircraft) are innovative and at the forefront internationally. The project [
- ME2 also identified the minimum number of measurement towers needed in the Netherlands, which is important in order to design a future operational network and estimate its costs. The project has established good links with international projects (including the European projects CarboEurope and Chiotto).
- The project ME3 estimating soil carbon variability is thorough and well defined (Speulderbos) focusing, e.g. on a known number of tree species, was able to analyse e.g. humus carbon stock, and started comparing to historic levels, also showing the need for a spatially detailed soil carbon inventory for the Netherlands.
- ME5-ME6 (Dutch fen meadows) are innovative in bringing together researchers, various ministries, provinces, water boards, nature NGOs and the agricultural sector.

Challenges

- The proposal in project ME1 to design a future post Kyoto verification system mainly through a global system of satellite data and atmospheric measurements using inverse modelling is interesting, but appears not yet well developed. E.g. the project does not fully address the uncertainties of all components of such an inverse modelling system in a balanced way: the uncertainties in atmospheric transport models and the measurements (e.g. currently limited to two tall towers in the Netherlands and a few others in Europe) should be analysed in detail and compared with the uncertainty in the GHG inventories using the most recent IPCC guidelines.
- The measurements of atmospheric CH₄ and N₂O and the combination with analysis of possible measures (water level manipulation; manure injection) are innovative. The project ME1 has clearly shown the dilemma of solving one problem (ammonia) while creating another (N₂O emissions increase) which needs to be solved.
- Stakeholder involvement and communication can both be enhanced, in particular for project ME4 (less so for ME1-ME3). The bio-energy tool should be tested out more with the intended target audience.
- Projects ME5 and ME6 appear to be isolated, and could address GHG mitigation and adaptation more pronounced. .
- Cost-effectiveness of measures at local and regional scale do not appear to be included anywhere in the programme (the IC projects are at European and global scale)

4.2.2 Societal committee

Strengths

- Projects in the Mitigation theme are developing state of the art knowledge.

Challenges

- Fundamental research on climate change is relevant for international knowledge development, but has no direct societal (policy) relevance yet. Try to translate the results of the projects, so that they become applicable in the (inter)national context.
- The committee would like to see spatial planning in the approach of this theme. What are the implications for the Netherlands? The projects should elaborate on this in the second part of the programme.

4.3 Adaptation theme (A)

4.3.1 Scientific committee

Strengths

- The core projects A2 (national ecological networks) and the water projects A7-9 are delivering already high quality scientific results. These projects also have strong links to international research (including the projects BRANCH; NEWATER).
- Project A13 on possible extreme sea level rise is innovative because of the involvement of stakeholders.
- Communication on adaptation is successful, especially the Nature Calendar.

Challenges

- The link between adaptation projects and integration projects should be made clearer.
- Cost estimates for adaptation have so far been done indicatively, more attention is needed for developing a consistent methodology that can be applied at different scales (national to local)
- Integration and learning between the many very diverse adaptation projects, at different scales (national, hotspots), is a big challenge
- Encourage the consortium to identify knowledge generated in CcSP and which might be useful for the FES “Kennis voor Klimaat” hotspots (next generation). The current interconnection between research projects and hotspot projects is limited. Programme management should improve that.
- Find answers to the question how spatial planning really can contribute to adaptation to climate change: Which (formal) instruments are appropriate? Which (informal) supporting measures are necessary? Where are the strengths and limits of spatial planning? In order to integrate the (sectoral) research results into the practice of sectoral and comprehensive spatial planning, the “hotspots approach” is very promising and will reveal what is feasible in practice.

4.3.2 Societal committee

Strengths

- The Adaptation theme has a link to spatial planning, which makes it easier to communicate to the outside world.
- Hotspots are a good example of how all important stakeholders and scientists are involved. The committee hopes to see a continuation of this approach in the KvK programme

Challenges

- In some projects the current (policy targets) situation seems to be the basis for the future situation, and not the implication of CC and societal changes. Disconnect from these specific targets which are in place now like for instance “natuurdoeltypen”. This will help to formulate in opportunities instead of in losses, which makes it less conservative.
- Try to work on win-win situations in adaptation; e.g. multifunctional measures such as improving safety, which at the same time benefit the economy (e.g. in terms of harvesting of sand, recreation, etc.) and the quality of nature and the landscape.
- Only using economic valuation for assessing measures and impacts and not looking into other definitions of well being places a restriction on the scope of the analysis
- Evaluate the adaptation and mitigation measures in doelmatigheid (efficiency and effectiveness). This might help to bring the private sector on board.
- The hotspots provide local and regional attention, but do not cover all issues. The committee misses a national vision on adaptation and on the future organisation of the delta.

- Use the vulnerability approach in dealing with climate change, this is the way how risks are perceived and dealt with in policy making. This is especially the case in the selection of hotspots, as the basis for the selection of current hotspots is not clear to the committee.

4.4 Integration theme (I)

4.4.1 Scientific committee

The projects in the integration theme started last in the programme. Some of the projects within this theme have a truly integration philosophy, some of the projects seem to be in this theme because they did not fit in the other themes. The challenges in this theme are already written under the programme level challenges.

Challenges

- Make the task of coordination within a project and across the theme the responsibility of experienced scientists so that PhD students can concentrate on their specific tasks.
- Define input-output relations including timing of deliverable between projects within the integration theme as well as between this theme and the other CcSP themes.
- Increase stakeholder involvement in most of the projects in this theme.
- Add a spatial component to projects where it still lacks. This needs a concerted effort across the programme and reaching out to other science communities than are currently involved through the consortium.

4.4.2 Societal committee

Strengths

Challenges

- The committee thinks the context of the programme makes it difficult to involve social scientists in the programme. The High Level Advisory Committee (Commissie van Wijzen) and NWO push the programme in a strictly natural sciences direction. Also the composition of the several bodies of the programme, with few social scientists and many natural scientists, does not promote the former.
- This theme should become the focus of the 2nd part of the programme in order to make clear what the interrelation of projects is and what is done with the knowledge developed in the CcSP programme.
- Involve the best social science institutes in this theme to ensure the knowledge will be transferred to society and government.
- The effect of safety focussed adaptation; decentralisation etc. on the institutional setting of the Netherlands should be explored in a project or essay.
- Introduce “design thinking” in the programme. Translate the results of the projects into designs, visions etc. to involve spatial planners and designers.
- Elaboration on international embedding and international co-operation, climate change is expected to have large impacts in developing countries. Try to take this into account and give it a place in the programme.

4.5 Communication theme (COM)

4.5.1 Scientific committee

Strengths

As shown during the presentations at the CcSP Conference this programme is unique in its attention to dissemination to audiences other than scientists. The strength of this theme is obvious where it builds partially on existing ways to reach the public and the media (e.g. the Nature's Calendar project) and uses innovative approaches to issues that are underdeveloped in the Netherlands (e.g. Climate change in the city).

Challenges

Because many of the projects under this theme have just started (some have not yet been approved by the programme) a number of outstanding issues is still to be resolved including the scientists' willingness to share their data bases with other participants in the programme and/or the general public, the anchoring of school education projects in a such a way that they continue after the end of CcSP, the interaction with provincial and local stakeholders, and the usefulness of the climate proofing atlas. Some projects are not really separate projects but they are programme office activities which have been formulated as projects (maybe to keep the official overhead percentage of CcSP as low as possible).

The Platform on Communication on Climate Change (PCCC) is an important and successful tool to enhance communication; also other forms of communication appear successful (summer school, quiz, magazines, school education), however it seems to be under resourced.

Improve "translation" of the research results to decision making at the regional and local levels. This translation could be done in terms of a downscaling of research results to regional and local needs, and by choosing a language and a way of communication that can be understood by local authorities, investors and the public. In many projects convincing attempts to involve stakeholders and to develop participation and communication processes can already be observed. However, this shall become a common principle for all projects that are and will be commissioned under the CcSP programme.

4.5.2 Societal committee

Strengths

- It is a good set of projects covering many aspects of communication, although they differ greatly from each other.
- In the projects a two way communication is stimulated (from scientists to stakeholders and vice versa)

Challenges

- The relation between communication projects and other projects is not clear. The committee knows there is a connection, but it is not well described. Make such a description, including a description of the chain of projects which are connected. Involve other disciplines in this. Make a plan (route description) for how you will communicate the results and how you will involve the project members. The same goes for the integration projects.
- Communication is not just important for the specific projects covering this theme; it is important for each and every project of all the themes.
- It is a challenge for the programme management to ensure the two way communication during the course of the projects. It is important that communication is not an activity that is separated from the research projects. It is a challenge to persuade the scientists to participate actively in the communication activities.

Annex 1 Short resumes of members of CcSP evaluation committees

Societal evaluation sub-committee

Drs. C.J. Kalden

Chris Kalden is currently director of the National Forest Service in the Netherlands. Before this, he was Secretary-General of the Netherlands Ministry of Agriculture, Nature and Food Quality until 2006.

Dr.Eng J.C.M. de Wit

Han de Wit is director Strategy and Development of TAUW, an advice office in environmental management. He is active within several networks and programmes in the field of innovation, spatial planning and environment, such as the Dutch Association of Consulting Engineers (ONRI). He is also member of the Commission Climate Policy from VNO-NCW

Eng. J.M. Geluk

Jan Geluk is chair Hollandse Delta Water Board since May 2005. Before 2005 he was, amongst others a member of the Provincial States in the province of Zeeland and member of the Dutch Lower House where he was a member of the commissions on "Housing, Spatial Planning and the Environment", "Transport, Public Works and Water Management" and "Agriculture, Nature and Fisheries".

Eng. H.J. Haanstra

Hayo Haanstra works with the Ministry of Agriculture, Nature and Food quality as a senior policy adviser on environment since 2001. In that capacity he is Dutch focal point for IPCC working group II on vulnerabilities, impacts and adaptation and responsible for climate change research initiatives of the ministry. Beside this he is involved in the development of Eururalis an instrument for identifying long term changes in land use in Europe and responsible for organising the European discussion on this issue. In the period 1996-2001 he was working with the Ministry of Housing, Spatial planning and Environment as a senior policy adviser responsible for the international climate change negotiations specialised in the flexible mechanisms (Joint Implementation, Clean Development Mechanism and Emission trading). He took part in the Dutch delegations from Kyoto (1997) up to Marrakech (2001) and participated in the presidency team supporting Minister Pronk during the sixth Conference of the Parties in The Hague (2000).

Eng. J.J. Helder

Jan Helder (born 1947) is president of the Federation of Dutch Landowners (FPG), Member of the General Assembly of the European Landowners (ELO), Member of the Board of Commissioners of drink water company (OASEN), chair of the supervisory Board of "Rabobank Rijnstreek" and Member/chair of committees for objection in the dairy sector and the Waterboard of Rijnland. He was member of the Provincial Board of South Holland until February 2007. He had the following portfolios: Nature, Agriculture, Environment, Water policy, Spatial Management and rural area. He is also member of the Dutch liberal party (VVD). He is since 30 April 2007 member of the "Orde of Oranje Nassau" (national royal award) because of his work for the province of South-Holland.

Drs. A.F. van de Klundert

Bram van de Klundert is head of the general secretary of the VROM-Council. The Council is charged with advising government and parliament on the main aspects of policy with regard to the sustainability of the environment and on other main elements of policy relating to housing, spatial planning and environmental management. The VROM-Council is also charged with providing advice on the environmental policy activities of the government on at the international level. The VROM-

Council advises the government and Parliament on strategic choices for the medium and long-term. Its advice consider policy issues related to realising a sustainable quality of the living environment.

Scientific evaluation sub-committee

Prof. L. Hordijk

Leen Hordijk is currently Director of the International Institute for Applied Systems Analysis (IIASA), in Laxenburg, Austria. Prior to joining IIASA, he was Director of the Institute for Environmental Sciences (IVM) at the Vrije Universiteit in Amsterdam, Director of the Wageningen Institute for Environment and Climate Research (WIMEK) in the Netherlands and professor in Environmental Systems Analysis at Wageningen University. He was Chairman of the Social Science Research Council of the Netherlands Organization for Scientific Research (NWO). Leen Hordijk pioneered the development of methods for linking environmental science and economics for integrated assessments of air pollution problems in Europe. His approaches are recognized as among the most effective ever developed for linking science and policy in international environmental affairs. Hordijk's approaches are recognized as among the most effective ever developed for linking science and policy in international environmental affairs.

Prof. C.A. Nobre

Carlos Nobre graduated in Electronic engineering at the Technological Aeronautics College (1974) and holds a PhD in Meteorology of the Massachusetts Institute of Technology (1983). He is senior staff scientist at the Brazilian national Institute for Space research (INPE) and was director of the Centre for Weather forecasting and climate studies (CPTEC-INPE) from 1991 till 2003. Between 1996 and 2002, Prof. Nobre was the scientific coordinator of the Large-Scale Biosphere-Atmosphere Experiment in Amazonia (LBA). Currently he is representative of the multidisciplinary area of the National coordination for the Brazilian coordination of higher education (CAPES). He is also the president of the scientific committee of the International Geosphere-Biosphere Programme (IGBP). Prof. Nobre has experience in areas of Geosciences, with emphasis on Meteorology, especially in atmospheric sciences, climate, meteorology, Amazonia and modelling climate, biosphere-atmosphere interactions and natural hazards. Finally, he teaches Biosphere-Atmosphere interactions in the postgraduate programme of INPE.

Dr. D. Jacob

Daniela Jacob is currently senior scientist at The Max Planck Institute for Meteorology. This is a multidisciplinary research centre for Climate and Earth system modelling located in Hamburg, Germany. She is specialized in regional climate modelling (team leader within Max Planck). Modelling includes both the current climate and scenarios. Research of her team includes as well tailoring climate scenarios for areas such as water management.

Dr. J. Marks

John Marks is since 2004 scientific director of the European Science Foundation. Before that he worked at NWO where he was responsible for the preparation and development of research programmes in the field of Earth and Life Sciences. He was representative of the International Group of Funding Agencies for Global Change Research in partnership with responsibility in environmental monitoring such as UNESCO, FAO, WMO, ICSU and space agencies CEOS). He has actively contributed to the development of an Integrated Global Observation Strategy. Until 1998 he worked at the Dutch national ministry of Education, Culture and Science at the department of nature, technology and environment. In 1992-1993 he was executive director of the International Geosphere-Biosphere Programme, one of the three international research programmes in the field of climate and global change.

Dr. M. Fleischauer

Mark Fleischauer finished his PhD in 2003 with the thesis "Climate change, natural hazards and spatial planning". He is currently senior scientist at the Institute of Spatial Planning, Dortmund (IRPUD). His expertise lies in the field of geography and spatial planning. From 1998 to 2000 he worked for the German Advisory Council on Global Change. From 1998 to 2003 he worked at the Department of Regional and Urban Economics, University of Dortmund. He was involved in the ESPON Project "The spatial effects and management of natural and technological hazards in general and in relation to climate change" (2002–2005) and "ARMONIA – Applied multi risk mapping of natural hazards for impact assessment", 6th Framework Programme (2004–2007).

Dr. A. Jol

The current function of André Jol in EEA (since Jan. 2004) is group leader for air quality and climate change. Responsible for the development and implementation of work on air quality and climate change, including data, indicators, scenarios and analysis of mitigation and adaptation policies and measures, with lead responsibility for the topic area climate change. Previous functions in EEA: project manager air pollutant and greenhouse gas inventories (1996 to 2000), project manager climate change (2000-2004). Responsible for development and quality control of the work of the European Topic Centre on Air and Climate Change, funded by EEA. Responsible for support to EU climate change policy developments, the EU greenhouse gas monitoring mechanism, the EU Clean Air for Europe thematic strategy and the Air Quality framework directive. Ensure liaison with the key EEA clients the European Commission (DG Environment) and EEA member countries, and cooperation with JRC and Eurostat and relevant international organisations (UNFCCC, IPCC, UNECE CLRTAP/EMEP).

Annex 2 Abbreviations

ARK	National Programme on Adapting Spatial Planning to Climate Change
BSIK	The Dutch decree on subsidies for investments in the knowledge infrastructure
CPB	Netherlands Bureau for Economic Policy Analysis
FP7	Seventh Framework Research Programme, commissioned by the European Union
ESF	European Science Foundation
FES	Fonds Economische Structuurversterking (Economic Structure Fund)
GHG	Greenhouse gasses
IIASA	International Institute for Applied Systems Analysis
IGBP	International Geosphere-Biosphere programme
IPCC	Intergovernmental Panel on Climate Change
ISAC	International Scientific Advisory Committee for the CcSP programme
LULUCF	Land Use, Land-Use Change and Forestry
MAR	Societal Advisory Committee for the CcSP programme
NWO	Netherlands Organisation for Scientific research
PCCC	Portal for Climate Change Communication
SAC	Societal Advisory Committee for the CcSP programme
UNFCCC	United Nations Framework Convention on Climate Change
VROM	Netherlands Ministry of Housing, Spatial planning and the Environment
WCRP	World Climate Research Programme
WLO	Welvaart en leefomgeving (study to the socio economic developments under different development scenarios for the Netherlands in 2040)

